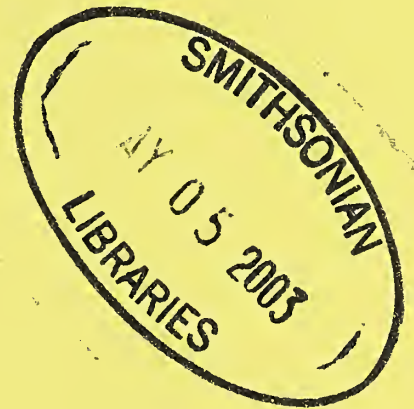




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The Society grew out of the Nigerian Ornithologists' Society, which was founded in 1964. Its object is to promote scientific interest in the birds of West Africa and to further the region's ornithology, mainly by means of its journal *Malimbus* (formerly the *Bulletin of the Nigerian Ornithologists' Society*).

Applications for membership are welcome. Annual membership subscriptions are £10 for Ordinary Members (individuals) and £25 for Corporate Members (libraries and other organisations). Payments may be made in £ Sterling to the Treasurer, or in French Francs to the President. Ordinary Members receive *Malimbus* by surface mail and Corporate Members by airmail, free of charge. Extra charges are required for airmail dispatch to Ordinary Members (enquire of the Treasurer for rates).

Back Numbers: Vols 11–14 (1975–78) of the *Bulletin of the Nigerian Ornithologists' Society* (the same format as *Malimbus*) are available at £2 per issue (£4 per volume) or £15 a set. *Malimbus* Vols 1–9 are available at £3 per issue (£6 per volume) and Vol. 10 onwards at £5 per issue (£10 per volume). A full set of *Malimbus* Vols 1–24 may be purchased at the reduced price of £175. Postage and packing are free. Please enclose payment with your order, which should be addressed to the Treasurer.

W.A.O.S. Research Grants: guidelines for applications may be found in this issue (pp. 72–75) and can be obtained from the Secretary to Council (address above).

Editorial — no *Malimbus* 24(2)

Most of you will have been wondering why you have not received the second issue of 2002, vol. 24(2). It is sad to report that no second issue was produced, owing to lack of material. This has become a serious problem over the past year, the major factor being not a decline in bird research in W Africa, but the fact that the results are less and less frequently submitted to *Malimbus*. Good science from W Africa has often been sent to other journals, and researchers understandably do not want always to publish in the same place. However, increasingly, even basic avifaunal studies are submitted elsewhere, notably to the *Bulletin of the African Bird Club*.

So far, *Malimbus* has managed to attract enough material to fill on average 120 pages per year and, with a publication run of almost 40 years (including our original incarnation as the *Bulletin of the Nigerian Ornithologists' Society*) and 5000 pages, our journal has become the single most-quoted reference for W African ornithology (see, for example, the reference pages of *The Birds of Africa*).

However, by September 2002 (the usual month for publishing the second issue of the year) there were no full-length papers ready and, by the end of the year, only one: not enough to justify sending a second issue to press. As you will notice, the present issue is of normal size, but this represents an entire year's input of material and there is no backlog for the second issue of 2003.

If this decline in submissions continues, *Malimbus* will eventually cease to appear altogether. Even at the present rate, we cannot produce more than one issue per year. For the moment, no decision on the future of the journal will be taken, in the hope that this decline can be reversed. But, we need your help.

We should like to ask you, our members, to assist in the following ways. First, we can all submit our own articles to our own journal. Second, we can encourage our colleagues and friends working in W Africa to do the same. Not only do we want more material, we should like to see an increase in quality, with more of the "hard science" from W Africa appearing in our pages. We offer an established journal, with high standards of refereeing, but standards can only increase in line with the quality of submissions. A third way to assist is with publicity. We currently have a healthy bank balance (see accounts on the last page of this issue), thanks to your continued support, and can afford to invest in a little publicity. If any member has an idea of how better to publicise our Society and Journal, please contact any member of Council (addresses inside front cover).

More concretely, Council has discussed the idea of a post of

Publicity Officer

which would be a position on Council.

If any member is interested in filling this position, please let us know.

Essential attributes would be some time to spare, skills in web site maintenance, and preferably a professional background in publicity.

We are still hoping that this will not be the only issue of 2003. Other societies have survived similar hard times. But the journal needs more than readers: we need submissions! Please help us to ensure the future of *Malimbus*.

Alan Tye & Gérard J. Morel
on behalf of WAOS Council

Éditorial — il n'y avait pas de *Malimbus* 24(2)

Beaucoup d'entre vous ont dû se demander pourquoi ils n'avaient pas reçu la seconde livraison de 2002, vol.24(2). Il est regrettable d'avoir à avouer que la seconde livraison n'a pu aboutir faute de manuscrits. Ceci est devenu une grave préoccupation l'an passé, le principal facteur n'étant pas un déclin de la recherche ornithologique en Afrique de l'Ouest, mais le fait que ses résultats sont de moins en moins souvent proposés à *Malimbus*. Les bons articles sur l'Afrique de l'Ouest ont souvent été envoyés à d'autres revues, bien que l'on comprenne que les chercheurs ne veuillent pas toujours publier dans le même journal. Cependant, de plus en plus d'études même simples sont proposées ailleurs, en particulier au *Bulletin of the African Bird Club*.

Jusqu'ici, *Malimbus* a drainé assez d'articles pour offrir une moyenne annuelle de 120 pages; avec une durée de publication sur près de 40 ans (y compris notre origine dans le *Bulletin of the Nigerian Ornithologists' Society*) et ses 5000 pages, notre journal est devenu la référence la plus citée pour l'ornithologie ouest-africaine (voir, par exemple, la page bibliographique de *The Birds of Africa*).

Mais, en septembre 2002 (le mois habituel de sortie du deuxième numéro de l'année) il n'y avait plus de longs articles prêts et, à la fin de l'année il n'y en avait qu'un seul. Ce n'était pas assez pour justifier l'envoi d'un second numéro à l'imprimeur. Comme vous le constaterez, ce numéro est d'un volume normal, mais cela représente une année entière de manuscrits et il n'y a aucune réserve pour la seconde livraison de 2003.

Si ce manque de manuscrits continue, *Malimbus* devra finalement cesser de paraître. Même, au rythme actuel, nous ne pouvons plus produire plus d'une livraison par an. Pour l'instant, aucune décision sur l'avenir de la revue n'est prise, dans l'espoir que ce déclin peut être renversé. Mais, nous avons besoin de votre aide.

Nous voudrions vous demander, à vous les membres de notre société d'aider de différentes façons. D'abord, soumettre les articles à notre journal. Ensuite, encourager vos collègues et amis qui travaillent dans l'Ouest africain à agir de même. Car, non seulement nous avons besoin de plus de soumissions mais nous aimerions en voir augmenter la qualité, avec plus de "science rigoureuse" sur l'Ouest africain. Nous proposons une revue bien assise, avec un haut niveau critique, mais ce niveau s'élèvera seulement avec la qualité des articles proposés. Un troisième moyen d'aider

repose sur la publicité. Nous avons actuellement un bon bilan financier (voir en dernière page de ce numéro), en particulier grâce au renouvellement de vos cotisations, avec pour certains une grande générosité et nous pouvons envisager d'investir un peu dans la publicité. Si l'un d'entre vous a quelque idée pour mieux promouvoir la Société et sa Revue, qu'il prenne contact avec l'un des membres du Conseil (adresses au revers de la page de couverture).

Plus concrètement, le Conseil a discuté l'idée d'un poste de

Publiciste

qui siègerait au Conseil.

Si l'un des membres est intéressé par ce poste, qu'il le fasse savoir.

Ses qualités essentielles seraient d'avoir quelque temps libre, des compétences pour la maintenance du site web, et de préférence une formation professionnelle en publicité.

Nous espérons bien que ce ne sera pas le seul numéro de 2003. D'autres sociétés ont connu des heures sombres qu'elles ont réussi à dépasser. Il ne suffit cependant pas que vous lisiez les articles qui vous sont offerts mais que vous participiez à l'élaboration de la revue. Aidez-nous à assurer l'avenir de *Malimbus*.

Alan Tye & Gérard J. Morel
pour le Conseil de SOOA

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

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Summary

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

Résumé

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

Introduction

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

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

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

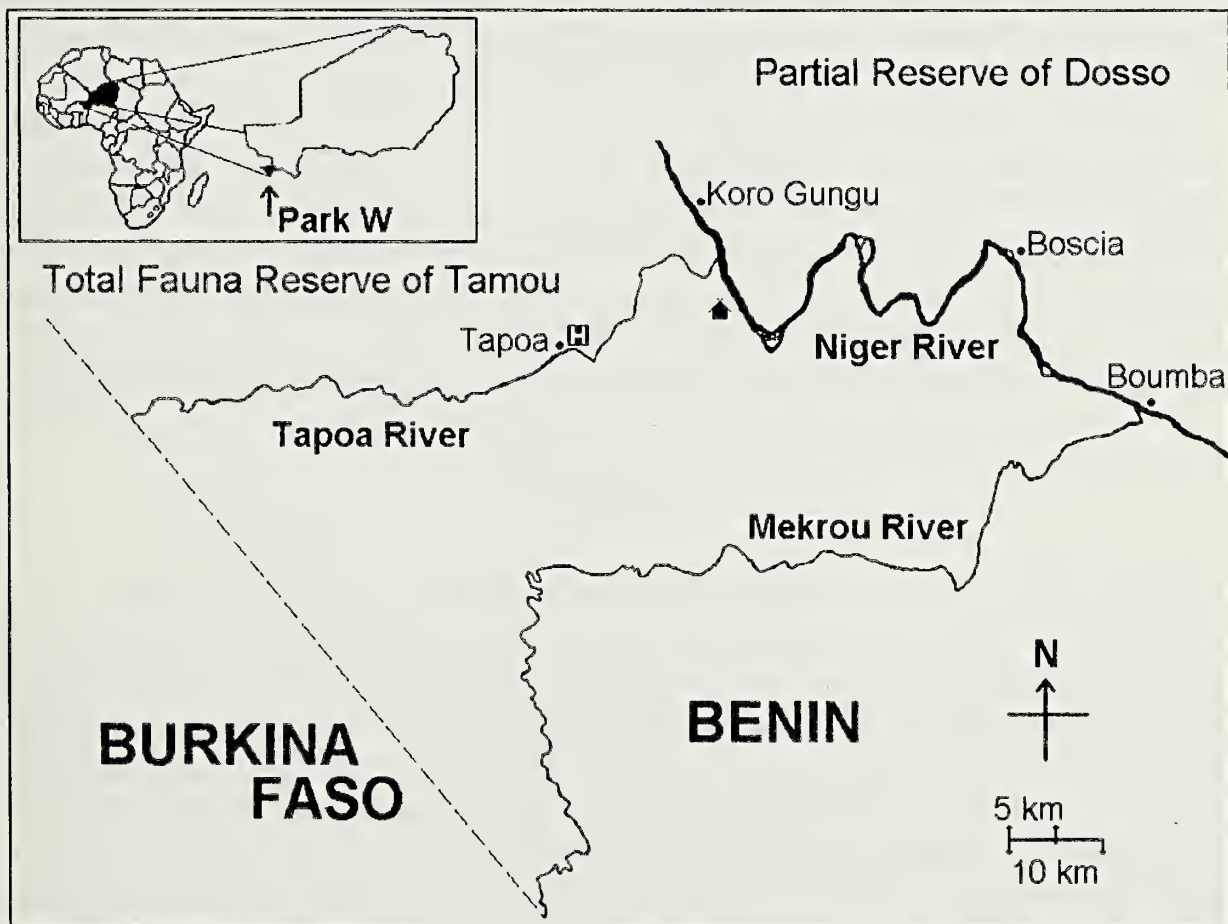


Figure 1. Park W, southwest Niger.

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

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

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

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

Study areas and methods

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

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

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

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

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

Species list

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

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

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

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

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

New species for Niger

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

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

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

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

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

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

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

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

Globally threatened species

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

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

Doubtful records (excluded from Appendix 1)

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

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

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

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

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

Possible declines

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

Conservation status and threats

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

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

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

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	Migratory Abundance		Observed during												Habitat				
	status	rains dry	J	F	M	A	M	J	J	A	S	O	N	D	N	M	T	W	S
<i>*Anas strepera</i> Gadwall	P	V	x												x				
<i>*A. acuta</i> Pintail	P	R	x												x				
<i>A. querquedula</i> Garganey	P	U	x	x	x										x				
Pandionidae																			
<i>Pandion haliaetus</i> Osprey	P	R	x	x	x										x				
Accipitridae																			
<i>*Machaerhamphus alcinus</i> Bat Hawk		R													x				
<i>Pernis apivorus</i> Honey Buzzard	P	R	x	x											x				
<i>Elanus caeruleus</i> Black-shouldered Kite		U	x	x	B	B									x				
<i>Chelictinia riocourii</i> Swallow-tailed Kite	D	R	x	x	x														
<i>Milvus migrans</i> Black Kite	?	U	A	x	x	x	x								x				
<i>*M. milvus</i> Red Kite	P	V													x				
<i>Haliaeetus vocifer</i> African Fish Eagle		C	B	x	x	x	x								B				
<i>*Gypohierax angolensis</i> Palm-nut Vulture		R													x				
<i>Neophron percnopterus</i> Egyptian Vulture		R	x																
<i>Necrosyrtes monachus</i> Hooded Vulture	D	C	A	x	x	x	x								x				
<i>Gyps africanus</i> African White-backed Vulture	D	C	C	x	x	x	x								x				
<i>G. rueppellii</i> Rüppell's Griffon	D	U	F	x	x	x	x								x				
<i>Aegypius tracheliotus</i> Lappet-faced Vulture		U	U	B	x										B	B			
<i>A. occipitalis</i> White-headed Vulture	D	U	F	x	x	B	x								x	x			
<i>Circaeus gallicus</i> Short-toed Eagle (2 spp.)		U	U	x	x	x	x								x				
<i>C. cinereus</i> Brown Snake Eagle		F	F	x	x	x	x								x				
<i>C. cinerascens</i> Smaller Banded Snake Eagle		R	R												x	x			
<i>Terathopius ecaudatus</i> Bateleur		F	F	B	x	x	x								x	x			
<i>Polyboroides typus</i> African Harrier Hawk		F	F	x	x	x	x								x	x			
<i>Circus macrourus</i> Pallid Harrier	P	F	F	x	x	x	x								x	x			

	Migratory Abundance		Observed during												Habitat				
	status	rains dry	J	F	M	A	M	J	J	A	S	O	N	D	N	M	T	W	S
Phasianidae																			
	C	C	x	x	x	x	x	B	B	x	x	x	x	x	x	x	x	x	x
<i>Ptilopachus petrosus</i> Stone Partridge																			
	R	R						x											x
* <i>Francolinus coqui</i> Coqui Francolin																			
<i>F. bicaratus</i> Double-spurred Francolin	A	A	x	x	x	x	x	x	x	B	x	x	x	x	x	x	x	x	x
Turnicidae																			
<i>Ortyxelos meiffrenii</i> Quail Plover	F	F	x	x	x	x	x	x	x	x	x	x	x	x					x
Rallidae																			
* <i>Porzana parva</i> Little Crane	P	V											x		x				
<i>Amaurornis flavirostris</i> Black Crane	F	F	x	x	x	x	B	x	x	x	x	x	x	x	x	x			x
<i>Porphyrio alleni</i> Allen's Gallinule	V	V					x	x	x	x					x				
* <i>Gallinula chloropus</i> Common Moorhen	R	R								x	x	x			x	x			x
<i>Gallinula angulata</i> Lesser Moorhen	U	U					x	x	x	x					x				
Gruidae																			
<i>Balearica pavonina</i> Black Crowned Crane	R	U	x	x	x	x	x	x	x						x				x
Heliornithidae																			
<i>Podica senegalensis</i> African Finfoot	U	U								x	x	x	x		x	x			x
Otididae																			
<i>Neotis denhami</i> Denham's Bustard	D	U	x	x	x	x							x	x					x
<i>Ardeotis arabs</i> Arabian Bustard	D	U	x	x	x	x			x	x					x	x			x
<i>Eupodotis ruficrista</i> Crested Bustard	F	F	x	x	x	x				x					x				x
* <i>E. senegalensis</i> White-bellied Bustard	R	U								x					x				x
<i>E. melanogaster</i> Black-bellied Bustard	U	C	x	x	x	x	x	x	x	B	x	x	x		x				x
Jacaniidae																			
<i>Actophilornis africana</i> African Jacana	C	C	x	x	x	x	x	x	x	B	x	x	x	x	x	x			x
<i>Microparra capensis</i> Lesser Jacana	R	R	x	x	x	x							x		x	x			x

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

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

Meropidae												
D	F	C	x	x	x	x	x	x	x	x	x	x
<i>Merops pusillus</i> Little Bee-eater												
D	C	C	BB	x	x	x	x	x	x	x	x	x
<i>M. bullocki</i> Red-throated Bee-eater												
D	R	U		x	x	x	x	x	x	x	x	x
<i>M. albicollis</i> White-throated Bee-eater												
D	C	C	x	x	x	x	x	x	x	x	x	x
<i>M. orientalis</i> Little Green Bee-eater												
D	R	R	x	x								x
<i>M. persicus</i> Blue-cheeked Bee-eater												
D	C	A	BB	x	x	BB	x	x	x	x	x	x
<i>M. nubicus</i> Carmine Bee-eater												
Coraciidae												
D	F	F	x	x	x	x	x	x	x	x	x	x
<i>Coracias naevia</i> Rufous-crowned Roller												
D	F	R	x	x								x
<i>C. cyanogaster</i> Blue-bellied Roller												
D	F	C	x	x	x	B	x	x	x	x	x	x
<i>C. abyssinica</i> Abyssinian Roller												
W	F	V										x
<i>*C. garrulus</i> European Roller												
D	F	R	x	x	x	x	x	x	x	x	x	x
<i>Eurystomus glaucurus</i> Broad-billed Roller												
Phoeniculidae												
D	F	F	x	B	x	x	x	x	x	x	x	x
<i>Phoeniculus purpureus</i> Green Wood-Hoopoe												
D	R	U	x	x	x	x						x
<i>P. aterrimus</i> Black Wood-Hoopoe												
Upupidae												
D	R	F	x	x	x	B	x	x	x	x	x	x
<i>Upupa epops</i> Hoopoe												
Bucerotidae												
D	F	F	x	x	x	x	x	x	x	x	x	x
<i>Bucorvus abyssinicus</i> Abyssinian Ground Hornbill												
D	C	C	x	x	x	x	x	x	x	B	x	x
<i>Tockus erythrorhynchus</i> Red-billed Hornbill												
D	C	C	x	x	B	x	x	x	x	x	x	x
<i>T. nasutus</i> African Grey Hornbill												
Capitonidae												
D	R	U	x	x	x	x						x
<i>Pogoniulus chrysoconus</i> Yellow-fronted Tinkerbird												
D	R	R	x	x								x
<i>Lybius vieilloti</i> Vieillot's Barbet												
D	U	U	x	x	x	B	x	x	x	x	x	x
<i>L. dubius</i> Bearded Barbet												
Indicatoridae												
D	U	U	x	B	x	x	x	x	x	x	x	x
<i>Indicator indicator</i> Greater Honeyguide												

	Migratory Abundance		Observed during												Habitat				
	status	rains dry	J	F	M	A	M	J	J	A	S	O	N	D	N	M	T	W	S
<i>I. minor</i> Lesser Honeyguide		R	x	x	x										x	x	x	x	x
Picidae																			
<i>Jynx torquilla</i> Northern Wryneck	P	V	x																x
<i>Campethera punctuligera</i> Fine-spotted Woodpecker		U	x	x	x	x	B	x	x	x	x	x	x	x	x	x	x	x	x
<i>Dendropicos goertae</i> Grey Woodpecker		U	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<i>Picoides obsoletus</i> Brown-backed Woodpecker		R	x	x															x
Alaudidae																			
<i>Mirafra rufocinnamomea</i> Flappet Lark		R	R	x	x														x
<i>Pinarocorys erythropygia</i> Rufous-rumped Lark		V																	x
<i>Galerida cristata</i> Crested Lark		U	x	x	x														x
* <i>G. modesta</i> Sun Lark		V																	x
<i>Eremopterix leucotis</i> Chestnut-backed Sparrow-Lark	D	A	x	x	x	x													x
<i>E. nigriceps</i> Black-crowned Sparrow-Lark	D	R																	x
Hirundinidae																			
<i>Riparia paludicola</i> Brown-throated Sand Martin		R	R	x	x	x	x												x
* <i>R. riparia</i> Common Sand Martin	P	R																	x
* <i>Pseudhirundo griseopyga</i> Grey-rumped Swallow		V																	x
<i>Hirundo senegalensis</i> Mosque Swallow		R	x	x	x														x
* <i>H. abyssinica</i> Lesser Striped Swallow	W	F	R																x
* <i>H. daurica</i> Red-rumped Swallow	P	U	R																x
<i>H. preussi</i> Preuss' Cliff Swallow	W	C	U																x
<i>H. smithii</i> Wire-tailed Swallow		U	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<i>H. leucosoma</i> Pied-winged Swallow	D	U	R																x
<i>H. aethiopia</i> Ethiopian Swallow	W	U	R																x
<i>H. rustica</i> Barn Swallow	P	U	R																x
<i>Delichon urbica</i> House Martin	P	V																	x

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

	Migratory Abundance		Observed during												Habitat				
	status	rains dry	J	F	M	A	M	J	J	A	S	O	N	D	N	M	T	W	S
Viduidae																			
<i>Vidua macroura</i>	W	U					x	x	x	x	x	x	x	x	x	x	x	x	x
<i>V. chalybeata</i>		F	F					x	x	x	x	x	x	x	x	x	x	x	x
<i>V. orientalis</i>	D	U	C							x	x	x	x	x	x	x	x	x	x
Fringillidae																			
<i>Serinus mozambicus</i>		F	F	B	x	x	x	x	x	x	x	B	B	B	x	x	x	x	x
<i>S. leucopygius</i>		U	U	x	x	x	x	B	x	x	x	x	x	x	x	x	x	x	x
<i>S. gularis</i>		V	V											x					
Emberizidae																			
<i>Emberiza flaviventris</i>		R	R					x	x	x	x			x				x	x
<i>E. forbesi</i>		R	R					x						x				x	
<i>E. tahapisi</i>	D	F	C	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Totals		252	319	225	218	218	206	205	197	203	202	174	183	234	263	234	226	194	88
Breeding totals (total of 82 species)				15	9	10	4	10	29	18	13	6	6	7					

First recordings of vocalisations of Yellow-footed Honeyguide *Melignomon eisentrauti* and confirmed records in Ivory Coast

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Summary

We document the first confirmed observations in Ivory Coast of the Yellow-footed Honeyguide *Melignomon eisentrauti*, at four sites: Marahoué and Mont Péko National Parks, and Guéoulé and Cavally Forest Reserves, all in the northern part of the forest zone. The song and calls were recorded for the first time and a spectrogram of the song is presented. Our observations suggest that this species may prefer the northern, semi-deciduous forests in Upper Guinea.

Résumé

Premiers enregistrements des vocalisations de l'Indicateur d'Eisentraut *Melignomon eisentrauti* et premières mentions confirmées en Côte d'Ivoire. Nous commentons les premières observations en Côte d'Ivoire de l'Indicateur d'Eisentraut *Melignomon eisentrauti*. Nous avons observé l'espèce dans les Parcs Nationaux de la Marahoué et du Mont Péko, et les Forêts Classées de Guéoulé et du Cavally, quatre localités situées dans la partie nord de la zone forestière. Le chant et les cris ont été enregistrés pour la première fois et un sonogramme du chant est présenté. Nos observations semblent indiquer que l'espèce pourrait préférer les forêts semi-décidues du nord de la Haute-Guinée.

Introduction

The Yellow-footed Honeyguide *Melignomon eisentrauti* is an elusive bird, closely resembling Zenker's Honeyguide *M. zenkeri* (Serle 1959, Eisentraut 1963, Colston 1981, Louette 1981). Few sightings have been good enough for certain identification (Bowden *et al.* 1995, Gatter 1997) including six unconfirmed observations from Taï National Park, Ivory Coast over many months of study (Gartshore 1989, Gartshore *et al.* 1995, Thiollay 1985). The last confirmed observations were made in Sierra Leone and Liberia in the 1980s (Allport *et al.* 1989, Gatter 1997). BirdLife International (2000) lists this species as Data Deficient.

Results

Observations

We observed the Yellow-footed Honeyguide in Marahoué and Mont Péko National Parks (NP) and Cavally and Guéoulé Forest Reserves (FR) in Ivory Coast; these constitute the first confirmed records for the country. Its hitherto unknown vocalisations were tape-recorded. These areas have been the subject of a number of recent bird surveys and have been found to hold many globally threatened bird species (Christy & Schulenberg 1999, Rainey 2000, Rainey *et al.* 2001, Demey 2002, Demey & Rainey 2002, Rainey & Lachenaud 2002). Our observations of *M. eisentrauti* are detailed below in chronological order.

On 31 December 2000 in Marahoué NP (7°5'N, 6°0'W), NB was walking with a tour group along the main circular track (the "Grande Boucle") in an area of generally open forest, with tall thin trees emerging from a dense understorey. An unfamiliar call was heard, consisting of a series of about 13 clear, emphatic notes, slightly descending in pitch and slowing towards the end, and transcribed as *tuu-i tuu-i tuu-i tuu-i ... tuu tuu tuu* (Fig. 1). When the tape-recorded song was played back, a bird responded immediately and aggressively by flying straight towards the source of the sound and perching in the tree above the observers' heads. It was a honeyguide with grey head and underparts, green upperparts and black tail with the conspicuous white outer feathers tipped black. The stout yellow bill with a strongly curved culmen was very obvious and, when the bird perched in clear view, yellow feet were apparent. The song phrase was repeated intermittently with no apparent standard pause between utterances. The bird usually remained at a height of *c.* 30 m, but occasionally came much lower, investigating the source of playback. This constitutes the first confirmed record for the country and appears to be the first description and recording of the species' song (Bowden *et al.* 1995, Chappuis 2001). The forest is semi-deciduous and the park lies on the forest-savanna boundary; it covers 1010 km², of which roughly two-thirds are forest (Fishpool 2001).

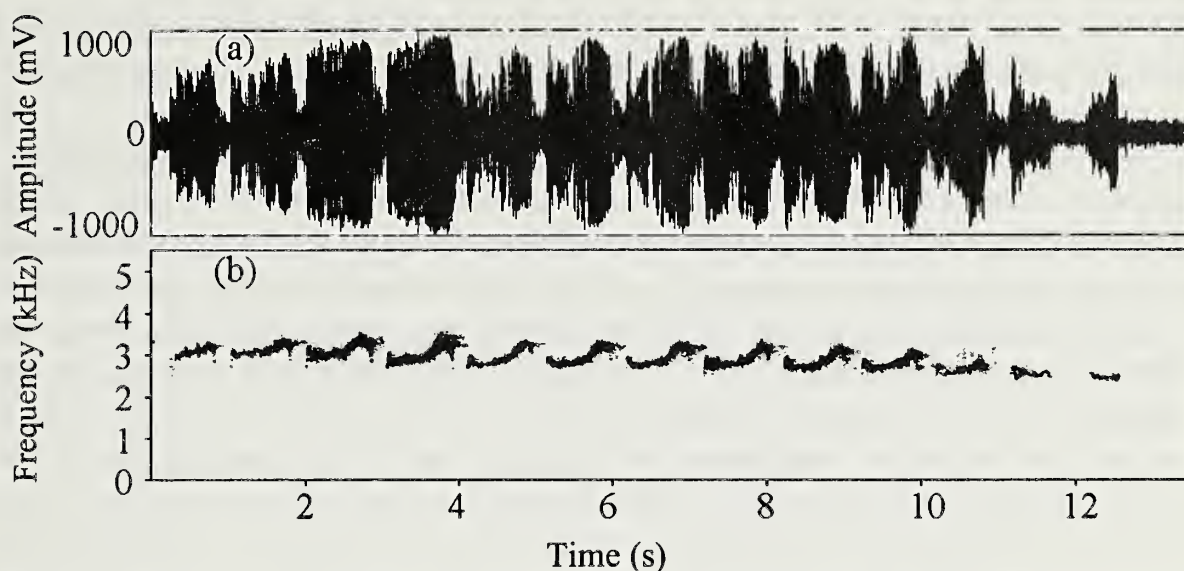


Figure 1. Power (a) and frequency (b) spectrograms of the song of Yellow-footed Honeyguide *Melignomon eisentrauti*. Recorded 31 Dec 2000, Marahoué National Park, Ivory Coast, by Nik Borrow.

On 23 March 2001, in the north of Mont Péko NP (7°0'N, 7°16'W), at the foot of Mont Kahoué, HR and Gondo Manh watched a small honeyguide for 10 min. It was feeding in a tree, moving along small branches and amongst the leaves at a height of 15–20 m. It was slim and quite agile, and behaved rather like a warbler (cf. Bowden *et al.* 1995). Its overall proportions were similar in some respects to Cassin's Honeybird *Prodotiscus insignis* rather than a more robust *Indicator* sp. It had uniformly pale grey underparts, including the throat and sides of the head, with no facial streaks. The bill and feet were pale yellow with a slight pink tinge. The outer tail feathers were white below; the inner tail feathers grey. Above, the outer tail feathers were grey-white at the base, becoming greyer towards the tips. The mantle and wings were not seen well, but towards the shoulder and edges of the wings appeared slightly brighter with a yellowish tinge to the general olive-green colour. Compared to the seven illustrations of which we are aware (Colston & Curry-Lindahl 1986, Fry *et al.* 1988, Bowden *et al.* 1995, Gatter 1997, Borrow & Demey 2001, Short & Horne 2001, del Hoyo *et al.* 2002) the bill and feet were much less yellow. The colour of the mantle resembled most that in Borrow & Demey (2002) and Colston & Curry-Lindahl (1986). The tail was paler than that in Borrow & Demey (2001) perhaps indicating an immature bird. Bowden *et al.* (1995) noted that the greenish wash on the breast of some museum specimens was not evident on the bird that they observed; it was also not visible on our bird. The forest in the area of the observation has been logged in the past and is now quite dense, but access is easy as elephants keep paths open in the understorey. It is in some ways similar to the semi-deciduous forest in Marahoué NP, with many tall thin trees forming a broken canopy. Mont Péko has lowland forest in the south and

becomes more mountainous (up to 1000 m a.s.l.) in the north with some lowland areas. The park area is officially 340 km² but in fact nearer 280 km² (Fishpool 2001).

On 1 March 2002, RD and LDCF saw a medium-sized honeyguide perching quietly *c.* 5 m above ground along the main trail through Guéoulé FR (7°34'N, 7°53'W) in semi-deciduous forest at an altitude of about 700 m. The bird was facing the observers and had a rather stout yellowish bill, with a conspicuously curved, dark culmen, giving it a distinctive jizz, quite unlike that of *Indicator* honeyguides. The head, ear-coverts and underparts were plain medium-grey, wings and mantle olive-green; the underside of the tail white tipped black. The legs and feet, which were clearly visible, were pale chrome yellow, confirming the identity of the bird. Playback of NB's tape-recording did not elicit any reaction. After having been watched for over 5 min., the bird silently disappeared into the forest. About three hours later and *c.* 500 m further down the same trail, a song identical to NB's recording was heard. It came from just below the canopy, at a height of *c.* 15 m, near a somewhat more open space next to the trail. This time, playback of NB's recording elicited an immediate response, the bird flying silently towards the source of the sound, crossing the trail back and forth several times above our heads. On one occasion it perched as low as *c.* 4 m above ground on small, leafless branches of a bush next to the trail, *c.* 5–6 m away. It remained there long enough for excellent views through a telescope of 30 x magnification. It appeared somewhat paler and more brightly coloured than that of the first, with the pale grey underparts showing a distinct greenish wash on the breast. The upperparts were a more vivid green than usually shown in illustrations. The bill was more extensively yellow than apparent on the first individual, with only the tip of the upper mandible dark; the legs and feet were as yellow as those of the first bird. After a while another bird flew in. During their interaction, a series of indistinct calls were uttered, transcribed as *wrreew wrreew rreew-rreew-rreew truwp*. Song and calls were tape-recorded. The song was very similar to that recorded in Marahoué NP. The call, which has not apparently been described before, is shown in Fig. 2.

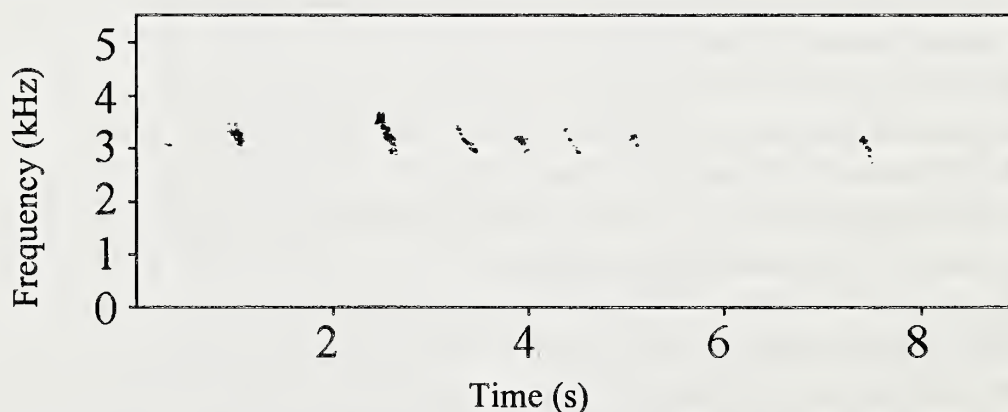


Figure 2. Frequency spectrogram of a call of Yellow-footed Honeyguide *Melignomon eisentrauti*, 1 Mar 2002, Guéoulé Forest Reserve, Ivory Coast, recorded by Ron Demey.

On 29 March 2002, a Yellow-footed Honeyguide was seen in Cavally FR ($6^{\circ}10'N$, $7^{\circ}48'W$) by HR and RD. It was observed for *c.* 15 min. while feeding on small branches at a height of *c.* 20–25 m, sometimes close to other birds. It was chased by a sunbird and subsequently appeared to follow and perhaps chase a Sharpe's Apalis *Apalis sharpii*. This individual had an olive wash on its breast. It was silent, and playback of NB's recording did not elicit any obvious response. The forest in the area was fairly open and degraded, with some large trees but the canopy generally below 30 m. The forest in this area is transitional between moist and semi-deciduous (Laurent Aké Assi pers. comm.). Cavally FR lies west of Taï NP on the Liberian border. This is north-west of the unconfirmed observations in Taï NP (Gartshore 1989, Gartshore *et al.* 1995, Thiollay 1985). Cavally FR covers an area of approximately 1000 km² and is contiguous with Goin-Débé FR to the north.

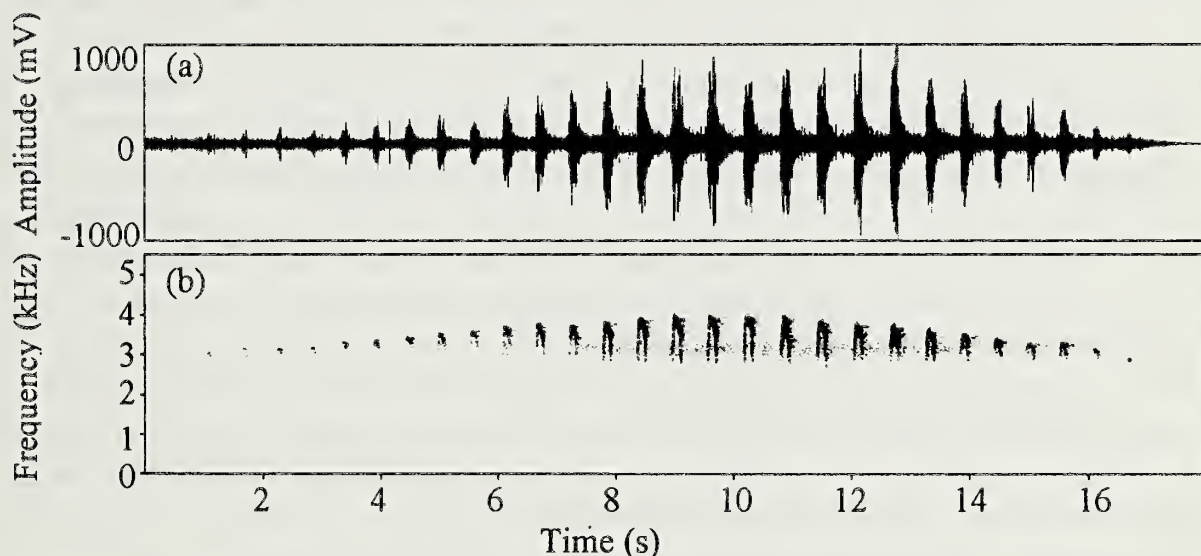


Figure 3. Power (a) and frequency (b) spectrograms for Zenker's Honeyguide *Melignomon zenkeri*. From Chappuis (2000), recorded in October at Mt Kupé, SW Cameroon, by R. Martins.

Vocalisations

A sonogram and power spectrum of the recording made by NB (Fig. 1) show that the song differs quite considerably from that of Zenker's Honeyguide (cf. Bowden *et al.* 1995, Chappuis 2001), which has short, whistled bell-like notes (Fig. 3). That of Yellow-footed consists of harsh strident notes which are more drawn out. Comparison of the power spectra of both species (Figs 1 and 3) illustrates the essential characters for distinguishing the calls in the field. The Yellow-footed song lasts 12.4 s and Zenker's 15 s. Both are series of repeated regular phrases that are similar in structure but vary in their maximum and minimum frequencies, as is typical of the songs of honeyguides (Claude Chappuis pers. comm.). The phrases of Yellow-footed are repeated at a rate of 1 s⁻¹, those of Zenker's at 1.8 s⁻¹. Each note of the Yellow-footed

song is separated by a very short pause, but four times longer than those in the song of Zenker's, a difference readily apparent in the field. The variation in intensity of the phrases throughout the song is another important distinction. Zenker's rises from the start and fades away at the end with the first and last phrases almost inaudible. The variation in intensity in the Yellow-footed is much less marked. Both songs begin at an average frequency just above 3000 Hz, but the frequency of Yellow-footed shows a marked decline throughout the song, whereas in Zenker's there is an initial rise and a final drop at the end.

Discussion

With this recording, it should be easier to detect this species than hitherto. However, as it does not appear to respond to playback unless it is already singing, systematic surveys using playback may not be very productive. Mont Péko and Marahoué NPs are now reasonably well known (Thiollay 1985, Demey & Fishpool 1991, Christy & Schulenberg 1999, Rainey 2000, Rainey *et al.* 2001, Rainey & Lachenaud 2002), but in Marahoué NP the song has so far been identified only once. The song is quite loud and strident and unlikely to be missed, so the absence of records suggests the species does not sing frequently. The song has so far been heard only in December and March, the first and last months of the dry season in the forest zone of Ivory Coast. Our observations are all from the northern, drier, semi-deciduous forests, as are almost all previous records throughout its range (Bowden *et al.* 1995). However, much remains to be discovered about this species and the relatively large number of unconfirmed records from the southern moist forest zone (Macdonald 1980, Thiollay 1985, Gartshore 1989, Gartshore *et al.* 1995; also Banco NP, Abidjan, 6 Apr 2002 (HR)) suggest that it may be more common there than yet supposed.

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Seasonal waterbird and raptor fluctuations on the Niger and Mékrou Rivers in Niger

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Summary

Waterbirds and raptors were surveyed on the Niger and Mékrou Rivers in W National Park, SW Niger, most months between 1995 and 1999. During the study, 101 species of raptor and waterbird were identified, of which 73 were observed more than twice. Bird numbers and species composition fluctuated with the seasons, for all species, even those considered sedentary or resident. Species composition also differed between the two rivers, some species being found only or mostly on one river and not or rarely on the other. The two rivers support more individuals and species of Afrotropical waterbirds and raptors during the hot season (Mar–May), and more Palearctic waterbirds in the cold season (Dec–Feb).

Résumé

Variations saisonnières des oiseaux d'eau et des rapaces sur les fleuves Niger et Mékrou au Niger. Les oiseaux d'eau et les rapaces furent suivis sur le Niger et le Mékrou dans le Parc National du W, sud-ouest du Niger, la plupart des mois entre 1995 et 1999. Durant cette étude, 101 espèces de rapaces et d'oiseaux d'eau furent identifiés, dont 73 observés plus de deux fois. La composition en nombre et en espèces variait avec les saisons, pour toutes les espèces, même celles considérées comme sédentaires ou résidentes. L'agencement en espèces différait aussi entre les deux rivières, et certaines espèces ne se trouvaient rares ou communes que sur une rivière et jamais ou rarement sur l'autre. Les deux rivières hébergeaient le plus grand nombre d'individus et d'espèces de sauvagine et de rapaces afrotropicaux pendant la saison chaude (mars-mai), et plus d'oiseaux d'eau en saison froide (déc-fév).

Introduction

Rivers and their floodplains form an important but scarce resource in Niger, both for people and for birds (Brouwer *et al.* 2001). By far the most important river in Niger is the Niger River, which flows for 550 km through the southwestern part of the country. Since 1992, waterbirds have been counted each year during January and February along various stretches of the Niger River, as well as at a number of isolated wetlands elsewhere in the country (Brouwer & Mullié 2001). The present study reports on the results of monthly waterbird and raptor surveys by US Peace Corps Volunteers from 1995 to 1999 along the Niger River and its tributary the Mékrou, in W National Park in Niger. W National Park was designated a Ramsar Site in 1987 in part because of its importance to waterbirds. CJ initiated the surveys in 1995, in part to determine what birds were using the protected habitat areas of the park. The results are also of interest for potential expansion of ecotourism on the Niger River. We focus on seasonal differences in presence for the various species encountered, and on differences between the two rivers.

Study areas and methods

The stretch of the Niger River where waterbirds and raptors were counted is approximately 75 km long, from Koro Gungu to Boumba (see Crisler *et al.* 2003 for a map of the area). This area lies within the northern Sudanian zone (Brouwer *et al.* 2001) and usually receives 500–800 mm of rain annually (May–October, with a marked peak in August). Minimum and maximum annual rainfall recorded are 221 and 1178 mm respectively. Maximum flow along this section of the Niger River occurs around February, when the peak of the floods originating in Guinea and Mali arrives. Maximum flow can be up to $1800 \text{ m}^3 \text{ s}^{-1}$, with the river up to 1 km wide. At flood stage, several large areas of floodplains and marshes are inundated. Minimum flow occurs around July, when it can be only tens of $\text{m}^3 \text{ s}^{-1}$. On rare occasions, surface flow even ceases altogether, although large pools of standing water always remain. During the period of minimum flow, extensive areas of rocks and sandbars are exposed and shallow backwaters are formed. The dominant vegetation along the river includes stands of palms *Borassus aethiopum*, and various kinds of marsh and aquatic plants. Where higher ground adjoins the river one can find baobab *Adansonia digitata*, kapok trees *Bombax costata*, *Prosopis africanus*, and various Combretaceae (Brouwer *et al.* 2001).

The first part of the Niger River that we surveyed, from Koro Gungu to Boscia, runs between farmland on the left bank and the Réserve de Tamou and W National Park on the right bank. The Tamou reserve was set up to act as a buffer zone between the park and human cultivation and habitation (Dufresne *et al.* 1982). The second section, from Boscia to Boumba, runs along the W Park on its right bank and

comprises well separated villages, fields and fallow areas on the left. Areas outside the park have much less natural savanna vegetation, and are under pressure from cultivation and grazing (IUCN 1993).

The stretch of the Mékrou River that we surveyed was approximately 15 km long, from Boumba on the Niger River to the Rapids of Barou. Some months, the Mékrou River section was shorter or impassable due to sandbars and rocks that became exposed as the water level dropped. Because the Mékrou has a more local origin, in northern Togo, it is usually at its highest around January, when it is up to 50 m wide. It often does not flow at the end of the dry season, from April or May to July. This section of the Mékrou River differs from the sections of the Niger in several ways. It is narrower, almost dry part of the year, supports much more gallery forest and has much less intensive land use along its banks.

In the variable environment of the Sahel, most waterbirds and raptors are likely to show some degree of mobility in response to environmental variability, be it seasonal or irregular. Thus the surveys were conducted once every month, when possible (see Table 1), although few were carried out after August 1997. The data used here are from February 1995 to April 1999. Immediately prior to the rainy season, surveys were often missed, especially on the Mékrou River, because of low water levels. A number of other months were missed due to boat failure and other technical difficulties. Months not surveyed were calculated as missing data, not zeros. The monthly surveys will in due course permit detection of long-term trends in bird numbers.

Table 1. Surveys from which results were used in this paper.

Year	River	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1995	Niger		1	1	1	1	1	1	1	1	1	1	1	11
	Mékrou			1	1				1	1	1	1	1	7
1996	Niger	1	1	1	1	1	1	1	1	1	1	1	1	12
	Mékrou	1	1	1	1				1	1	1	1	1	9
1997	Niger	1	1	1	1	1	1	1	1					8
	Mékrou	1	1	1										3
1998	Niger							1						1
	Mékrou							1				1		2
1999	Niger		1	1	1									3
	Mékrou		1											1
Total	Niger	2	4	4	4	3	3	4	3	2	2	2	2	35
Total	Mékrou	2	3	3	2			1	2	2	2	3	2	22

The survey crew consisted of a local boat driver and two or three biologists, who were not the same for all surveys. Participants included CJ (1995–7), Abdou Hamidou (1995–8), Denise Foy (1996–7), Katie Furbur (1996–7), Donata Roome (1997), JA

(1997–8), Jessie Bulloch (1997–9), Kara Gregor (1998–9), Ousmane Halidou (1998–9) and Adrian VerHagen (1999). We tried to minimize observer bias by overlapping old and new surveyors. We surveyed waterbirds and raptors because both groups are easily identifiable and good indicators of the status of the riparian environment. Surveys on the Niger River began at *c.* 7h30 on consecutive days (one day Boscia–Koro Gungu, the next day Boscia–Boumba), using a small motorboat at an average speed of about 15 km of river per hour. The Mékrou survey began after surveyors completed the Boscia-Boumba section, at *c.* 10h30. We counted birds in front of us on the river and on both banks, and as far out as we could positively identify them. The precise route along the river varied according to circumstances such as water level, location of sand banks and presence of hippopotamus *Hippopotamus amphibius*. We disembarked once per Niger River section, to survey specific marshy islands with high individual bird counts and species diversity.

The months were grouped into cold (Dec–Feb), hot (Mar–May), rainy (Jun–Aug) and mini-hot (Sep–Nov) seasons, to facilitate the identification of possible seasonal effects on bird numbers. Bird names and migratory status are taken from Brown *et al.* (1982), Urban *et al.* (1986), Fry *et al.* (1988) and Dowsett & Forbes-Watson (1993).

Results

Individual species

A total of 101 species of waterbird and raptor was seen during the surveys. Of these, the following 28 were seen only once or twice and are not included in the statistical calculations for individual species: Pink-backed Pelican *Pelecanus rufescens*, Dwarf Bittern *Ixobrychus sturmi*, Yellow-billed Stork *Mycteria ibis*, African Openbill Stork *Anastomus lamelligerus*, Woolly-necked Stork *Ciconia episcopus*, African Spoonbill *Platalea alba*, Fulvous Whistling Duck *Dendrocygna bicolor*, Egyptian Goose *Alopochen aegyptiacus*, African Pigmy Goose *Nettapus auritus*, Northern Pintail *Anas acuta*, Honey Buzzard *Pernis apivorus*, Lappet-faced Vulture *Torgos tracheliotus*, Montagu's Harrier *Circus pygargus*, Red-tailed Buzzard *Buteo auguralis*, Booted Eagle *Hieraaetus pennatus*, Martial Eagle *Polemaetus bellicosus*, Lesser Kestrel *Falco naumanni*, African Hobby *Falco cuvierii*, Black Crake *Amaurornis flavirostris*, Painted Snipe *Rostratula benghalensis*, Rock Praticole *Glareola nuchalis*, Black-tailed Godwit *Limosa limosa*, Common Redshank *Tringa totanus*, Little Stint *Calidris minuta*, Common Tern *Sterna hirundo*, African Skimmer *Rynchops flavirostris*, Pel's Fishing Owl *Scotopelia peli*, and Blue-breasted Kingfisher *Halcyon malimbica*. Except for the Honey Buzzard, Lappet-faced Vulture and Pel's Fishing Owl, these were all seen on the Niger River, with about nine of these species observed there each season except the mini-hot season (only three species).

For the remaining 73 species, Table 2 presents the average, minimum and maximum numbers of birds per species that were seen for each river and each season.

Table 2. Numbers of birds, quoted as mean (min.-max.), of each species observed per survey and per river during each season. Numbers for the Niger River are for 75 km; those for the Mékrou River are for a maximum of 15 km of river (depending on navigability). Status = migratory status in Niger according to Dowsett & Forbes-Watson (1993); I = intra-African migrant; P = Palaearctic migrant; R = resident.

	Status	Niger River				Mékrou River			
		cold Dec-Feb	hot Mar-May	rainy Jun-Aug	mini-hot Sep-Nov	cold Dec-Feb	hot Mar-May	rainy Jun-Aug	mini-hot Sep-Nov
Phalacrocoracidae									
<i>Phalacrocorax carbo</i> Great Cormorant	R	0	1.5(0-12)	0	0	0.9(0-6)	0	0	0
<i>P. africanus</i> Reed Cormorant	R	12.3(25-73)	13.6(1-34)	5.5(0-15)	0.2(0-1)	0.1(0-1)	9.0(5-14)	0.3(0-1)	0
<i>Anhinga rufa</i> African Darter	R	0	0.4(0-4)	0	0	0	0	0	0
Ardeidae									
<i>Ixobrychus minutus</i> Little Bittern	R,P	0	0.1(0-1)	0.1(0-1)	0	0	0	0.3(0-1)	0.9(0-6)
<i>Nycticorax nycticorax</i> Black-crowned Night Heron	P,R	14(0-50)	25(0-152)	0.2(0-2)	8.2(2-18)	0	22(0-88)	0	0.7(0-3)
<i>Ardeola ralloides</i> Squacco Heron	R,P	20(2-55)	4.2(0-23)	0.9(0-7)	1.2(0-7)	0.4(0-2)	6.6(0-21)	1.0(0-3)	0.1(0-1)
<i>Bubulcus ibis</i> Cattle Egret	R	159(0-319)	96(1-562)	73(0-445)	74(6-215)	0.9(0-4)	23(0-90)	0.7(0-2)	25(0-114)
<i>Butorides striatus</i> Green Heron	R	0	0.7(0-2)	2.0(0-7)	1.5(0-5)	1.3(0-3)	3.0(0-11)	0.3(0-1)	2.0(0-4)
<i>Egretta garzetta</i> Little Egret	R,P	18(3-51)	19(0-72)	1.5(0-6)	1.8(0-5)	0.3(0-1)	0	0	0.1(0-1)
<i>E. intermedia</i> Yellow-billed Egret	R	11(1-36)	17(0-54)	3.2(0-15)	0	0	1.0(0-4)	0	0
<i>E. alba</i> Great White Egret	P,R	8.8(0-26)	12(0-46)	1.5(0-15)	0.2(0-1)	0	0.4(0-2)	0	0
<i>Ardea purpurea</i> Purple Heron	P,R	26(2-70)	18(2-32)	6.7(1-14)	3.5(0-9)	3.6(0-7)	7.0(0-22)	0	0.6(0-3)
<i>A. cinerea</i> Grey Heron	R,P	53(35-72)	130(38-282)	77(6-331)	31(12-55)	1.3(0-3)	2.8(0-9)	0.3(0-1)	2.4(0-5)
<i>A. melanocephala</i> Black-headed Heron	R	8.6(0-20)	36(1-167)	19(3-45)	5.8(1-16)	0.6(0-3)	1.8(0-5)	1.0(0-3)	1.6(0-8)
Scopidae									
<i>Scopus umbretta</i> Hamerkop	R	2.4(0-6)	2.1(0-7)	1.1(0-3)	1.8(0-5)	0.9(0-3)	0.2(0-1)	1.0(0-3)	2.0(0-5)
Ciconiidae									
<i>Ciconia abdimii</i> Abdim's Stork	I	0	5.8(0-44)	13.4(0-26)	0	0	0	0	0.1(0-1)

Table 2 continued

	Status	Niger River					Mékrou River				
		cold	hot	rainy	mini-hot	cold	hot	rainy	mini-hot		
		Dec-Feb	Mar-May	Jun-Aug	Sep-Nov	Dec-Feb	Mar-May	Jun-Aug	Sep-Nov		
<i>Leptoptilos crumeniferus</i> Marabou Stork	R	0	8.9(0-58)	0.9(0-9)	0	0	0.2(0-1)	0	0		
Threskiornithidae											
<i>Threskiornis aethiopicus</i> Sacred Ibis	R	4.4(1-10)	15(0-51)	0	0	0	0	0	0		
<i>Plegadis falcinellus</i> Glossy Ibis	R,P	1.6(0-7)	10(0-31)	0.5(0-4)	2.5(0-14)	0	0.4(0-1)	0	0.6(0-4)		
<i>Bostrychia hagedash</i> Hadada	R	7.8(0-16)	9.5(0-33)	1.0(0-10)	3.7(0-13)	0.3(0-2)	1.8(0-9)	0	0.9(0-4)		
Anatidae											
<i>Dendrocygna viduata</i> White-faced Tree-Duck	R	1435(1-6338)	3290(47-6292)	361(1-2773)	50(2-130)	0	0	0.3(0-1)	0.3(0-1)		
<i>Plectropterus gambensis</i> Spur-winged Goose	R	116(0-250)	222(0-638)	74(0-337)	11(0-20)	0	0.4(0-2)	2.7(0-8)	3.7(0-14)		
<i>Sarkidiornis melanotos</i> Knob-billed Duck	I	204(8-404)	351(25-742)	39(5-145)	8.8(0-20)	16(0-70)	5.2(0-21)	1.7(0-3)	1.3(0-7)		
<i>Anas querquedula</i> Garganey	P	20(0-132)	0	0	6.3(0-35)	0	0	0	0		
Accipitridae											
<i>Elanus caeruleus</i> Black-shouldered Kite	R	0.3(0-1)	0	0	0	0.1(0-1)	0	0	0		
<i>Milvus migrans</i> Black Kite	P	13(3-24)	17(3-40)	4.4(0-20)	5.7(0-12)	6.1(2-10)	4.4(2-7)	1.3(0-4)	3.4(0-10)		
<i>Haliaeetus vocifer</i> River Eagle	R	6.0(2-14)	7.7(0-18)	5.0(2-8)	3.3(1-5)	0.3(0-1)	0.2(0-1)	0.7(0-2)	0.3(0-2)		
<i>Necrosyrtes monachus</i> Hooded Vulture	R	2.0(0-5)	0.6(0-3)	2.6(0-24)	3.3(0-11)	1.3(0-3)	1.2(0-3)	1.0(0-3)	1.6(0-10)		
<i>Gyps africanus</i> White-backed Vulture	R	13(0-70)	11(0-54)	5.0(0-28)	12(0-26)	15(0-28)	3.6(0-7)	1.7(0-5)	8.6(1-28)		
<i>G. rueppellii</i> Rüppell's Griffon	R	0.4(0-3)	0	0	0	0.3(0-2)	1.0(0-5)	3.0(0-8)	0.3(0-2)		
<i>Trigonoceps occipitalis</i> White-headed Vulture	R	0	0.1(0-1)	0	0	0	0.4(0-2)	0.7(0-2)	0		
<i>Circus gallicus</i> Short-toed Eagle	P,I	0.5(0-2)	0.2(0-2)	0.1(0-1)	0.5(0-2)	0	0	0	0.3(0-1)		
<i>C. cinereus</i> Brown Snake Eagle	R	0.1(0-1)	0.4(0-3)	0.6(0-3)	1.0(0-3)	0.6(0-2)	0.2(0-1)	0.3(0-1)	0.4(0-2)		
<i>Terathopius ecaudatus</i> Bateleur	R	0	0.5(0-3)	0.8(0-4)	0.2(0-1)	0.3(0-1)	0.6(0-3)	0	0.4(0-2)		
<i>Polyboroides typus</i> Harrier-Hawk	R	0.3(0-2)	1.0(0-3)	0.2(0-1)	0.3(0-2)	0.9(0-3)	0.8(0-2)	0.7(0-1)	0.4(0-1)		
<i>Circus aeruginosus</i> Marsh Harrier	P	14(4-30)	6.2(0-18)	2.7(0-9)	6.5(0-16)	1.9(0-5)	1.4(0-5)	1.0(0-3)	0.6(0-2)		

<i>C. macrourus</i> Pallid Harrier	P	0.4(0-1)	0.4(0-3)	0	0	0	0.2(0-1)	0	0	0
<i>Melierax metabates</i> Dark Chanting Goshawk	R	0.3(0-1)	0	0.2(0-2)	0.5(0-3)	0	0	0	0	0.4(0-2)
<i>M. gabar</i> Gabar Goshawk	R	0.5(0-1)	0.1(0-1)	0.2(0-2)	0.2(0-1)	0.3(0-2)	0	0	0	0
<i>Accipiter badius</i> Shikra	R	0.1(0-1)	0.1(0-1)	0.1(0-1)	0.3(0-2)	0.1(0-1)	0	0	0	0.3(0-1)
<i>Aquila wahlbergi</i> Wahlberg's Eagle	I	0.3(0-1)	0	0.3(0-1)	0.5(0-1)	0.3(0-2)	0	0	0	0.3(0-1)
<i>A. rapax</i> Tawny Eagle	R	0	0.5(0-2)	0.8(0-2)	1.0(0-3)	0.1(0-1)	0	0	0	0.4(0-1)
<i>Lophaetus occipitalis</i> Long-crested Eagle	R	0.5(0-3)	0.1(0-1)	0.4(0-1)	0	0.9(0-2)	0	0	0	0
<i>Pandion haliaetus</i> Osprey	P	0.1(0-1)	0	0	0.5(0-2)	0	0.6(0-2)	0	0	0.3(0-1)
Falconidae										
<i>Falco tinnunculus</i> Common Kestrel	R,P	0	0.4(0-3)	0.8(0-8)	0	0	0	0	0	0
<i>F. ardosiaceus</i> Grey Kestrel	R	0.3(0-2)	0.2(0-1)	0.2(0-1)	0.3(0-2)	0	0	0	0	0.1(0-1)
<i>F. chicquera</i> Red-necked Falcon	R	0.4(0-2)	0.2(0-2)	0.6(0-2)	0.5(0-1)	0.3(0-2)	0.2(0-1)	0	0	0.1(0-1)
Rallidae										
<i>Gallinula angulata</i> Lesser Moorhen	I	0	0.1(0-1)	0.4(0-2)	0	0	0	0	0	0
Gruidae										
<i>Balearica pavonina</i> Black Crowned Crane	R	0	0.9(0-3)	0.4(0-2)	0	0	0	0	0	0
Jacaniidae										
<i>Actophilornis africana</i> African Jacana	R	5.9(0-16)	11(0-28)	7.0(0-35)	2.3(0-7)	0.3(0-1)	1.2(0-3)	0.3(0-1)	0	0
Recurvirostridae										
<i>Himantopus himantopus</i> Black-winged Stilt	P	15(0-65)	3.2(0-16)	0	1.0(0-6)	0	0	0	0	0.6(0-4)
Burhinidae										
<i>Burhinus senegalensis</i> Senegal Thick-knee	R	1.4(0-8)	7.5(0-41)	3.2(0-17)	2.2(0-8)	0	0	0	0	0
Glareolidae										
<i>Pluvianus aegyptius</i> Egyptian Plover	R	44(22-62)	84(23-204)	39(0-102)	15(2-53)	1.0(0-4)	1.4(0-4)	1.3(0-4)	2.7(0-12)	0
<i>Glareola pratincola</i> Common Pratincole	R,P	0	0.2(0-2)	4.3(0-41)	0	0	0	0	0	0
<i>G. cinerea</i> Grey Pratincole	I	0	0.3(0-3)	2.7(0-13)	0	0	0	0	0	0
Charadriidae										
<i>Vanellus senegalus</i> African Wattled Plover	R	1.9(0-4)	15(0-46)	3.8(0-17)	1.0(0-4)	0.4(0-2)	2.0(0-5)	0	2.3(0-16)	0

Table 2 continued

	Status	Niger River					Mékrou River				
		cold		hot	rainy	mini-hot	cold		hot	rainy	mini-hot
		Dec-Feb	Mar-May	Jun-Aug	Sep-Nov	Dec-Feb	Mar-May	Jun-Aug	Sep-Nov		
<i>V. spinosus</i> Spur-winged Plover	R	77(36-135)	88(29-231)	62(11-120)	28(7-66)	0.9(0-2)	1.6(0-3)	0	0	0.3(0-2)	
Scolopaciidae											
<i>Gallinago gallinago</i> Common Snipe	P	0.8(0-5)	0	0	2.3(0-14)	0	0	0	0	0	
<i>Tringa stagnatilis</i> Marsh Sandpiper	P	0.4(0-2)	0.9(0-7)	0.1(0-1)	0	0	0.2(0-1)	0	0	0	
<i>T. nebularia</i> Common Greenshank	P	1.0(0-6)	0.2(0-2)	0	0	0	0	0	0	0	
<i>T. ochropus</i> Green Sandpiper	P	0.8(0-3)	0.5(0-5)	0	1.8(0-6)	0	0.2(0-1)	0	0	0	
<i>T. glareola</i> Wood Sandpiper	P	0.8(0-4)	1.7(0-13)	0	0	0	0.2(0-1)	0	0	0	
<i>Actitis hypoleucos</i> Common Sandpiper	P	5.1(1-11)	4.2(0-11)	0.9(0-3)	4.7(1-13)	1.6(0-4)	1.8(0-3)	1.0(0-2)	1.6(0-5)	1.6(0-5)	
<i>Philomachus pugnax</i> Ruff	P	317(0-927)	29(0-149)	0	0	2.9(0-20)	0	0	0	0	
Sternidae											
<i>Gelochelidon nilotica</i> Gull-billed Tern	P	0.6(0-2)	0.8(0-3)	0.2(0-2)	0.3(0-1)	0	0	0	0	0	
<i>Sterna albifrons</i> Little Tern	I	0	5.5(0-29)	11.5(0-38)	0	0	0	0	0	0	
<i>Chlidonias leucopterus</i> White-winged Tern	P	0.3(0-2)	0.1(0-1)	0.3(0-3)	0	0	0	0	0	0	
Alcedinidae											
<i>Alcedo cristata</i> Malachite Kingfisher	R	0	0	0	0.2(0-1)	0	0.6(0-2)	2.3(0-4)	0.1(0-1)	0.1(0-1)	
<i>Ceyx pictus</i> Pygmy Kingfisher	I	0	0	0.1(0-1)	0	0	0.2(0-1)	0.3(0-1)	0.1(0-1)	0.1(0-1)	
<i>Halcyon leucocephala</i> Grey-hooded Kingfisher	I	0	3.1(0-29)	5.3(0-19)	0.8(0-3)	0.1(0-1)	0	2.0(0-5)	2.0(0-4)	2.0(0-4)	
<i>H. senegalensis</i> Woodland Kingfisher	I	0	0	4.7(0-16)	5.0(0-11)	0	0	2.0(0-5)	2.3(0-6)	2.3(0-6)	
<i>Megaceryle maxima</i> Giant Kingfisher	R	0.3(0-1)	0.3(0-3)	0.5(0-2)	0.5(0-3)	0.7(0-2)	1.4(1-2)	1.0(0-3)	1.9(0-4)	1.9(0-4)	
<i>Ceryle rudis</i> Pied Kingfisher	R	38(14-56)	46(28-74)	30(11-46)	19(8-47)	16(3-28)	18(10-23)	11(5-17)	12(5-25)	12(5-25)	

The following species met the Ramsar Convention criterion of 1% of global population, according to the 1% figures in Rose & Scott (1997). *Dendrocygna viduata* (threshold 2500 individuals): average number during the hot season was 3290, and two counts exceeded 6000 (6338 in Feb 1997, 6292 in May 1995). *Plectropterus gambensis* (threshold 500): exceeded during the hot season in May 1995 (638), and April 1997 (543). *Sarkidornis melanotus* (threshold 500): exceeded during the hot season in May 1995 (742), Apr 1996 (660), May 1996 (630) and Apr 1997 (510). *Pluvianus aegyptius* (threshold 200): exceeded in May 1995 (204), with counts of 100 or more common.

Almost all species showed evidence of movement, including supposedly resident species (Dowsett & Forbes-Watson 1993) such as *Anhinga rufa*, *Phalacrocorax africanus*, and *Egretta intermedia*. At the same time, some individuals of many Palaearctic migrants remained during the boreal summer (wet season). These were probably of pre-breeding age.

The Niger and Mékrou rivers differed in species composition and abundance (Table 2). The much shorter section of the Mékrou River contained higher absolute numbers of the following species: *Ixobrychus minutus*, *Butorides striatus*, *Pandion haliaetus*, *Terathopius ecaudatus*, *Polyboroides typus*, *Alcedo cristata*, and *Megaceryle maxima*.

Species groups

Total number of waterbirds and raptors varied significantly across seasons (ANOVA $F_3 = 4.901$, $P = 0.002$). Total number of species on the rivers varied by season and varied differently on the two rivers (Table 3). For both calculations the species seen only once or twice were included, but their effect on total number of birds seen and on number of species seen per survey was always very small.

The highest numbers of species on the Niger River were sighted during the hot season (total 70), although the average number of species seen per survey was slightly higher during the cold season (34.1 vs. 31.9). The fewest species were seen in the mini-hot season (total 52, average 26.3). On the Mékrou River, the total number of species seen ranged from 45 in the mini-hot season to 30 in the rainy season. The number of species observed per survey on the Mékrou River did not differ significantly between the seasons, and was usually between 13 and 20.

Total number of birds sighted also varied by season and river (Table 3). On both rivers, highest numbers were seen during the hot season, with the cold season coming second on the Niger River and the mini-hot season on the Mékrou River.

There were also differences in the densities of different bird groups between seasons, calculated by dividing the number of birds by the length of river surveyed. Density of Anseriformes (Anatidae, all species) fluctuated significantly with the seasons (ANOVA $F_3 = 4.231$, $P = 0.032$). Anseriformes, Charadriiformes (Recurvirostridae, Burhinidae, Glareolidae, Charadriidae, Scolopacidae, Sternidae), and Ciconiiformes (Ardeidae, Scopidae, Ciconiidae, Threskiornithidae) occurred at

higher densities on the Niger River than on the Mékrou River (all data combined, Wilcoxon sign test $Z = -3.043, -3.314, -2.314$ respectively, $P < 0.05$ in all cases). Coraciiformes (Alcedinidae) and Falconiformes (Accipitridae, Falconidae) occurred at higher densities on the Mékrou River ($Z = 3.629, 2.786$ respectively, $P < 0.05$). There was no significant difference between rivers for Pelecaniformes (Phalacrocoracidae) and Gruiformes (Rallidae, Gruidae, Jacanidae). More Anseriformes were seen in the hot season than any other season. Three of the most variable species were *Dendrocygna viduata*, *Plectropterus gambensis*, and *Sarkidornis melanotos* (Table 2). For these species the highest numbers occurred during the hot season and the lowest numbers were recorded in the mini-hot season. Of the African Charadriiformes, *Pluvianus aegyptius* was most commonly seen in the hot season (Table 2) but was visible throughout the year (observed during 34 out of the 35 surveys).

Table 3. Seasonal differences in the number of birds and species, quoted as mean (min.–max.), observed per river section.

Season:	Cold Dec–Feb	Hot Mar–May	Rainy Jun–Aug	Mini-hot Sep–Nov
Niger River (75 km)				
Number of surveys	8	11	10	6
Birds per survey	2714(671–8264)	4638(967–9645)	899(122–4696)	334(210–523)
Species per survey	34.1(20–40)	31.9(26–40)	27.0(20–41)	26.3(22–32)
Total species during study	61	70	65	52
Mékrou River (≤ 15 km)				
Number of surveys	7	5	3	7
Birds per survey	78(44–131)	128(42–288)	41(39–44)	87(46–139)
Species per survey	15.4(13–18)	19.8(12–26)	13.0(9–16)	16.4(13–24)
Total species during study	38	41	30	45

Discussion

The Niger and Mékrou Rivers differ in the numbers of bird species and individuals found on them. Moreover, the bird numbers change, sometimes dramatically, between the seasons.

Of course, not every bird on every survey could be counted and numbers counted are thus minima. Both banks were visible on all surveys, but as the river was wider in and after the rainy season (June–August) both shores could not be seen equally well the entire time. Also some birds are more cryptic and thus more easily missed. On the Niger River, vegetation cover is patchy, while on the Mékrou River, woody vegetation is thick all along its banks. In addition, the timing of the surveys may have

had some effect on the results. Surveys on the Niger River were conducted early in the morning while the Mékrou was surveyed mid-morning. This will have affected survey results in different but consistent ways: for some species a later survey hour generally means less activity, for others it means more activity.

More birds were seen in the hot season than in the rainy season. Waders were mostly of Palaearctic origin and were therefore most prevalent during the cold season (and on the Niger River). Anatidae were mostly of Afrotropical origin and most numerous during the hot season. Other local wildlife was also more prevalent on the riverbanks in the hot season. This is in part because smaller waterholes in other parts of the bush dry up during the hot season and the Niger River itself drops 3 m or more. Thus, birds and animals are drawn to the remaining water in the river.

On the Niger River, the second most important season after the hot season, for waterbirds and raptors in general, was the cold season, whereas for the Mékrou River it was the mini-hot season. This is probably due to differences in hydrological conditions between rivers. During the cold season the Niger River still has quite a bit of water, a scarce resource at that dry time of year. The Mékrou dries out more quickly, so that river is more important for waterbirds and raptors at the start of the dry season, i.e. during the mini-hot season.

Some species require specific habitats. The Niger River is a larger, faster flowing body of water with less vegetation on its banks than the Mékrou River. Thus, it is a better habitat for ducks and waders, some of which, such as *Dendrocygna viduata*, use the large Niger River as a flyway. These can also be seen during the dry season in huge rafts on the Niger River or on exposed islands in the middle of the river. Ciconiiformes utilize the sloping bare banks and scattered islands for foraging and nesting habitats.

The smaller Mékrou River with its densely vegetated banks and forest was better for species such as kingfishers that require riparian habitat for both nesting and foraging, often perching on branches next to or overhanging the river. Such branches are much less common on the Niger River. In addition the Mékrou River lacks islands and long sloping banks. All the same, some Ciconiiformes were seen regularly on the smaller Mékrou, but mostly the smaller species and less frequently than on the Niger. Falconiformes were observed frequently on both rivers. The riparian habitat, as well as farm and grazing land, contain abundant prey for them.

Conclusions

W National Park protects savanna habitat, which is becoming increasingly rare in West Africa. It also protects significant areas of wetland and its associated birds along the Niger and Mékrou Rivers. The diversity of habitat along these rivers is important to Palaearctic migrants as well as Afrotropical birds (see also IUCN 1986). Our data indicate that the park merits its status as a Wetland of International Importance under

the Ramsar Convention. These baseline data now permit assessment of long-term trends in waterbird and raptor numbers. Waterbirds and raptors can be important indicators of the environmental integrity of the park and rivers.

In this variable environment many taxa move regularly or irregularly. The rivers and isolated wetlands have in part complementary ecological functions, providing suitable feeding and resting habitat to the same species but at different times of the year. This complicates the assessment of the migratory status of a number of waterbird species. To determine if movements that we noted were seasonal migration or local movements, surveys would need to be conducted on the rivers and the isolated wetlands simultaneously during each season, and percentages of juveniles would need to be noted.

We show that, for Afrotropical waterbirds at least, the importance of certain wetlands is better demonstrated by counts during the hot season than by counts during the cold season, as is more commonly done, although for Palaearctic waterbirds obviously the best time is the cold season. For observing large numbers and many species of Afrotropical waterbirds and raptors along the two rivers, the hot (late dry) season is obviously best. Local people report that, on certain large isolated wetlands in S Niger, the largest concentrations of waterbirds are also found during the dry season.

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Short Notes — Notes Courtes

Two new raptors for Nigeria and other raptor observations at Lake Chad

Two new raptor species for Nigeria were discovered in dry, open savanna woodland 4–5 km from Lake Chad, Borno State, Nigeria in November 2001, during the Lake Chad Bird Migration Project (Ottosson *et al.* 2001).

Eastern Imperial Eagle *Aquila heliaca*

We saw a juvenile Eastern Imperial Eagle along the road from Baga to Metele near the shore of Lake Chad (13°14'34N, 13°31'32E) on 14 Nov 2001. It was soaring *c.* 150 m above us with an adult Tawny Eagle *A. rapax belisarius*. Both birds continued soaring close to us for several minutes until they reached a high altitude and parted, the Eastern Imperial Eagle gliding southeast. The observation was made in good weather conditions, with a 32x telescope and 10x binoculars.

The Eastern Imperial Eagle appeared clearly the larger, with broader, longer wings and bigger, more protruding head. Its most prominent character was the dark streaking on the otherwise pale yellowish-brown underparts, which covered the underwing coverts and body feathers except for the lower belly and vent. The flight feathers were uniformly blackish apart from three to four pale grey inner primaries forming a “window” which was visible from below and above. The upperparts were more difficult to observe but the rump was white and the greater and median wing coverts had narrow white tips. The general colour was similar to the underside. Compared to the Tawny Eagle, the white primary feather shafts formed a larger pale patch on the primary base. The age was determined by the fresh appearance of all feathers as well as an S-shaped trailing edge to the wing and neat white tips to the blackish rectrices and remiges, as described by Forsman (1999).

Two additional observations, both of first calendar-year birds, were made on 16 and 24 Nov 2001. At least the latter observation probably concerned the same wintering bird as the individual described above, based on plumage similarity and observation at the same site.

Eastern Imperial Eagle winters mainly in Egypt and Sudan but is regular as far south as Kenya and Tanzania (Brown *et al.* 1982, Zimmerman *et al.* 1999). There is one record of an immature in N Cameroon (Borrow & Demey 2002), but it does not seem to have been observed elsewhere in W Africa.

Barbary Falcon *Falco pelegrinoides*

As we knew Barbary Falcon might occur in the area, we systematically checked each large falcon we saw. On 23 Nov 2001 we saw an adult of this species along the above-mentioned road (13°13'31N, 13°33'17E). We watched it for 4 min. with the sun

behind us, with a 32x telescope and 10x binoculars. It was mostly about 100–200 m away but approached to *c.* 60 m while patrolling for prey. After circling low over the area it flew northeast.

It was distinguished from Lanner *F. biarmicus*, which is very common in the area, by the different jizz and proportions in flight. Compared to Lanner, it showed clearly shorter and broader tail and more compact wings that were broader in the arm but more pointed at the tip. Wing beats were faster than Lanner's and the bird appeared somewhat smaller. The general colour of the upperparts was paler grey than on Lanner, with upper tail, rump and lower back distinctively pale bluish grey (cf. Forsman 1999). The primaries were darker than rest of the upperparts and the black tail bars were broader towards the tip of tail. Different from both Lanner and Peregrine *F. peregrinus*, the underparts were pale tawny and virtually lacked barring or streaking. Some diffuse bars on the flanks, and spots on the breast, were present but could only be seen when very close. All wing feathers were finely barred on a pale sandy background, the barring being uniform in density and tone. There was thus no contrast between the coverts and flight feathers, very different from Lanner (Forsman 1999). At certain angles, diffuse dark commas at the base of the primaries could be seen. The moustachial stripe was black and narrow, as in Lanner but more pointed than in Peregrine. The sandy yellowish cheek-patch appeared clear-cut and round. The head was largely black apart from neck and sides of nape, which were reddish-brown.

On 24 and 26 Nov 2001, adult Barbary Falcons were seen somewhat to the north of the first site. Both birds were perched in acacia trees, we approached them to 20–25 m in a car and both were photographed (Fig. 1).



Fig. 1. Barbary Falcon and Short-eared Owl near L. Chad, 2001. Photos: Rolf Gustafsson.

Barbary Falcon has been suggested (U. Ottosson, C. Hjort pers. comm.) to occur around Malamfatori, Lake Chad but no observations were confirmed until now (Borrow & Demey 2002). We agree with Brouwer & Mullié (2000), who suggest that Barbary Falcons are probably more common wintering in the Sahel than previously thought, although some records they mention lacked substantiation. Birds from eastern N African breeding populations occur, although rarely, as far south as Kenya during winter (Brown *et al.* 1982).

Other raptors

Our observation of a Short-eared Owl *Asio flammeus* represents the fourth Nigerian record (Elgood *et al.* 1994). We flushed the bird from an acacia tree in the middle of the day on 22 Nov 2001. It then sat on a grassy hill and then in another acacia c. 20 m from us (Fig. 1). Among other features, the yellow iris, black triangle around the eyes, white trailing edge to the wings and yellow-toned general colour rule out all other similar species.

Our visit to Lake Chad produced several other interesting discoveries such as remarkable numbers of migrant Palaearctic raptors, especially Steppe Eagle *A. nipalensis* and Booted Eagle *Hieraaetus pennatus*, both virtually unknown in Nigeria until the end of the 1990's (Philip Hall pers. comm.). Daily counts included up to 72 Steppe Eagles and 12 Booted Eagles.

Our trip was made possible by kind logistical and financial support from A.P. Leventis. Philip Hall arranged all practical matters in Nigeria and played an essential role in planning the survey. Christian Hjort and Ulf Ottosson helped with references. Dick Forsman, Christian Hjort, Mikael Nordström, Ulf Ottosson and Kalle Rainio made invaluable comments on early versions of the manuscript. Headmaster Adam Piyer in Alagarno village showed great hospitality in housing us. Finally, hearty thanks to our driver, Usman Ntakiel, for cooperation during the month in the field.

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On the plumages of Senegal Coucal *Centropus senegalensis* and a putative observation of Black-throated Coucal *C. leucogaster* in Niger

Debout *et al.* (2000) reported what would be the first observation of Black-throated Coucal *Centropus leucogaster* in Niger, near Niamey in July 1998. While the description given clearly matches *C. leucogaster*, the site and habitat mentioned (gardens and old cultivation) would be very unusual for this forest species, which has not otherwise been reported far from any forested area. The only records at similar latitudes are from Mali (Lamarche 1980–1) possibly erroneously (R.J. Dowsett pers. comm.), Dandum in Guinea-Bissau (Rodwell 1996) and southern Senegal (Morel & Morel 1990), where other typical forest species have been found. This led Demey *et al.* (2001) to question the record and discuss the possibility of an undescribed form of Senegal Coucal *C. senegalensis*.

Two plumage morphs of Senegal Coucal *C. senegalensis* are presently known: the typical bird, with creamy white underparts and black restricted to the top of head, and a melanistic form “*epomidis*” with black head and breast and rufous belly. Demey *et al.* (2001) suggest that *epomidis* does not occur more than 200 km from the coast. However, in Ivory Coast, this morph is known from several localities far inland (Schouteden & De Roo 1967, Yaokokore-Beibro 1997 and pers. obs.) at least as far north as Korhogo, 500 km from coast (Brunel & Thiollay 1969).

In the Abidjan area where both morphs are common, I observed an atypical Senegal Coucal in September 1999. It had the head and upper breast black, and the rest of the underparts creamy white, thus showing the same pattern of coloration as in Black-throated Coucal. However, it was accompanying a typical *C. senegalensis* and was similar to it in size and structure; Black-throated Coucal is much larger and has a very strong bill. Furthermore, the habitat where it was seen — scrub interspersed with cultivated land in the city’s suburbs — seems quite unlikely for *C. leucogaster*.

It thus seems that an undescribed, black-throated morph of *C. senegalensis* occurs in West Africa, and the Niamey bird is perhaps more likely for to have been this morph rather than *C. leucogaster*.

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First nests of Long-tailed Hawk *Urotriorchis macrourus* found in Ivory Coast

We can find no previous description of the nest of the Long-tailed Hawk *Urotriorchis macrourus* in the literature so we present here our observations of two nests that we discovered in Ivory Coast.

On 10–11 April 1994, 6 km south of the main research station in Taï Forest National Park, IS found a large untidy nest of sticks 20–25 m up in the mid-upper canopy. The nest was flat, shallow and roughly 50–70 cm in diameter. It was in the fork of an unidentified tree and very visible from below. It nest was initially located by piping and screeching calls given by the large, white downy young. On play-back of the young bird's taped call, two adults alighted on the tree and began a high pitched and far carrying screeching call. One visited the nest momentarily. There may have been more than one young in the nest but it was not possible to confirm this from the ground. The forest in this location was disturbed and quite close to the park boundary.

On 15 March 2001, on the east side of Mont Péko in Mont Péko National Park at approximately 400 m altitude, HR saw an adult Long-tailed Hawk repeatedly carrying

small sticks into a Cotton Tree *Ceiba pentandra*, where it was found to be constructing a nest. The nest was at a height of 35 m on a branch where it forked from the trunk, just below the crown. It was a typical, messy raptor nest consisting of loose twigs piled onto the fork. Its diameter was *c.* 40 cm and the average size of the twigs used was *c.* 1 cm thick by 20–30 cm long. During 30 min. observation from less than 20 m from the tree, the bird returned at least five times. At one point, another individual joined it, so perhaps more than one bird brought sticks. An adult was observed the next day, again bringing sticks to the nest. The forest in this area on the steep slopes of Mont Péko had quite open undergrowth but just 50 m away became very dense with many tree falls. The canopy was quite broken for the same reason.

This species is found from Sierra Leone east to Uganda (Brown *et al.* 1982, Dowsett & Forbes-Watson 1993) and is generally described as uncommon to rare although many believe it more common than observations indicate (Brown *et al.* 1982, Cheke & Walsh 1996, Elgood *et al.* 1994, Kemp & Kemp 1998). Gatter (1997) and Grimes (1987) found it common in Liberia and Ghana respectively. It is widespread in Ivory Coast, where it has been recorded from every surveyed protected area in the country except Comoé National Park (Christy & Schulenberg 1999, Demey & Fishpool 1994, Gartshore *et al.* 1995, Salewski 2000, Thiollay 1985, Waltert *et al.* 1999, R. Demey pers. comm., HR pers. obs.). In Mont Péko it is frequently encountered (HR pers. obs.) (definition from Morel & Tye 1995) as in Bossematié and Yapo (Demey & Fishpool 1994, Waltert *et al.* 1999) whilst it is apparently less common in Taï (Gartshore *et al.* 1995, HR pers. obs.). The forest in Mont Péko has a much more open canopy than in Taï, which may facilitate observation in the canopy, although the species appears to hunt in dense foliage (Brown *et al.* 1982, Kemp & Kemp 1998).

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House Sparrow *Passer domesticus* colonises Guinea-Bissau

In early May 2001, we noticed some House Sparrows *Passer domesticus* in the old Bissau harbour known as Pidjiguiti. On 23 May, we found a small population nesting in harbour structures (two nests seen) and feeding within the harbour limits. We estimated *c.* 10–20 House Sparrows living in the port, over an area of *c.* 6 ha. We found no sparrows in Bissau city centre, which is right beside the harbour. Unfortunately, we could not determine the subspecies of these birds.

To our knowledge, House Sparrow has never been recorded in Guinea-Bissau (*e.g.* Frade & Bacelar 1955, Hazevoet 1996). It is likely that they have arrived very recently, since we have been in the harbour and city centre many times in the last few years without noticing any. House Sparrows have been present in Senegal and The Gambia (north of Guinea-Bissau) from the 1970s and 1980s, respectively (Gore 1990, Morel & Morel 1990, Barlow *et al.* 1997). The source of the new immigrants is unknown, but the site suggests that they might have arrived by ship. In fact, according to our observations, House Sparrows are still absent from coastal towns north (and south) of Bissau (*e.g.* Cacheu, São Domingos) that should perhaps have been reached first if the colonisers had come overland from Senegal.

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Baillon's Crake *Porzana pusilla*, new to The Gambia, with notes on seven other species

Unless otherwise stated the records below refer to Kartung (13°12'N, 16°45'W) in the south of The Gambia, in 2001. Previously known Gambian status, as given by Barlow *et al.* (1999), is given in square brackets. All bird measurements are in mm.

***Turnix sylvatica* Little Button-Quail.** One trapped on 16 Mar, having been seen for a few days previously. After this, up to six were present for several days. [Infrequent and local.]

***Porzana pusilla* Baillon's Crake.** At about 8h00 on 22 Feb, Stella Beavan and I were walking around some pools, when she spotted a small crake. We watched it for more than 2 h with binoculars and a telescope, down to <7 m, and concluded, using Barlow *et al.* (1999), that it must be a Baillon's Crake. It was feeding in a fairly extensive area of sparse, grassy growth, up to 30 cm high, in shallow water on the edge of a bed of *Typha* reeds. It walked around, making rapid pecks, occasionally with short, darting runs, preferring the denser parts of the vegetation. It was small, dumpy and brown, clearly striped and spotted, and smaller and with shorter legs than nearby Black Crakes *Amaurornis flavirostris*. The forehead and top of the crown were chestnut brown, the nape slightly paler forming a slight collar. The back was blackish, streaked white, with the sides of the back chestnut brown with black streaks. Scapulars, wing-coverts and primaries carried some white spotting. The sides of the face, chest and flanks were plain slate grey, the belly and rear flanks boldly striped white and blackish. The dark-centred remiges were broadly edged and tipped buff, emphasising a V effect at the sides of the back. The tail projected a short way beyond the

primaries. The upper tail-coverts were rich buffish chestnut, without spots, and under tail-coverts dark blackish, spotted white. The eye was clear red, the bill grey-greenish, without red, and the legs greenish, with lower part of tarsus and feet pinkish.

On the evening of 13 Mar, two unidentified crakes were seen at the same place by Jerry Lewis and Ron Clevely. The next day, good views of these and another crane were obtained, and they were identified as two Baillon's and one Little Crane *P. parva*. One Baillon's walked into one of the Ottenby walk-in traps that were set in the late afternoon, and was photographed. Baker (1993) was not available at the time, but subsequent reference indicated that the bird was probably a first-winter (mantle feathers black with chocolate fringes and white flecking and edging) female (wing 89, outer primary 12<wing tip, longest toe excluding nail 36, tail 46, weight 32.4 g).

These are the first records of Baillon's Crane for The Gambia. It has previously been recorded and trapped at Richard-Toll (Morel & Morel 1990) and Djoudj (Barlow *et al.* 1999) in N Senegal.

***Porzana parva* Little Crane.** One trapped and photographed on 14 Mar. It was identified by: upperparts dark brown with paler streaks; underparts grey, extending onto sides of face and forecrown, rear flanks and vent slightly darker, tipped and barred white (grey-white effect rather than black-white of Baillon's); remiges brown, no white on outer primary; tertials black with paler brown edging; greater coverts brown, medium coverts with blackish centres and broad, brown edging and tipping; tail black with browner edging; eye dark red; bill pale green with red area at base; legs and feet dull greenish; wing 105; outer primary 18<wing tip; bill to skull 19.5; tarsus 36.8; tail 53.2; weight 42.7 g. The grey underparts and tertial pattern (black with paler brown edging) indicate that the bird was an adult male (Baker 1993). There are many records in N Senegal (Morel & Morel 1990, Rodwell *et al.* 1996), but this is only the second for The Gambia. [One, 1998 near Sapu.]

***Indicator maculatus* Spotted Honeyguide.** One trapped on 27 Feb, along with a Greater Honeyguide *I. indicator*, and photographed. [Sporadic sightings, all in Western Division; a few Senegal records in Basse-Casamance and one in Niokola-Koba (Morel & Morel 1990).]

***Luscinia svecica* Bluethroat.** One first-year male ssp. *cyaneacula* trapped on 2 Mar. Previously trapped at Ginak, Nov 1995, Feb 1996, Feb 1997 and three between Nov 1999 and Feb 2000. Evidently more regular than previously thought, though in small numbers. [Rare-uncommon winter visitor.]

***Turdus pelios* African Thrush.** Large movement on 12–15 Mar: 15 trapped, as compared with 11 caught during the remainder of 30 trapping days.

***Phylloscopus trochilus* Willow Warbler.** None present in Oct 2000. The first appeared 12 Mar; in the succeeding ten days 28 were trapped. [Most numerous Oct–Nov and Mar–Apr.]

***Spermophaga haematina* Western Bluebill.** One female trapped in open scrubland, 10 Nov, and retrapped four days later. [Uncommon: forest thickets.]

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[†]Sadly, Michael King died before this note could be published. An obituary was published in *Ringers Bull.* 10(10): 84 (spring 2002). I thank Lincoln Fishpool and Derek Toomer for their assistance in providing this information.

Ed.

Hartlaub's Ducks *Pteronetta hartlaubii* feeding on elephant dung

Hartlaub's Duck *Pteronetta hartlaubii* is a large forest duck that is common in the rivers, streams and smaller lakes of central Africa. It is valuable to skin collectors (F. Duckworth, pers. comm.) and is large-bodied enough to warrant being hunted for food: it is classed as Near-threatened (BirdLife International 2000). Little is known of its habits: a nest has never been found, although BaAka pygmies in Central Africa say that it builds its nest on the ground on the edges of small streams in thick vegetation. It is thought to feed mostly on insects and other animal material, although seeds have also been reported (Brown *et al.* 1982). This note describes Hartlaub's Ducks using elephant dung as a food source.

The vegetation of the region where these observations were made is Guineo-Congolian rainforest (White 1983). Small, often swampy, forest clearings are found scattered throughout this forest, especially along river courses. They are characterised by short herbaceous vegetation, usually dominated by Cyperaceae (*e.g.* Leonard 1951). In areas protected from poaching, many large mammals, including Forest Elephant *Loxodonta africana cyclotis*, use these clearings to feed on the vegetation and to ingest mineral-rich water and soil (Klaus *et al.* 1998, Houston *et al.* 2001). The activities of elephants maintain a short sward and in some cases ("elephant-dominated" clearings), create large areas of bare soil in the centre. Several of the elephant-dominated clearings (locally known as *bais*) in two adjoining National Parks,

Nouabalé-Ndoki National Park (NNNP) and Dzanga-Ndoki National Park (DNNP), in the Republic of Congo and the Central African Republic respectively, have been monitored by conservation and research projects for periods of 18 months and twelve years (Inkamba-Nkulu 2002, Turkalo & Fay 2001). A small forest lake near the NNNP frequented by elephants has also been monitored for the last three years. The monitoring in all cases is by observation from a hide at the edge of the clearing, and data on all elephants and other large mammals visiting the clearings are recorded.

Hartlaub's Ducks were commonly found in all of the monitored elephant-dominated clearings at all times of year. Between five and 30 individuals could be seen at any one time scattered across the whole clearing. In addition, up to six ducks at a time were seen at the small forest lake, which was heavily used by elephants and buffalo; the ducks were present > 70% of the time during an earlier study (Ruggiero & Eves 1998). Hartlaub's Ducks often perched in trees surrounding the clearings or in the water, usually in pairs. When elephants arrived at a large *bai*, the number of ducks visible on the ground tended to increase. They followed the elephants around, often calling. The elephants occasionally reacted by chasing the ducks. When an elephant produced dung the ducks immediately started to feed on it by pulling it apart and ingesting items from it. The ducks would also feed on older dung but seemed to prefer fresh dung.

In the forest clearings of the region, Hartlaub's Duck will follow and even jump up on animals such as Bongo *Tragelaphus eurycerus* and Forest Buffalo *Syncerus caffer nanus* and remove ectoparasites (Ruggiero & Eves 1998). These authors also observed Black Crakes *Limnocorax flavirostra* and African Jacanas *Actophilornis africana* foraging in elephant dung in the region (Ruggiero & Eves 1998) but did not mention that Hartlaub's Ducks did the same thing. Various mammal species have been observed feeding on elephant dung in the region, including Agile Mangabeys *Cercocebus agilis*, Sitatunga *Tragelaphus spekeii*, forest duikers *Cephalophus* spp., Red River Hogs *Potamochoerus porcus*, Civets *Civetticticus civetta* and squirrels (Ekondzo & Gautier-Hion 1998, White 1995); these species were assumed to feed mostly on seeds ingested but not fully digested by elephants.

Elephants produce 12–20 dung piles a day (e.g. Tchamba 1992, Barnes 1996) and each elephant may spend many hours at a given clearing. The clearings therefore contain large quantities of elephant dung in various stages of decay. Elephant dung typically contains undigested seeds and partially digested fruit fragments. Dung piles are also attractive for many insects, which feed on and lay their eggs in the nutrient-rich substrate. The dung piles are usually covered with flies and beetles, and harbour various insect larvae. However, the ducks' preference for fresh dung suggests that it is seeds or fruit fragments that they are selecting rather than insects. The birds might also benefit from clays ingested by the elephants, which could help in absorbing plant toxins in their own diet (D. Houston pers. comm.). The presence of so many ducks at one time in the clearings is clearly linked to the abundance of dung, which is, in turn, linked to the number of elephant-hours at the clearing. Thus, in the areas of central

Africa where these forest clearings occur, Hartlaub's Duck may depend on another, far more threatened, species, the Forest Elephant, for providing a rich and dependable food source.

We thank the Congo Ministry of Forest Economy and the Dept of Wildlife and Protected Areas, especially its director Mr. J.-P. Onday and Mr. B. Djoni, Conservator of NNNP, for their support for the Park and for conservation in Congo. We thank Mr. Bryan Curran (Director) and Mr. J. Mokoko-Ikonga (Asst. Director) of the Wildlife Conservation Society Congo Protected Areas Programme. Thanks also to the Ministère de Recherche Scientifique and the Ministère des Eaux, Forêts, Chasses, Pêche, de l'Environnement et du Tourisme, and the Dzanga-Sangha Project, Central African Republic. WCS, US Fish and Wildlife Service, Central African Regional Program for the Environment (CARPE), and Columbus Zoo all helped with funding. Thanks to Lincoln Fishpool for help with references and for communication with the outside world, and to David Houston for suggestions for the final version of this ms.

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Reviews — Revues

Handbook of the Birds of the World, vol. 7, Jacamars to Woodpeckers, by J. del Hoyo, A. Elliott & J. Sargatal (eds), 2002. Lynx, Barcelona. ISBN 84-87334-37-7, hardback, €145. Available from Lynx Edicions, www.hbw.com.

The introductory essay in this latest excellent volume of HBW is on recently extinct birds, by Errol Fuller. I found this chapter fascinating but, compared with the rest of the book, it is rather poorly written and could have done with stricter copy-editing to bring the style more into line (and up to the literary standard of) the rest of the book. Aside from its verbosity, I found it tantalising in reviewing the subject rather superficially — with a more concise style, more information could have been included in the same space.

There the real criticism ends! This is the last of the non-passerine volumes in the series and, as a bonus, included with this volume comes a plastic laminated, illustrated group index card, indicating in which volume each non-passerine bird group falls. At last, the species descriptions have a voice section, rather than, as in previous volumes, leaving the family introduction sections to deal with voice. However, two minor irritations remain: the family sections are still not clearly referenced, and the maps have too few reference points. It would be helpful if maps were to show country boundaries, especially to help determine the geographical limits of closely related species, which appear on different maps: it is currently almost impossible to determine whether such species are allopatric, parapatric or in part sympatric.

There is also a good discussion of taxonomic problems for most groups, especially woodpeckers, whose taxonomic section reads as an excellent guide to potential research projects! Woodpeckers make up almost half of this volume, while the chapter on honeyguides is very short, reflecting lack of knowledge as much as lack of species. Barbets are classed as a single family separate from the toucans, although the authors admit that toucans are derived from, and form a sister group to, the Neotropical barbets, with this clade being the sister-group of old world barbets. However, the fact that the latter are probably not a monophyletic group leads the authors back, for simplicity and practicality, to treating all barbets as one family and the morphologically different and uniform toucans as another. One practical advantage of this is that it makes the family sections less repetitive than would have been the case with multiple barbet families.

As usual, the family sections are illustrated with high quality photographs, although it becomes evident that, in the present volume, many of the species are so poorly known that photography manages to illustrate a relatively small proportion compared with, for instance, volume 6 (see *Malimbus* 24: 44–45). The family sections

are generally well written and uniform in style, with a relatively small number of authors having contributed to this volume.

The plates are mostly up to the usual high standard of HBW, although the colours are occasionally rather washed out, e.g. Plate 7, where the Green Barbet *Stactolaema olivacea* is not green enough and the Yellow-throated Tinker *Pogoniulus s. subsulphureus* is depicted with just a trace of cream on the throat and supercilium instead of the intense yellow it shows in life. It is sometimes a little difficult to assign the birds on a plate to the correct species, as usually only one reference number is given for each species: where there are many subspecies, these can sometimes appear closer to the wrong species' number. Either the numbers need to be better placed or the subspecies better grouped, or dividing lines added.

Anyway, these are comparatively minor points, and as has become usual in reviews of HBW, I end by congratulating once again the authors, photographers, artists and editors on a wonderful achievement.

Alan Tye

Field Guide to the Birds of East Africa, by T. Stevenson & J. Fanshawe, 2002. 602 pp. including 570 col. plates, many maps. T. & A.D. Poyser, London. ISBN 0-85661-079-8, hardback, £29.95.

Two important African regional guides have appeared so far this year. One, *Birds of Western Africa* (by Borrow & Demey, Christopher Helm, London), was reviewed in the last issue of *Malimbus* (24: 45–47). This, the other, might at first sight appear out of the geographical area of interest of this journal but, in addition to Uganda, Kenya and Tanzania, the book also includes Rwanda and Burundi, which we include in our Society's range. It also includes a surprisingly high proportion of what are normally considered strictly W African birds, owing to the fact that many of the latter extend just into E Africa in Uganda, especially in the Semliki Valley.

There are many differences between the two books mentioned. The price of the present work is 55% that of Borrow & Demey and, with 25% fewer pages than Borrow & Demey's 832, and a smaller, typical field-guide page size, this book weighs about half the W African guide, despite the fact that it includes 1388 species, 80% of all the birds that occur in sub-Saharan Africa, and over 100 species more than Borrow & Demey. It will thus be much more handy for field use. The high-quality glossy paper is similar in both books, and space and weight have here been saved in several other ways. First, the introductory sections are reduced to a minimum (14 pages). Second not all subspecies are described and relatively few are illustrated; instead, the text (and to a lesser extent the plates) discusses all races considered "important or distinctive". This is probably acceptable for a field guide, since full

taxonomic treatment can be found in other works. Third, the species texts focus on field identification, with no detailed plumage descriptions, although there are short sections on “habits” (including habitat, range, status and breeding) and voice. A further difference is that this book follows the now-standard and convenient field guide style of text opposite plate, with mostly 3–5 species per page.

There is a distinct Kenya bias, reflecting the experience of the authors as well as data availability. But sometimes this is more serious, for instance where a restricted-range Kenyan race is depicted rather than a more widespread Tanzanian one.

I was surprised by the variable and often poor quality of the type. Some pages are very poor indeed, with the type so shadowed as to make one feel as if seeing double. I hope this is a fault restricted to the copy reviewed, and luckily it appears to affect only the type and not the plates. A small irritation is that Family names are not included on the text or plate pages. The English names used are sometimes those in commonest use (e.g. “spurfowl” is maintained for three species of *Francolinus*) — but sometimes pedantic and over-standardized (e.g. lapwing for all *Vanellus* — who really uses “Blacksmith Lapwing”?). Unfortunately, the American style of unnecessary hyphenation is adopted (e.g. Green-Pigeon).

Despite the fact that three artists (Brian Small, John Gale, Norman Arlott) contribute to the plates, the style is quite uniform, and in the main very clear and useful, although there seems to have been some trouble depicting iridescence (e.g. pigeons and cuckoos) and occasionally proportions (e.g. green pigeons *Treron*). Lines are sometimes used to divide species where necessary on a crowded plate but they could have been used more; in a few cases, such as swallows and helmet-shrikes, it can be quite confusing trying to work out which bird goes with which name. The text-plus-plate is usually adequate for identification, with a very few exceptions where one is left baffled as to distinctions (e.g. white-eyes *Zosterops*).

Each species has a small map accompanying its text, usually quite generalized and with little attempt made to show detailed distribution; for that, one is referred to country atlases, already published for Kenya and Uganda. This is unfortunate for some species, especially montane endemics, which are shown with much broader ranges than they really have. Individual Eastern Arc blocks are sometimes forgotten (e.g. Usambara Weaver *Ploceus nicolli* is not shown in the Udzungwas). Perhaps the oddest manifestation of this is under Loveridge’s Sunbird *Cinnyris loveridgei*, where the text claims that “race” *moreaui* is probably a hybrid between *loveridgei* and Eastern Double-collared Sunbird *C. mediocris*, but then the areas where *moreaui* occurs (as acknowledged in the text) are not mapped as part of the range of either *mediocris* or *loveridgei*. Perhaps another indication of Kenya bias is that Zanzibar and Pemba islands are missed off almost all of the range maps, and are hardly ever mentioned in the species texts.

However, many of the above are minor criticisms in that they affect relatively few species, and the authors and editor have produced a generally excellent book, more comprehensive than competitors, permitting it to occupy a niche in the relatively

crowded East African field guide community. The shortcomings mentioned could perhaps be put right in a second edition, but the saddest news is that the monstrous Elsevier has swallowed up Academic Press and its bird imprint Poyser, and has decided to suppress the latter and no longer publish bird books. Since some of the best bird guides and monographs to appear in recent years have come out under this imprint, this loss is serious. Poyser's high standards, as maintained in this book, are and will be hard to match.

Alan Tye

Important Bird Areas in Africa and Associated Islands, ed. by L.D.C. Fishpool & M.I. Evans, 2001. 1144 + xvi pp. Birdlife International, Cambridge. ISBN 1-874357-20-X, hardback, £55.

There are 1228 IBAs in Africa and its islands (including the central and S Atlantic, and W and S Indian Ocean) that are presented in this book, of which only 343 (28%) fall within the 40% of Africa defined by WAOS's area of coverage. The density of IBAs is higher in E Africa, Ethiopia and Madagascar, with very few in the Sahara, Sahel and especially in the Congo basin, regions that make up about half of WAOS's area of coverage. Whether this represents a true situation or lack of knowledge is not clear. I would guess that for the Sahara and Sahel it is indeed a true picture, but that other parts of W Africa are under-represented due to lack of information.

The Introduction to the book starts with a question: why bother with birds? The answer, referring to the "intricate linkages between all components of the Earth we live in" sums up Birdlife's conservation philosophy, that conserving birds helps lead to a sustainable future for all life on earth: birds are conspicuous and well-known indicators of biodiversity. The main objective of this book is to identify the most important sites for bird conservation, using a standard methodology, as a tool for planning and management. The methods for site selection are outlined, with criteria including: holds significant numbers of a threatened species; is a significant part of an Endemic Bird Area (as defined by A.J. Stattersfield *et al.* 1998. *Endemic Bird Areas of The World*. Birdlife, Cambridge); contains a significant component of a group of species more or less confined to the biome of the site; supports 1% of a biogeographic population of a congregatory waterbird or of the global population of a congregatory seabird or a terrestrial species; supports 20,000 waterbirds or 10,000 pairs of seabirds. The major biomes in W Africa are Sahara, Sahel, Sudan-Guinea savanna, Guinea-Congo forests and Afrotropical highlands. Photographs of some of these are included.

The remainder of the Introduction explains how to use the book and presents pan-African summaries. Almost half of all African IBAs are unprotected by law and many

are poorly known, and a series of recommendations is given for survey, monitoring, policy and planning, management, awareness raising and institutional strengthening.

Most of the book comprises country chapters, each of which consists of an introduction covering landforms, vegetation, endemic and threatened species (not just birds), ornithological importance, conservation infrastructure, and an inventory of IBAs. For each IBA there is a site description, bird list, threatened and endemic non-birds, conservation issues and references. Finally come dense appendices covering, among other things, all of Africa's bird species and the IBA criteria that they could potentially fulfil, and lists of species that actually do fulfil certain criteria.

A few points might be improved in a revised edition. The country maps have IBAs indicated by dots, rather than an outline of their shape. In some cases it would not be possible to give a true outline, but in many it would, and this would help to give a better idea of site size and position. It is not always clear how the less well-defined sites were selected, especially in fairly uniform areas such as the Sahara and Sahel. Numbers of IBAs per country or per land area vary markedly between countries, to some degree reflecting biological diversity but also suggesting that the criteria were not fully standardised between countries/contributors. Similarly, the introductory sections to the country accounts vary greatly in degree of detail: contrast the eight pages for St Helena, Ascension & Tristan with the 2.5 pages for the more diverse São Tomé e Príncipe. Thus the chapters seem to reflect the knowledge, care and interest of the different contributors. I noticed few factual errors, but some of the maps are poor. One of the worst is Tanzania, where many dots are in the wrong place, including mainland sites indicated on the islands of Zanzibar and Pemba, and vice versa.

This is an excellent reference book: a source of facts and (especially) figures. It is not easy reading, although the country introductions are often fascinating. Few individuals will want to buy it, but it is an indispensable tool for conservation planning, so anyone involved in conservation (not just of birds) in Africa should ensure they have access to the chapters for their countries of interest.

Alan Tye

Birds of Western & Central Africa, illustrated checklist. par Ber van Perlo, 2002. Collins, London. ISBN 000-2201186, paperback, £19.99.

Insistons d'emblée sur le titre "Illustrated Checklist", car il ne s'agit pas d'un guide conventionnel mais plutôt d'un aide-mémoire illustré. L'un des soucis constants de l'auteur était de rester dans les limites d'un livre de poche. Le format est de 19 x 12 cm, c'est-à-dire celui du Serle & Morel (1977) ou encore du célèbre Peterson, chose remarquable si l'on tient compte de l'énorme superficie couverte (Ouest et Centre

africains ainsi que le Rép. Dém. du Congo, les îles du Cap-Vert et celles du Golfe de Guinée) et du nombre d'espèces traitées, soit environ 1500 illustrées par 109 planches. On a donc là un ensemble cohérent pour un guide de terrain, texte et illustrations que l'on peut saisir d'un seul coup d'œil, sans avoir à feuilleter.

Une courte introduction comprend quelques données sur les climats en rapport avec la position du soleil, une carte de la végétation et quelques symboles et abréviations. Les deux premiers tiers de l'ouvrage sont consacrés à la description des espèces et aux planches, toutes en couleurs, malheureusement sans référence d'aucune sorte à la systématique. Le reste est occupé par les cartes, donc séparées du texte, par un appendice (noms français et portugais), un index des noms scientifiques et anglais ainsi qu'une courte bibliographie.

Dans la partie descriptive, la page de gauche comporte pour chaque espèce une courte description du plumage (environ 2–3 lignes mais sans mention des plumages saisonniers), de l'habitat, des émissions vocales et du statut (résident ou migrateur). Le nom est donné en anglais puis en latin. Les noms français et portugais n'apparaissent que dans l'annexe. Cette décision est regrettable pour les francophones qui, rappelons-le, sont à peu près aussi nombreux que les anglophones et ne manquera pas de les gêner. Les noms français auraient pu en effet être donnés en petits caractères comme dans le Borrow & Demey (2001; voir *Malimbus* 24: 45–47), ce qui aurait facilité l'usage de l'ouvrage. Quand le nom utilisé diffère de celui utilisé par Serle & Morel (1977), ce dernier est rappelé entre parenthèses.

La page de droite est consacrée à l'illustration. Dans l'ensemble, les planches sont moins décevantes, moins figées que celles du Borrow et Demey (2001) et les couleurs mieux rendues. Si nous prenons les bulbuls Pycnonotidae, nous préférons sans hésitation ceux de Van Perlo à ceux de Borrow & Demey. Les premiers ont plus de caractère, de vie, de "jizz" comme disent nos collègues anglophones. Quant aux couleurs, les *Lamprotornis* sont hélas pour la plupart verts; pour les tourterelles du genre *Streptopelia*, groupe notoirement délicat, seul le dessin de la queue étalée en vol montre les différences. Le fond des planches est d'un blanc cassé uniforme, ce qui diminue inévitablement les contrastes; ainsi, toutes les espèces à ventre clair ressortent mal. Nous avons regretté l'absence de mention du plumage d'éclipse, pour les tisserins par exemple; de même, nous déplorons que le nom des familles n'apparaisse pas en haut de chaque planche. Disons aussi que les descriptions succinctes et le format très réduit des illustrations rendent assez difficiles certaines identifications.

Les cartes de distribution, compte tenu de leur taille (celle d'un timbre-poste) et des inévitables lacunes, nous ont paru trop réduites, d'une interprétation difficile. Le choix des couleurs (gris avec différentes nuances) ne nous a pas semblé très heureux. Certaines données concernant la distribution ou la systématique sont ainsi ignorées. Il n'a pas toujours été tenu compte des races. Un certain nombre d'espèces qui se reproduisent dans le Paléarctique sous leur forme nominale, débordent sur le Sahel soit comme sous-espèce soit sous la même forme. Exemple: la Poule d'eau *Gallinula*

chloropus au sud du Sahara est présente sous sa forme nominale et non *meridionalis*. Également, le Moineau domestique *Passer domesticus*, récemment introduit en Afrique de l'Ouest sous sa forme *indicus*, pourtant bien différenciée, est dépeint sous sa forme nominale.

La description des vocalisations est très inégale parfois inexistante. L'auteur renvoie seulement dans sa bibliographie aux disques de Chappuis (2000). Il est regrettable que pour chaque espèce le numéro correspondant du disque ne soit pas cité. Quant à la bibliographie, elle est incomplète et l'on se demande si l'auteur a eu connaissance de certaines listes: par exemple, celles de Lamarche (1980–1, 1988), Morel & Morel (1990) et de Thiollay (1985) ne sont pas citées.

Sans les rechercher vraiment, nous avons constaté quelques fautes d'orthographe. Par exemple, p. 9, Serle & Morel devient "Serle & Merle"; d'autres existent ici et là et peuvent rendre la lecture difficile. La reliure paraît bonne et les différents cahiers sont cousus. Les caractères sont petits, ressortent mal et feront souffrir les porteurs de lunettes. C'était, semble-t-il, le prix à payer pour avoir un guide transportable.

En dépit de ces critiques, et bien qu'il ne nous paraisse pas toujours bien adapté aux débutants, nous conseillons aux voyageurs ou aux résidents des régions couvertes par cet aide-mémoire de l'emporter dans leurs bagages — il pèse 600 g — ne lui demandons donc pas trop. Nous conseillerons surtout aux voyageurs d'emporter à la fois le Van Perlo et le Borrow & Demey: le premier, plus léger, suivrait partout et le second resterait sous la tente ou dans la voiture.

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Gérard Morel & Marie-Yvonne Morel

Society Notices — Informations de la Société

The new W.A.O.S. web site

At last the Society has a web site: <http://malimbus.free.fr/>. The need for a site was recognised some time ago, but we have only now managed to solve the problems of who, where and how to set it up. Thanks to the kind assistance of Julien Guyonnet, the site now exists. At present it is in a somewhat rudimentary state, but we hope to continue adding new information and pages. So far, the bilingual site gives a little background to the Society, how to subscribe, guidelines for W.A.O.S. Research Grants (also printed below in this issue), and information on *Malimbus*. There, one can find an expanded version of the Instructions for Authors of submissions to the journal and the contents of recent issues.

Comments on the site are welcome and should be sent to the President. We especially welcome offers to add links to our site on the pages of other relevant organisations.

Le nouveau site web de la S.O.O.A.

Enfin la Société a un site web: http://malimbus.free.fr. Le besoin d'un site avait été reconnu depuis quelque temps déjà, mais ce n'est que maintenant que nous avons réussi à résoudre les questions de qui s'en chargerait, comment et où l'installer. Grâce à l'aide bienveillante de Julien Guyonnet, le site existe désormais. Il est pour le moment dans un état un peu rudimentaire, mais nous espérons y ajouter de nouvelles informations et quelques pages. Jusqu'ici le site (qui est bilingue) donne un peu d'histoire sur la Société, comment y adhérer, des instructions sur les Bourses de Recherches de S.O.O.A. (également imprimées plus bas dans ce numéro), et des renseignements sur *Malimbus*. C'est là que se trouvent les instructions aux auteurs plus détaillées pour les soumissions à la revue et le contenu des numéros récents.

Les commentaires sur le site seront les bienvenus et doivent être adressés au Président. Nous apprécierions spécialement les propositions d'établir des liens avec notre site sur les pages d'autres organisations équivalentes.

W.A.O.S. Research Grants

It seems to be time for a reminder that the Society offers research grants in support of West African ornithology.

Conditions for W.A.O.S. Research Grants are given below, although these may be changed by Council at any time. For the purposes of these awards, West Africa is

defined as comprising the following countries: Cape Verde, São Tomé e Príncipe, Mauritania, Mali, Niger, Chad, C.A.R, Senegal, The Gambia, Guinea-Bissau, Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Gabon, Congo (Brazzaville), Dem. Rep. of Congo (Kinshasa), Cabinda region of Angola, Rwanda, Burundi.

1. Not more than £1000 will be disbursed from the fund in any one calendar year and no single grant will exceed £500. Grants may be made as a single sum or in instalments as Council deems fit.

2. Applications will only be considered from students at West African universities, qualified West African scientists and West African amateur ornithologists; preference will be given to students, and especially to postgraduate degree research.

3. The subject of the research must be primarily ornithological and the research must take place within West Africa.

4. Applications may be submitted at any time, to the Secretary to Council, Zoological Gardens, Chester CH2 1LH, U.K.; email <r.wilkinson@chesterzoo.co.uk>.

5. Applications must be submitted by email or in duplicate, in either English or French, and must include the following sections, of which sections a–d combined should not exceed four typed A4 pages:

a. aim of the research;

b. scientific justification for the research;

c. relevant background of related studies;

d. detailed account of methods to be employed; location and biotope of study site(s); timing and duration of study;

e. detailed list of equipment and projected expenditure, indicating precisely for which items funding is requested from W.A.O.S.;

f. statement of funding which may already have been promised or granted by other bodies;

g. statement of other funding bodies to which application has been made;

h. statement that any permits required for the research (*e.g.* ringing licences, permits to work within the proposed study area *etc.*) have been acquired or applied for (note that grants will not be disbursed until proof is supplied that such permits have been acquired);

i. full curricula vitae of all participating investigators, including evidence of nationality and list of previous scientific publications (selected reprints may be sent as supporting documents);

j. degree for which the research may be registered and institution at which it will be carried out;

k. name, address and qualifications of supervisor(s); preferably include supporting letters from supervisor(s); for professionals, similar details should be provided from Head of Department; for amateurs, reference of competence from an established ornithologist or professional scientist.

1. names and addresses of two additional academic referees (other than supervisors).

It must be emphasised that applications cannot be considered unless all the above material is supplied.

6. Applicants must give an undertaking to provide brief (*c.* one page) reports at six-monthly intervals from the date the award is made. Grant recipients must also provide a final report on completion of the project or of the part of it for which W.A.O.S. funding was made, in a form suitable for publication in *Malimbus*. Applicants will be encouraged to submit their full research results for publication in *Malimbus* and editorial assistance may be made available to grant recipients to this end.

7. Applications will be considered by Council and may be sent for scientific comment to any other authority it considers appropriate. Council's decision regarding which projects to award and the amount of any grant to be made is final.

W.A.O.S. Council

Bourses de Recherches de la S.O.O.A.

Le moment semble venu de rappeler que la Société offre des bourses de recherche pour aider l'ornithologie ouest-africaine.

Les conditions à remplir pour des Bourses de Recherches de la S.O.O.A. sont données ci-dessous, bien qu'elles puissent être modifiées à tout moment par le Conseil. En ce qui concerne ces bourses, l'Afrique de l'Ouest est définie par les pays suivants: les Iles du Cap-Vert, São Tomé, et l'Ile du Prince, Mauritanie, Mali, Niger, Tchad, R.C.A., Sénégal, Gambie, Guinée-Bissau, Guinée, Sierra Leone, Libéria, Côte d'Ivoire, Ghana, Togo, Bénin, Nigéria, Cameroun, Guinée Equatoriale, Gabon, Congo (Brazzaville), Rép. Dem. du Congo (Kinshasa), région de Cabinda en Angola, Rwanda et Burundi.

1. Il ne sera pas débours, plus de £1000 par année civile et aucune bourse n'excèdera £500. Les dotations pourront être versées en une fois ou par tranches selon la décision du Conseil.

2. Seules seront examinées les candidatures des étudiants d'universités ouest-africaines, de scientifiques qualifiés et d'ornithologues amateurs de l'Ouest africain; la préférence ira aux étudiants et particulièrement à ceux préparant une thèse.

3. Le sujet de la recherche doit être d'abord l'ornithologie et se déroulera en Afrique de l'Ouest.

4. Les candidatures peuvent être remises à n'importe quelle date à: The Secretary to Council, Zoological Gardens, Chester CH2 1LH, U.K.; email <r.wilkinson@chesterzoo.co.uk>.

5. Les candidatures doivent être remises par courrier électronique ou en double exemplaire, soit en anglais soit en français, et comprendre les rubriques suivantes, dont abcd n'excéderont pas un total de quatre pages A4 dactylographiées.

- a. but de la recherche;
- b. justification scientifique de cette recherche;
- c. état des connaissances relatives au sujet;
- d. description détaillée des techniques à utiliser; lieu(x) et biotope(s) du ou des site(s) de l'étude; calendrier et durée;
- e. liste détaillée du matériel et des dépenses envisagées, en précisant pour quel poste le financement de la S.O.O.A. est sollicité;
- f. désignation des fonds qui pourraient être déjà promis ou accordées par d'autres organismes;
- g. désignation des autres organismes de financement auxquels des demandes auraient été faites;
- h. indiquer que toutes autorisations de recherches (p. ex. permis de baguage, permis de travailler sur le site d'étude envisagé *etc.*) ont été obtenues ou sollicitées (noter que les bourses ne seront versées qu'après obtention de la preuve de ces autorisations);
- i. curriculum vitae complet de tous ceux qui participent à cette recherche, y compris document de nationalité et liste des publications scientifiques (un choix de tirés à part pourra étayer le dossier);
- j. diplôme pour lequel cette recherche peut être enregistrée et laboratoire où elle se déroulera;
- k. nom, adresse et qualifications du ou des directeur(s); si possible, avec une lettre de recommandation de ces directeurs; pour les professionnels, ces détails devront être fournis par le responsable du département; pour les amateurs, attestation de compétence par un ornithologue qualifié ou un professionnel;
- l. noms et adresses de deux autres autorités académiques (en sus des directeurs).

Nous insistons sur le fait que les candidatures ne seront examinées qu'après réception de tous les documents cités ci-dessus.

6. Les candidats s'engageront à fournir un bref rapport (*c.* une page) tous les six mois à partir de l'obtention des fonds. Ils devront aussi fournir à la clôture du projet (ou d'une de ses phases), financé par la S.O.O.A., un rapport final qui convienne à la publication dans *Malimbus*. Il est recommandé aux boursiers de la S.O.O.A. de soumettre la totalité de leurs résultats de recherches à *Malimbus* et la Rédaction pourra les aider à cet effet.

7. Les candidatures seront examinées par le Conseil et pourront être soumises à toute autre personnalité jugée compétente. Les décisions du Conseil sur le choix des projets à financer ou sur le montant des bourses seront sans appel.

Conseil de la S.O.O.A.

West African Ornithological Society

Revenue Account for the year ended 31 December 2002

Income		2001
Subscriptions and donations	£2340	£2573
Sales of back numbers	234	574
Interest	<u>46</u>	<u>88</u>
	<u>£2620</u>	<u>£3235</u>
Expenditure		
Printing and publication	£1603	£1880
Postage	450	485
Council expenses	<u>166</u>	
	2219	2365
Surplus for year	<u>401</u>	<u>870</u>
	<u>£2620</u>	<u>£3235</u>

Balance Sheet as at 31 December 2002

Assets			
Bank and building society balances	£ <u>8387</u>	<u>7961</u>	
	8387		7961
Liabilities			
Creditors	1200	1000	
Subscriptions in advance	<u>210</u>	<u>385</u>	
	1410		1385
	<u>£6977</u>		<u>£6576</u>
Accumulated funds			
Balance at 1 January	£6576		£5706
Surplus for year	<u>401</u>		<u>870</u>
	<u>£6977</u>		<u>£6576</u>

R.E. Sharland, Treasurer

Certified that I have verified the Society's bank balances.

G.D. Field

Instructions to Authors

Malimbus publishes Papers, Short Notes, Reviews, News & Letters, and illustrative material covering the field of West African ornithology.

Papers and **Short Notes** cover original contributions; material published elsewhere, in whole or in part, will not normally be accepted. Short Notes are articles not exceeding 1500 words (including references) or three printed pages in length. Wherever possible, manuscripts should first have been critically scrutinised by at least one other ornithologist or biologist before submission. Manuscripts will be sent for critical review to at least one relevant authority.

Items for **News & Letters** should not exceed 1000 words.

Contributions are accepted in English or French; editorial assistance will be made available to authors whose first language is not one of these. Submission by email (attached file) is preferred. For submissions on paper, two copies are required, typed on one side of the paper, with double spacing and wide margins. Consult the editor for further details, e.g. acceptable software.

Conventions regarding format of tabular material, numbers, metric units, references, etc. should match recent issues. Note particularly: dates should be in the form 2 Feb 1990 but months standing alone in text may be written in full; times of day are written 6h45, 17h32 and coordinates in the form 7°46'N, 16°4'E (no leading zeros); numbers up to ten are written in full, except when followed by abbreviated units (e.g. 6 m), numbers from 11 upwards are written in figures except at the beginning of a sentence. All references mentioned in the article, and only such, must be entered in the bibliography.

Avifaunal articles must contain a map or gazetteer, including all localities mentioned. They should include brief notes on climate, topography, vegetation, and conditions or unusual events prior to or during the study (e.g. late rains etc.). **Species lists** should include only significant information; full lists are justified only for areas previously unstudied or unvisited for many years. Otherwise, include only species for which the study provides new information on range, period of residence, breeding etc. For each species, indicate migratory status, period of residence (as shown by the study), range extensions, an assessment of abundance (*Malimbus* 17: 36) and dated breeding records. Where appropriate, set data in context by brief comparison with an authoritative regional checklist. Lengthy species lists may be in tabular form (e.g. *Malimbus* 12: 39–51, 1: 22–28, or 1: 49–54) or in the textual format of recent issues (e.g. *Malimbus* 12: 19–24, 12: 61–86, 13: 49–66, 16: 10–29). The **taxonomic sequence** and **scientific names** (and preferably also **vernacular names**) should follow Borrow & Demey (2002, *Birds of Western Africa*, Christopher Helm, London), or Dowsett & Forbes-Watson (1993, *Checklist of Birds of the Afrotropical and Malagasy Regions*, Tauraco Press, Liège) or *The Birds of Africa* (Brown et al. 1982, Urban et al. 1986, 1997, Fry et al. 1988, 2000, Keith et al. 1992, Academic Press, London), unless reasons for departure from these authorities are stated. A more complete **guide for authors** of avifaunal papers, including the preferred abundance scale, appeared in *Malimbus* 17: 35–39. A copy may be obtained from the Editor, who will be happy to advise on the presentation of specific studies.

Figures should be prepared as for final reproduction, allowing for 20–50% reduction. Figures prepared in an appropriate graphics package and saved at high resolution are preferred. Low-resolution files and poor-quality printouts will not be accepted. Printers other than laser printers rarely produce acceptable quality. Figures on paper should use indian ink on good quality white paper or heavy tracing, and adhesive transfer lettering as appropriate. When designing Figures, pay attention to the page-shape of *Malimbus*. Consult the Editor for advice.

All Papers (but not Short Notes) should include a **Summary**, not exceeding 5% of the paper's length. The Summary should include brief reference to major findings of the paper and not simply review what was done. Summaries will be published in both English and French and will be translated as appropriate by the Editorial Board.

Ten **offprints** of Papers (but not of Short Notes) will be sent to single or senior authors, *gratis*. Offprints will not be stapled, bound, or covered; they are merely cut from copies of the journal.

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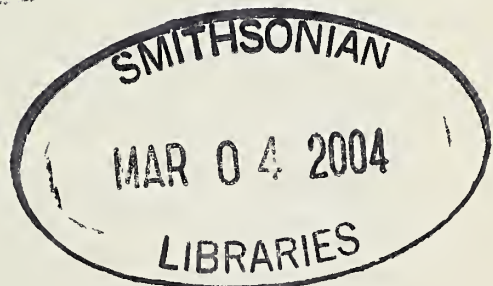
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MALIMBUS

West African Ornithological Society
Société d'Ornithologie de l'Ouest Africain



Membership List, 1 October 2003

West African Ornithological Society
Société d'Ornithologie de l'Ouest Africain

Membership List, 1 October 2003

Would members please check their entries and notify any mistakes or changes to the Treasurer and Membership Secretary, R.E. Sharland, 1 Fisher's Heron, East Mills, Fordingbridge, Hants. SP6 2JR, U.K..

Members are invited to send their email addresses, which will, on request, be included in future editions of this list.

Country names in square brackets indicate country of residence and do not form part of the postal address.

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(by surname in alphabetical order)

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Ecologie du Francolin à double éperon *Francolinus bicalcaratus* dans le sud-est du Bénin

par J.T.C. Codjia¹, M.R.M. Ékué¹ & G.A. Mensah²

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Résumé

Dans une zone d'abondance et de chasse au sud-est du Bénin, l'habitat des Francolins communs est constitué par des champs de cultures à proximité desquels se situent des bandes de jachères ou de terres en friches. Un recouvrement moyen de la végétation de 51–90 %, une hauteur de la strate herbacée et arbustive de 1–2.7 m, un sol sec avec un degré d'encombrement de 5–40 % et une gamme de température entre 28 et 31.7°C sont favorables pour ces oiseaux. Les nids ont été retrouvés dans les champs, les jachères et sur un terrain de football non entretenu. Dix nids ont été découverts en 46 jours dont cinq en petite saison sèche et cinq en petite saison des pluies. Les nids ont une profondeur de 2.6 ± 0.4 cm, et un diamètre interne de 10.8 ± 1.1 cm. La ponte est de 3.7 ± 0.7 œufs. La longueur du grand axe, du petit axe et le poids des œufs sont respectivement de 41.4 ± 0.37 mm, 33.0 ± 0.18 mm et 19.4 ± 0.89 g.

Summary

Ecology of the Double-spurred Francolin *Francolinus bicalcaratus* in SE Benin. In an area where it is quite common but often hunted, in SE Benin, the Double-spurred Francolin *Francolinus bicalcaratus* occupies fields near strip fallow. Mean vegetation cover was 51–90 %, while herbaceous and shrub stratum height was 1–2.7 m. Soils were dry with an average litter cover of 5–40 % and mean soil temperature 28–31.7°C. Nests were found in fields, fallows and on a disused football field. Ten nests were found in 46 days, five in the short dry season and five in the short rainy season. The nests were 2.6 ± 0.4 cm deep, with internal diameter 10.8 ± 1.1 cm. Clutch size was 3.7 ± 0.7 eggs. Length of long and short axes and weight of the eggs were 41.4 ± 0.37 mm, 33.0 ± 0.18 mm and 19.4 ± 0.89 g respectively.

Introduction

Le Francolin à double éperon *Francolinus bicalcaratus* est un galliforme terrestre endémique en Afrique de l'Ouest où il est assez abondant. Son aire de répartition s'étend entre 5° et 18°N, du Sénégal au Tchad et Cameroun (Urban *et al.* 1986, Pomeroy & Abe 1992). *F. bicalcaratus* affectionne les zones de savane, mais il possède une grande amplitude écologique. On le rencontre dans les champs de cultures, les jachères, les friches, les plantations et même les forêts claires. Il se rencontre du niveau de la mer jusqu'à 1500 m (Bannerman 1953, Bouet 1955, Thiollay 1971, Akande 1979, Aliou 1986, Urban *et al.* 1986, Idassa 1987, Ékué 2000). Bien qu'étant le principal oiseau gibier en Afrique de l'Ouest et particulièrement au Bénin (Ékué *et al.* 2002), peu de recherches ont été faites sur son écologie (p. ex. Akande 1979, Aliou 1986, Idassa 1987, Agbelusi 1995, Ékué 2000, 2001). Or la connaissance de l'habitat, de la répartition, de l'écologie, de l'alimentation et de la dynamique des populations sont des données indispensables à une gestion rationnelle de cette ressource faunique.

La présente étude vise à connaître les principaux facteurs de l'habitat et des sites de nidification, à décrire les nids et enfin à faire l'étude biométrique des œufs.

Milieu d'étude

L'étude a été conduite dans le département du Plateau situé au sud-est du Bénin, et plus précisément dans les sous-préfectures d'Ifangni et de Sakété, entre 7°20' et 7°65'S, et 4°50' et 4°80'W. C'est une zone d'abondance des Francolins très fréquentée par les chasseurs qui en ont fait une zone cynégétique principalement pour la capture de cette espèce. Le climat est de type subéquatorial à deux saisons des pluies et deux saisons sèches. L'étude a été menée de juillet à novembre 1999 et couvre la petite saison des pluies et la petite saison sèche. Pendant cette période, la pluviométrie enregistrée a été de 719 mm.

Au cours de la décennie 1988-98, la pluviométrie moyenne annuelle a été de 1148 mm, la température moyenne annuelle entre 25 et 30 °C et l'insolation moyenne annuelle de 1952 heures. Le paysage végétal est une mosaïque de champs de cultures et de terres en jachère ou en friche. Le réseau hydrographique est peu développé et constitué de quelques petits cours d'eau qui convergent vers les marécages.

Méthodes

Caractéristiques de l'habitat et des sites de nidification

La structure de l'habitat a été étudiée dans 45 sites. Ceux sont des sites de capture retenus sur la base d'indices fiables de présence des francolins: cris des oiseaux tapis

dans l'herbe, envol, empreintes des doigts au sol, fientes, pouillages et plumes, dommages causés aux cultures. Les francolins ont été capturés à l'aide de filet selon la technique décrite par Ékué *et al.* (2002) après obtention d'une autorisation de capture scientifique. Les francolins au nid n'ont pas été capturés. C'est une espèce potentiellement exploitable en élevage de gibier pour la consommation et les spécimens capturés sont gardés en volière pour des expériences de domestication.

Un site échantillonné couvre une superficie de 2500 m² (50 x 50 m) et les variables mesurées sur chaque site sont:

Le type de formation végétale ou de culture sur le site.

La composition spécifique: l'ensemble des espèces végétales cultivées et adventices rencontrées sur un site a été recensé ainsi que leur état de développement.

Le degré de recouvrement de la végétation, apprécié visuellement et réparti en cinq classes: 0–30 %, 31–50 %, 51–70 %, 71–90 %, > 90 %.

La hauteur de la strate herbacée et arbustive, mesurée à l'aide d'une perche graduée et s'échelonne comme suit: < 1 m, 1–1.5 m, 1.5–2 m, 2–2.5 m, 2.5–3 m, > 3 m.

Le degré d'encombrement du sol ou la litière, estimé dans un rayon de 10 m du nid et exprimé en pourcentage.

La température régnant à l'intérieur du couvert végétal au moment de la capture, relevée au sol à l'aide d'un thermomètre de terrain.

La présence de points d'eau, recherchés dans un rayon maximum de 300 m de l'emplacement des filets sur un site donné.

La présence des nids, recherchés par une fouille systématique, du 10 août au 12 septembre (petite saison sèche) et du 31 octobre au 7 novembre (petite saison des pluies).

Les variables prises en compte dans la description des sites de nidification sont la hauteur de la strate herbacée, le recouvrement de la végétation, la litière, la distance par rapport aux habitations humaines, la distance par rapport aux champs et la distance par rapport à la route. Les distances ont été mesurées à l'aide d'un décamètre.

Caractéristiques des nids

Les dimensions et le contenu des nids ont été mesurées. Un nid est considéré comme abandonné lorsque, surveillé entre 8h00 et 18h00 pendant trois jours après sa découverte, on n'aperçoit aucun occupant. Un œuf est considéré comme éclos lorsque la coquille est brisée en deux et vidée de son contenu. Les deux parties sont facilement identifiables et leur mise en commun permet de reconstituer l'œuf. L'œuf est considéré comme cassé lorsqu'il y a des brisures sur la coquille et que tout ou une partie du contenu de l'œuf est dans la coquille brisée ou déversée au sol et facilement identifiable.

Caractéristiques biométriques des œufs

La longueur du grand axe et celle du petit axe ont été prises sur 31 œufs (collectés de différents pontes au cours de nos travaux) avec un pied à coulisse de précision 0.1 mm. La masse en a été mesurée au moyen d'une balance électronique de précision 0.1 g.

Résultats

Caractéristiques de l'habitat

Type de végétation et de cultures. Un seul type de végétation caractérise l'ensemble des zones prospectées. C'est une mosaïque de cultures et de jachères ou friches. Les pieds de palmiers à huile *Elaeis guineensis* sont largement répandus dans toutes les zones visitées. Les cultures fréquemment rencontrées sur les sites sont le maïs *Zea mays*, le manioc *Manihot esculenta*, le niébé *Vigna unguiculata*, l'arachide *Arachis hypogea*, la patate douce *Ipomoea batatas* et la tomate *Solanum lycopersicum*. Dans 80 % des 45 sites prospectés, le maïs est en association avec le manioc. Presque tous les plants de manioc sont déjà tubérisés. Le maïs a dépassé la phase de maturation des graines et est en cours de séchage sur pied. Dans 30 % des cas, le maïs était déjà récolté. Le niébé est présent dans 15 % des sites à l'état de formation de gousses. Alors que 10 % des sites renferme l'arachide en grain, 5 % de la patate douce et 7 % de la tomate.

Composition spécifique de la couverture végétale. Au total, 19 familles de plantes ont été recensées sur l'ensemble des 45 sites. Les familles les mieux représentées sont les Poaceae (11 espèces) et les Asteraceae (neuf espèces). L'espèce typique très caractéristique de ces lieux et qui domine les autres adventices est l'Herbe de Laos *Chromolaena odorata*. Très largement répandue dans toute la zone, on la retrouve dans 80 % des 45 sites prospectés et son recouvrement atteint parfois 60 %. Son couvert est un endroit idéal de refuge pour les francolins. L'autre espèce très répandue est *Aspilia africana* qui accompagne fréquemment le premier. L'Impérate *Imperata cylindrica* qui occupe 32 % des sites offre aussi un bon abri pour les francolins. L'hypothèse de départ est que les oiseaux s'associent à des structures de peuplements plutôt qu'à des espèces végétales particulières.

Tableau 1. Distribution des francolins sur 45 sites en fonction du recouvrement de la végétation.

Recouvrement de la végétation (%)	0-30	31-50	51-70	71-90	> 90
Nombre total de sites	5	8	15	14	3
Proportion des sites habités (%)	40	37	73	71	33
Total captures	6	17	52	35	3
Captures par site (moyen ± erreur type)	1±0.5	2±0.4	3.5±0.7	2.5±0.3	1±0.4

Recouvrement de la végétation. Le Tableau 1 donne la distribution des sites et des francolins en fonction des catégories de recouvrement de la végétation. Toutes les variables mesurées ont leur valeur élevée dans les classes de recouvrement de 51-90%. Les milieux plus ouverts et plus denses ne semblent pas propices aux francolins, mais la différence entre les sites habités n'est pas significative ($\chi^2_3 P > 0.2$). Cependant, le test de comparaison des captures par site révèle une différence

hautement significative ($\chi^2_{4} = 13.73$, $P < 0.01$). La classe de recouvrement (51–70 %) est favorable à la capture des francolins.

Hauteur de la strate herbacée et arbustive. Les francolins préfèrent une large gamme de hauteur variant entre 1 et 2.70 m (Tableau 2). Les milieux où la hauteur de l'herbe est < 1 m ou > 3 m ne semblent pas favorables aux francolins. Néanmoins, la différence de sites habités n'est pas significative ($\chi^2_{5} = 5.69$, $P = 0.34$). La comparaison des captures par site révèle une différence significative (données regroupées pour considérer les quatre classes < 1.5 , 1.50–2, 2–2.5, > 2.5 m: $\chi^2_{3} = 10.25$, $P < 0.05$). Les hauteurs de la strate herbacée de 1.50–2.70 m sont favorables à la capture des francolins.

Tableau 2. Distribution des francolins sur 45 sites en fonction de la hauteur de la strate herbacée.

Hauteur de la strate herbacée (m)	< 1	1–1.5	1.50–2	2–2.5	2.5–3	> 3
Nombre total de sites	2	8	10	13	10	2
Proportion des sites habités (%)	50	50	70	77	60	100
Total captures	1	11	25	34	24	2
Captures par site (moyen \pm erreur type)	0.6	1.3	2.5	2.6	2.4	1

Litière, température et points d'eau. La valeur moyenne de l'encombrement du sol calculé sur les sites de capture des francolins est de 18 ± 1.6 % (max. 40%, min. 5%). La température moyenne sous couvert végétal est de $29.4 \pm 0.2^\circ\text{C}$ (max. 31.7° , min. 28°). Pendant les périodes chaudes de la journée les francolins sont tapis sous l'herbe. Aucun point d'eau n'a été découvert dans les milieux visités. Des observations faites au bord des marécages tôt le matin (6h00–10h00) et tard dans la soirée (14h00–19h00), n'ont pas permis de voir des francolins venir s'abreuver.

Ecologie de la reproduction

Au total, dix nids ont été découverts dont cinq en petite saison des pluies et cinq en petite saison sèche.

Sites de nidification. Les valeurs des variables mesurées (moyenne \pm écart-type, (min.–max.)) sur les sites de nidification des francolins sont: hauteur de la strate herbacée 131 ± 45 (50–210) cm; recouvrement de la végétation 29 ± 15 (10–60) %; litière 26 ± 24 (5–70) %; distance par rapport aux habitations 132 ± 34 (100–180) m; distance par rapport aux champs 11 ± 30 (0–100) m; distance par rapport à la route 39 ± 28 (20–95) m. En plus de ces variables, on constate que 62.5 % des sites sont situés dans une zone de jachères ou en friches, 25 % dans un champ de cultures et 12.5 % sous une touffe de *Chromolaena odorata* sur un terrain de football non entretenu. Dans tous les cas, le sol est de type ferrallitique et n'est pas gorgé d'eau.

Description des nids. La profondeur du nid est de 2.6 ± 0.4 (0.5–4.5) cm, et le diamètre de 10.8 ± 1.1 (5–14.8) cm. Huit des dix nids sont abandonnés et dans les deux occupés, les femelles de francolin ont été capturées par les chasseurs avant le ramassage des œufs (on n'a pas observé de mâles dans les nids). Il y a plus d'œufs pleins que d'œufs cassés et éclos. La taille de ponte est de 4.8 ± 0.7 (3–8, $n = 7$ nids). Dans trois des nids se trouvent 3–4 œufs et dans quatre 5–8. Les principales causes du taux élevé d'abandon de nids sont le ramassage des œufs et la capture des femelles couveuses. Dans les deux nids arrivés à l'éclosion, le taux moyen d'éclosion est de 90 % (soit neuf œufs éclos sur 10 pondus).

Caractéristiques biométriques des œufs. Les mensurations des 31 œufs de francolins collectés dans la nature (24) et obtenus en captivité (7) sont: longueur du grand axe 41.4 ± 0.4 (38–44.6) mm; longueur du petit axe 33.0 ± 0.2 (30.5–34.3) mm; poids 19.4 ± 0.9 (10–27) g. Il y a une très forte variabilité du poids.

Discussion

De l'analyse des résultats obtenus il ressort que les francolins fréquentent les champs de culture à proximité desquels se situent des bandes de jachère ou de terres en friche. Ces oiseaux ont une préférence pour des milieux ni trop ouverts ni trop denses, pour une hauteur de la strate herbacée comprise entre 1 et 2.7 m, pour un sol non gorgé d'eau mais dont le degré d'encombrement varie largement. Les francolins occupent une gamme de températures pas très variable. Les jachères et friches à proximité des zones cultivées leur assurent un abri idéal dans les moments chauds de la journée. Le sol doit être dégagé pour leur faciliter la marche car ce sont des oiseaux terrestres. Dans un milieu trop fermé, l'enchevêtrement des buissons au sol ne facilite pas le déplacement et la recherche de nourriture.

Thiollay (1971) a observé dans la savane de Lamto en Côte d'Ivoire qu'après le passage des feux de brousse, la plupart des francolins étaient concentrés autour des bosquets et galeries et ne s'aventuraient en savane que pour se nourrir le matin et le soir. Quand l'herbe a poussé, ils se tiendraient essentiellement en savane, mais quand la couverture est devenue trop haute et dense, ils avaient tendance à venir se nourrir sur les places dégagées c'est-à-dire principalement sur les pistes.

Il découle de ce qui précède que les francolins sont guidés dans le choix de leur habitat par le souci de trouver un milieu qui leur offre de la nourriture, un couvert de refuge et de nidification.

L'absence de points d'eau dans la zone ne signifie pas que les francolins communs ne boivent pas. Ils peuvent cependant avoir des besoins modestes. Dans ces conditions, l'opinion répandue chez les chasseurs selon laquelle les francolins satisfont leurs besoins en eau à partir de la rosée qui se dépose sur les feuilles n'est

pas à rejeter. Les besoins en eau des Francolins communs devraient faire l'objet de recherches surtout lorsqu'on sait que leur aire de répartition s'étend jusqu'au Sahel où la pluviométrie moyenne annuelle ne dépasse guère 200 mm (Urban *et al.* 1986).

Akande (1979) a découvert sept nids de cette espèce en octobre (2), novembre (1), décembre (3) et janvier (1) pendant des recherches systématiques menées par cinq hommes avec une périodicité de sept jours pendant 23 mois (jan 1977 à déc 1978). Les dix nids découverts en 46 jours dans le cadre de cette étude confirment que la capture a été menée en pleine saison de reproduction. Dans tous les cas (Akande 1979, Ékué 2000, cette étude), le maximum d'œufs est obtenu pendant la saison sèche. En effet, *Fringilla bicalcaratus* est connue pour se reproduire au Bénin et au Togo au moins deux fois par an avec des pics de reproduction au Bénin en février et en octobre (Brunel 1958) puis au Togo en déc-fév et juillet (Cheke & Walsh 1996). Selon Elgood *et al.* (1994), la reproduction au Nigeria a lieu aussi en saison sèche surtout de novembre à février.

La variabilité des variables mesurées sur les sites de nidification suggère que les francolins ne recherchent pas des sites particuliers de nidification. Cependant, le sol doit être sec et pas dur afin que l'oiseau puisse creuser sa dépression et y déposer ses œufs. Un sol mouillé rendrait difficile la couvaison des œufs qui nécessite une certaine température.

La taille de ponte montre une grande amplitude de variation (3–8). Jenkins (1961) et Blank & Ash (1962) ont montré chez la Perdrix grise *Perdix perdix* que la taille moyenne de la première ponte pouvait varier en fonction de l'âge des poules, des conditions climatiques de l'année et de la latitude. La couvaison des œufs en fin de saison sèche où la température ambiante est un peu élevée profiterait aux femelles. L'éclosion coïnciderait avec le début de la saison pluvieuse et serait bénéfique aux oiseaux à cause de l'augmentation de la disponibilité alimentaire d'origine animale et végétale.

Les variables mesurées sur les sites de nidification montrent une grande amplitude de variation exceptée l'état du sol qui est toujours sec et non gorgé d'eau. On pourrait interpréter cela comme l'absence d'un site de nidification particulier chez le francolin. Selon Thiollay (1971), Akande (1979) et Aliou (1986), les nids des francolins sont exposés à l'action des prédateurs naturels. Par contre, ce système de nidification s'avère être efficace contre le plus grand prédateur qu'est l'homme. En effet, si les chasseurs savaient exactement là où les francolins nidifiaient, ils iraient ramasser systématiquement les œufs et capturer les femelles.

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Notable bird observations from Nigeria, including the first records of Spot-breasted Ibis *Bostrychia rara* and Yellow Longbill *Macrosphenus flavicans*

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Summary

Based on field work carried out in SE Nigeria in 1988 and especially in 1997, we document two species new to Nigeria (Spot-breasted Ibis *Bostrychia rara* and Yellow Longbill *Macrosphenus flavicans*) and 68 species that are rarely, if at all, reported from the area mentioned.

Résumé

Nouvelles données sur l'avifaune du Nigeria, avec les premières mentions de l'Ibis vermiculé *Bostrychia rara* et de la Nasique jaune *Macrosphenus flavicans*. Des données sont présentées sur deux espèces nouvelles pour le Nigeria (l'Ibis vermiculé *Bostrychia rara* et la Nasique jaune *Macrosphenus flavicans*) et 68 autres qui ont été rarement ou pas du tout, signalées de la zone mentionnée. Ces données résultent principalement d'observations effectuées dans le sud-est du pays en 1988 et en particulier en 1997.

Introduction

This note presents observations of two bird species that are new to Nigeria and 72 species that are either rarely recorded in the country or for which there are few, if any, records from the area where we recorded them, according to the most recent Nigerian checklist (Elgood *et al.* 1994). They were mainly made during field surveys conducted in 1997 for the Important Bird Areas in Nigeria Project (RD). Records from the Nigerian Conservation Foundation expedition to eastern Nigeria in 1988 (RJD & FDL) are also included if they were not mentioned by Ash *et al.* (1989) or were not adequately taken into account by Elgood *et al.* (1994). Some additional records, subsequently received from M. Hopkins, are also included. Records that are

not our own are followed by the observer's name in parentheses. Formerly known status is summarised in square brackets.

Abbreviations used are: FR = Forest Reserve; IITA = International Institute of Tropical Agriculture; NP = National Park. Taxonomic sequence and species names follow Borrow & Demey (2001). Most localities mentioned are included in the gazetteers in one or more of Ash & Dowsett-Lemaire (1989), Elgood *et al.* (1994) and Ezealor (2001); coordinates for others are given herein.

Results

Ardeidae

Tigriornis leucolophus White-crested Tiger Heron. One near a forest stream, Afi River FR, 9 Dec 1997; one on Ebe river, Cross River NP, Oban Division, 10 Apr 1988. [Uncommon to rare (Elgood *et al.* (1994).)]

Threskiornithidae

Bostrychia rara Spot-breasted Ibis [*B. olivacea* Olive Ibis]. A calling ibis flew overhead by a stream in dense forest at 19h00, in Cross River NP, Oban Division, 14 Apr 1988. When tapes of both species later became available, it was clear that what was heard was *B. rara*. This is much the commoner species in neighbouring Cameroon, and in view of the difficulty of getting the good views needed to separate the two visually and the fact that no tape-recordings of *B. rara* were available until recently, we believe records of *B. olivacea* from SE Nigeria are in need of confirmation and that only *B. rara* should be accepted on the Nigerian list (cf. Elgood *et al.* 1994).

Accipitridae

Macheiramphus alcinus Bat Hawk. One, Cross River NP, Oban Division, 12 Dec 1997. [Few Nigerian records.]

Dryotrionchis spectabilis Congo Serpent Eagle. One at forest edge, Upper Orashi FR, Niger Delta, 17 Feb 1997. [Rare (Elgood *et al.* 1994).]

Accipiter castanilius Chestnut-flanked Sparrowhawk. One seen well on the Ikpan river near Ekonganaku, Ikpan, 8 Apr 1988. [Four records (Elgood *et al.* 1994).]

Urotrionchis macrourus Long-tailed Hawk. Two, IITA, Ibadan, 17 Dec 1997; two, Afi River FR, 5 Dec 1997; one, Cross River NP, Oban Division, beyond Ekonganaku, 11 Apr 1988, one. [Few recent records.]

Hieraaetus ayresii Ayres's Hawk Eagle. One flying over, Atteh, c. 10 km northwest of Buru (7°1'N, 10°53'E), Taraba State, 8 Jan 1999 (M. Hopkins). The sightings from the Mambilla Plateau, mentioned by Elgood *et al.* (1994), included a single at Leinde Fadali, 25 Mar 1988, and a displaying pair, 26 Mar 1988 (Ash *et al.* 1989). [Few Nigerian records.]

Spizaetus africanus Cassin's Hawk Eagle. One, Obiafu, Niger Delta (5°25'N, 6°35'E), 15 Feb 1997; a pair, Afi River FR, 7 Dec 1997. [Few Nigerian records (see Elgood *et al.* 1994); common in neighbouring Cameroon.]

Rallidae

Himantornis haematopus Nkulengu Rail. Two pairs duetting near a forest stream just before dawn, Afi River FR, 6–9 Dec 1997. Although Elgood *et al.* (1994) mention only two records, there are two other published records (Ash *et al.* 1989).

Canirallus oculeus Grey-throated Rail. One seen well at a small stream crossing a forest track, Cross River NP, Oban Division, 13 Dec 1997. [Only two old undated records and a possible sighting in Omo Forest, 1987 (Elgood *et al.* 1994).]

Jacanidae

Microparra capensis Lesser Jacana. Up to 100, with > 60 at a single site, Hadejia-Nguru wetlands, 19 Mar 1997. [A relatively high concentration of this uncommon resident.]

Charadriidae

Vanellus superciliosus Brown-chested Wattled Plover. A nest containing one egg was found on a bare, burnt field next to the Sanga river, and two pairs observed, Sanga River FR, 15 Mar 1997. This is the same area from which Wilkinson *et al.* (1988, 1989) reported a nest with four eggs on 20 February 1987 and recorded a bird on a second site. [Few nests of this species have ever been found, all in Nigeria, although parents with young were seen in Cameroon at Ngaoundaba, 25 Mar 1997, and at Mayo Darlé, 6 Apr 1999 (Demey 1997, 1999), and two pairs behaved as if nesting at Bamendjing reservoir, 1 Mar 1998 (RJD & FDL).]

Scolopacidae

Calidris temminckii Temminck's Stint. One, IITA, Ibadan, 13 Nov 1997. [Few records from S Nigeria.]

Laridae

Larus ridibundus Black-headed Gull. First-winter bird, IITA, Ibadan, 16–18 Dec 1997. Two reported to have been present during previous days. [No records south of Kainji (Elgood *et al.* 1994).]

Columbidae

Columba iriditorques Western Bronze-naped Pigeon. Two heard singing and one female seen, Afi River FR, 7 Dec 1997. [Not previously recorded from E Nigeria but “easily overlooked unless voice is known” and “may well occur right across the country” (Elgood *et al.* 1994).]

Cuculidae

Cercococcyx mechowi Dusky Long-tailed Cuckoo. Two singing, Afi River FR, 9 Dec 1997. [Few recent records.]

Cercococcyx olivinus Olive Long-tailed Cuckoo. Up to three heard singing daily and one seen, Afi River FR, 4–9 Dec 1997. Easternmost records for Nigeria. [Uncommon from Ipake to Owerri (Elgood *et al.* 1994).]

Strigidae

Bubo poensis Fraser's Eagle Owl. One singing, Afi River FR, 6 Dec 1997. [Rarely recorded in Nigeria.]

Caprimulgidae

Caprimulgus nigriscapularis Black-shouldered Nightjar. One singing in savanna

woodland, Serti area, 9 Mar 1988; one singing, Obudu Plateau, 2 Apr 1988. ["Secondary growth in the forest zone" (Elgood *et al.* 1994).]

Apodidae

Telacanthura melanopygia Black Spinetail. Three foraging over forest with a few European Swifts *Apus apus* and Barn Swallows *Hirundo rustica*, Afi River FR, 7 Dec 1997. [Rare vagrant and no records in the east (Elgood *et al.* (1994).)]

Apus batesi Bates's Swift. At least two flying over farmland at forest edges, with a few Square-tailed Saw-wings *Psalidoprocne nitens*, Afi River FR, 6 Dec 1997; ten in Ikpan Block, Cross River NP, Oban Division, 8 Apr 1988 (Ash *et al.* 1989). [Recent records from the SE suggest it may have been overlooked previously (Elgood *et al.* 1994). Their records from Kagoro probably require proof, as they are a long distance from Guineo-Congolian forest.]

Apus horus Horus Swift. One with a mixed flock of Apodidae and Hirundinidae (including 50 Little Swifts *Apus affinis*), Dumbi, 20 km south of Zaria, 11 Mar 1997. [Elgood *et al.* (1994) only accept recent records from the Mambilla and Obudu areas, 1985, while stating that it may have been overlooked.]

Trogonidae

Apaloderma aequatoriale Bare-cheeked Trogon. A singing bird seen and tape-recorded, in formerly-logged forest, Cross River NP, Oban Division, 14 Dec 1997. [The few records for Nigeria, Nov 1971 and Apr 1988, are from this area (Ash *et al.* 1989), reportedly in primary forest (Elgood *et al.* 1994).]

Bucerotidae

Ceratogymna atrata Black-casqued Hornbill. Common in Cross River NP, Oban Division, Apr 1988 and Dec 1997. [Rare, except in Okomu FR (Elgood *et al.* (1994).)]

Ceratogymna elata Yellow-casqued Hornbill. Frequent, Afi River FR, Dec 1997, and Cross River NP, Oban Division, Apr 1988 and Dec 1997, as in neighbouring Cameroon. [Mainly rare (Elgood *et al.* 1994). Near-threatened (BirdLife International 2000).]

Capitonidae

Gymnobucco peli Bristle-nosed Barbet. At least 20 at different sites, Afi River FR, 6–9 Dec 1997; at least six, Cross River NP, Oban Division, 15 Dec 1997. [Overlooked (Elgood *et al.* 1994) due to resemblance with Naked-faced Barbet *G. calvus*.]

Indicatoridae

Melichneutes robustus Lyre-tailed Honeyguide. One or two heard displaying, Cross River NP, Oban Division, 15 Dec 1997. First record for the park. [Rarely recorded, nearest locality Calabar (Elgood *et al.* 1994). Two of the four localities mentioned by Elgood *et al.* (1994), Owerri (Bannerman 1951) and Umuagwu (Marchant 1953), refer in fact to the same record, from Umuagwu (Marchant 1953).]

Indicator maculatus Spotted Honeyguide. One, Afi River FR, 8 Dec 1997; one, Cross River NP, Okwango Division, 3 Dec 1997. Both in mixed-species flocks. [Five records (Elgood *et al.* (1994).)]

Picidae

Jynx torquilla Eurasian Wryneck. One in savanna near the Obudu Ranch Hotel, Obudu Plateau, 10 Dec 1997. [Uncommon north of the Niger and Benue rivers, rare further south (Elgood *et al.* 1994, Künzel & Künzel 1999).]

Campethera cailliautii Green-backed Woodpecker. One, Afi River FR, 9 Dec 1997. [No records from extreme SE (Elgood *et al.* 1994).]

Hirundinidae

[*Psalidoprocne fuliginosa* Mountain Saw-wing]. At least four hirundines matching the description of this species were seen at Ngel Nyaki, Mambilla Plateau, 3 Mar 1997, above the montane forest in the company of a dozen Black Saw-wings *P. pristoptera petiti*. They were dull blackish-brown with a slightly forked tail, which appeared square or even rounded when spread; underwing-coverts were paler and greyer brown; distinctly browner and less slender than *P. p. petiti*. *P. fuliginosa* was accepted on the Nigerian list by Elgood *et al.* (1994) and subsequently listed by Ezealor (2001), on the basis of sightings on the Obudu Plateau, although Elgood *et al.* remark that “confusion with *P. p. petiti* cannot be ruled out”; in fact confusion is only likely with the juvenile of the latter. No breeding dates of *P. p. petiti* have been reported from Nigeria, but in Cameroon nests have been found in Apr, Jun and Oct (Serle 1950); juveniles may therefore be expected at almost any time of year. In view of the identification problems presented by this species, the sightings from Ngel Nyaki are best considered as requiring proof, as is the species’ occurrence in Nigeria.

Motacillidae

Anthus similis Long-billed Pipit. Not uncommon on Obudu Plateau (Ash 1990), although Elgood *et al.* (1994) mention only a single specimen, attributed to race *bannermani*, for that site. In Apr 1988 its song was found to be identical to that of other populations, confirming that this population is not specifically distinct (Sibley & Monroe 1990) from *A. similis* (Dowsett & Dowsett-Lemaire 1993).

Pycnonotidae

Andropadus curvirostris Cameroon Sombre Greenbul. One singing, Cross River NP, Oban Division, 15 Dec 1997. [No records east of Owerri (Elgood *et al.* 1994).]

Calyptocichla serina Golden Greenbul. One, Cross River NP, Okwango Division, 3 Dec 1997. [Only four localities, the nearest being Calabar (Elgood *et al.* 1994).]

Baeopogon clamans Sjöstedt’s Honeyguide Greenbul. Frequent, Afi River FR, Dec 1997 (new locality); observed in Cross River NP, Oban Division, Dec 1997. [The only previous sightings were from Oban Hills (Ash *et al.* 1989).]

Bleda canicapilla Grey-headed Bristlebill. One in remnant forest, Ayu Hills, Kaduna State (9°19’N 8°34’E), 25 Sep 1999 (M. Hopkins). [Only previous site in N Nigeria is Kagoro, c. 30 km to the northwest (Dyer *et al.* 1986).]

Criniger chloronotus Eastern Bearded Greenbul. Frequent, Afi River FR and Cross River NP, Oban Division, Dec 1997. [Known only from two specimens collected in Oban forest, 1981 (Elgood *et al.* 1994).]

Criniger ndussumensis White-bearded Greenbul. Frequent in mixed-species flocks with Red-tailed Greenbul *C. calurus*, Afi River FR, Dec 1997, and Cross River NP, Oban Division, Apr 1988 and Dec 1997, where calling birds were observed and tape-recorded. [Listed by Ezealor (2001) for other localities, west to Ibadan, but the difficulty of separating it from *C. calurus* means these records need confirmation. The only certain reports at present are those where the species is distinguished by voice.]

Turdidae

Stiphrorornis erythrorax Forest Robin. Common, Cross River NP, Oban Division, Apr 1988 and Dec 1997. [Elgood *et al.* (1994) report it from Lagos to Owerri, but recorded further east, to Calabar (Mackenzie 1979).]

Stizorhina fraseri Rufous Flycatcher Thrush. Several, Afi River FR, Dec 1997, and Cross River NP, Oban Division, Apr 1988 and Dec 1997. Birds in Oban appear to be hybrids, the tempo of song phrases being intermediate between those of *fraseri* and *finschi* (Dowsett & Dowsett-Lemaire 1993). [Elgood *et al.* (1994) mention only two records from Oban Hills, although previously reported from the Calabar area by Mackenzie (1979). Ezealor (2001) treats *fraseri* and *finschi* as one species. Records from Biseni would probably be of *finschi*.]

Oenanthe heuglini Red-breasted Wheatear. Frequent in grassy highlands near Selbe (7°17'N, 11°8'E), Gashaka-Gumti NP, 28 Feb to 1 Mar 1997. Recorded from Mambilla, Chappal Waddi, Gangirwal and Yelwa, Mar 1988, and the Obudu Plateau, Apr 1988. [Seasonally not uncommon north of the Niger and Benue rivers (Elgood *et al.* 1994); the single southern record (Obudu town, Nov), requires substantiation.]

Sylviidae

Prinia leucopogon White-chinned Prinia. A pair Gashaka-Gumti NP, 28 Feb 1997. [Fourth record for Nigeria (cf. Elgood *et al.* 1994, Robertson 1995).]

Apalis rufogularis Buff-throated Apalis. Female in remnant forest, Ayu Hills, Kaduna State, 25 Sep 1999 (M. Hopkins). [Second site in northern Nigeria (Dyer *et al.* 1986).]

Apalis nigriceps Black-capped Apalis. One, Afi River FR, 8 Dec 1997; a pair, Cross River NP, Okwango Division, 3 Dec 1997. [Only two confirmed localities (Sapoba and Okomu) (Elgood *et al.* 1994).]

Camaroptera chloronota Olive-green Camaroptera. Singing birds recorded at following localities in 1997: Ibadan (IITA, Nov–Dec), the Niger Delta (Obiafu and Upper Orashi area, Feb), Afi River FR (Dec) and Cross River NP, Oban Division (Dec). [Eight localities (Elgood *et al.* 1994).]

Macrosphenus flavicans Yellow Longbill. Seen and heard at Ikpan Block and Oban West, Cross River NP, Oban Division, Apr 1988; at least three, 13–14 Dec 1997. The tape-recorded song of one individual, whose bright olive-yellow underparts were observed, consists of a series of 7–10 clear, detached whistles, descending in scale and slightly accelerating at the end, reminiscent of the song of *Alethe poliocephala*, but softer. Elgood *et al.* (1994) stated that the species was probably not uncommon in forest east of the lower Niger, with two collected in the Owerri area (Umuagwu and Ohoba (4°58'S, 6°51'E): Marchant 1953). However, Marchant attributed these to *M.*

kempi flammeus and there appears to be no valid specimen of *M. flavicans* from Nigeria. The error may have arisen through confusion between *M. f. flavicans*, the race occurring in Nigeria, and *M. k. flammeus*, as Elgood *et al.* (1994) list “*M. flavicans flammeus*”. Urban *et al.* (1997) were therefore correct in not mapping *M. flavicans* in Nigeria. Our records are therefore the first for Nigeria.

Macrosphenus kemp Kemp’s Longbill. One seen and tape-recorded, Afi River FR, 9 Dec 1997. [No records from the east in Elgood *et al.* (1994), but race *flammeus* stated to occur in SE Nigeria (Urban *et al.* 1997), as discussed above.]

Sylvietta denti Lemon-bellied Crombec. One at forest edge, Afi River FR, 6 Dec 1997. Not “indistinguishable in the field from *S. virens* (especially *S. v. flaviventris*)” and does not occur in undergrowth, as stated by Elgood *et al.* (1994). *S. denti* lacks the distinct pale supercilium of Green Crombec *S. v. flaviventris* and occurs in canopy or mid-stratum, whereas *S. virens* is mainly in undergrowth in secondary situations, and at forest edge. The two species also have very dissimilar vocalisations. [Only three records and may be overlooked (Elgood *et al.* 1994).]

Muscicapidae

Muscicapa striata Spotted Flycatcher. Four, Gashaka, 24 Feb 1997; one at forest edge, Oban, 12 Dec 1997. Apparently may over-winter. Also recorded from Mambilla, Chappal Waddi, Leinde Fadali and Obudu, Mar–Apr 1988. [Known from Serti (Hall 1977) and Calabar (Mackenzie 1979); few records from the SE and only on passage Elgood *et al.* (1994).]

Muscicapa adusta Dusky Flycatcher. One at 1200 m, Obudu Plateau, 4 Apr 1988. Mambilla Plateau: at least eight, Chappal Waddi, 20–24 Mar 1988; six, Leinde Fadali, 25–27 Mar 1988; two, Ngel Nyaki, 29 Mar 1988 (Ash *et al.* 1989); two, Selbe, 1 Mar 1997; all at the edge of forest patches at 1400–1900 m. [Few records, all from eastern highlands (Ash *et al.* 1989, Elgood *et al.* 1994).]

Myioparus griseigularis Grey-throated Flycatcher. One seen and tape-recorded in dense undergrowth at forest edge, Cross River NP, Oban Division, 15 Dec 1997. [Only three records (Elgood *et al.* 1994).]

Myioparus plumbeus Lead-coloured Flycatcher. One singing at lowland forest edge, Cross River NP, Oban Division, 12 Dec 1997. [Uncommon but widespread in savanna woodland, not uncommon in gallery forest (Elgood *et al.* (1994).]

Monarchidae

Erythrocercus mccallii Chestnut-capped Flycatcher. Recorded from the Niger Delta, 1997: four in mixed-species flock, Upper Orashi, 16 Feb; three, Afi River FR, 8 Dec; up to six daily, Cross River NP, Okwango and Oban Divisions, Dec. [One record in the SE, from Umuagwu (Serle 1957, Elgood *et al.* 1994, single dot on map in Urban *et al.* 1997) but Mackenzie’s (1979) records from the Calabar area were apparently overlooked; a sighting north of Oban (Künzel & Künzel 1999).]

Trochocercus nitens Blue-headed Crested Flycatcher. Frequent, Afi River FR and Cross River NP, Oban Division, Dec 1997. [One record in the SE, from Umuagwu (Elgood *et al.* 1994).]

Platysteiridae

Megabyas flammulatus Shrike Flycatcher. Two pairs in wooded savanna at Kwano, Gashaka-Gumti NP, 27 Feb to 2 Mar 1997. New locality. [Range on map in Urban *et al.* (1997) much further south, but also recorded even further north, at Kagoro (Elgood *et al.* 1994).]

Dyaphorophya tonsa White-spotted Wattle-eye. A pair, Afi River FR, 9 Dec 1997; two pairs, Cross River NP, Oban Division, 13–14 Dec 1997. [Rare or very local, fairly common in Ikpan Block (Ash *et al.* 1989, Elgood *et al.* 1994).]

Timaliidae

Illadopsis rufipennis Pale-breasted Illadopsis. Frequent, Cross River NP, Oban Division (Ikpan block and Oban West), Apr 1988; a party of four on and just above the forest floor at Kwano, Gashaka-Gumti NP, 28 Feb 1997. New localities.

Nectariniidae

Anthreptes rectirostris Green Sunbird. Common, Afi River FR, Dec 1997, and Cross River NP, Oban Division, Apr 1988 and Dec 1997. [Recorded only from Ipake to Owerri (Elgood *et al.* 1994), but our observations show that it ranges right across the country.

Chalcomitra adelberti Buff-throated Sunbird. Male, Assop, western edge of Jos Plateau, 8 May 1999 (M. Hopkins). First record from Plateau State.

Cinnyris johannae Johanna's Sunbird. A male foraging in large flowering trees with other sunbirds, Afi River FR, 7 Dec 1997. New locality. [Two previous records (Elgood *et al.* 1994).]

Malaconotidae

Malaconotus multicolor Many-coloured Bush-shrike. One seen and tape-recorded, IITA, Ibadan, 13 Nov 1997. Irregularly observed year-round at this site (C. Williams pers. comm.). [One record mentioned from this site, implying rarity there (Elgood *et al.* 1994).]

Buphagidae

Buphagus africanus Yellow-billed Oxpecker. Four in grassland near the Obudu Ranch Hotel, Obudu Plateau, 10 Dec 1997; several localities on Mambilla Plateau, Apr 1988 and Mar 1997. [Few records south of the great rivers (Elgood *et al.* 1994).]

Ploceidae

Ploceus bannermani Bannerman's Weaver. Two males in small forest patches in the highlands near Selbe, Gashaka-Gumti NP, 1 Mar 1997. [Locally common there, as well as on the Obudu Plateau (Ash *et al.* 1989).]

Ploceus baglafecht Baglafecht Weaver. About ten on slopes at the edge of gallery forest at 1250 m Obudu Plateau, 4 Apr 1988 (Ash *et al.* 1989); one in the Obudu Ranch Hotel garden, 10 Dec 1997. [Only on Mambilla Plateau (Elgood *et al.* 1994).]

Ploceus ocularis Spectacled Weaver. Two pairs, Gashaka-Gumti NP, 26 Feb 1997; one pair seen and tape-recorded near Gashaka village, 1 Mar 1997. [Recorded in Gashaka-Gumti by Ash *et al.* (1989). Few records, all from the extreme east (Ash *et al.* 1989, Elgood *et al.* 1994).]

Ploceus tricolor Yellow-mantled Weaver. Recorded in 1997 at Ibadan (IITA), the Niger Delta (Upper Orashi, 17 Feb, nest-building) and Afi River FR (7 Dec, at nest); Cross River NP, Oban Division, Apr 1988. [Quite common at Owerri and Omuagwu (Marchant 1953). Few known localities east of Akure, all well to the east, including Calabar (Elgood *et al.* 1994).]

Anaplectes rubriceps Red-headed Weaver. A female in savanna woodland, Old Oyo NP, 19 Nov 1997, apparently a rather southerly record. Kagoro, 13 Mar 1997, a female nest-building.

Estrildidae

Parmoptila woodhousei Red-headed Antpecker. A pair, Afi River FR, 8 Dec 1997; one, 15 Apr 1988 (Ash *et al.* 1989) and three together, 14 Dec 1997, Cross River NP, Oban Division. [Only recorded at five localities, the nearest being Calabar, Ikom and Bashu (Elgood *et al.* 1994).]

Nigrita fusconota White-breasted Negrofinch. Common: Afi River FR, Dec 1997; Cross River NP, Okwango Division (Ezealor 2001); Oban Division, Apr 1988 and Dec 1997. [Only four localities in the SE (Elgood *et al.* 1994).]

Euschistospiza dybowskii Dybowski's Twinspot. A female, Kagoro, 15 Mar 1997; in Gashaka-Gumti NP, at least one male on the slopes of the plateau, 27 Feb 1997 and a party of four near Selbe, 28 Feb 1997. [Not uncommon in Gashaka-Gumti, but very local in Nigeria (Ash *et al.* 1989; Elgood *et al.* 1994).]

Lonchura bicolor Black-and-White Mannikin. Observed in Cross River NP, Oban Division, Apr 1988 and Dec 1997. [Away from the coast in the SE, reported only from the Mambilla and Obudu plateaux (Elgood *et al.* 1994).]

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Short Notes — Notes Courtes

First records of Didric Cuckoo *Chrysococcyx caprius* parasitizing Cricket Warbler *Spiloptila clamans*

On 6 Nov 2002, whilst carrying out bird survey work in *Acacia* woodland near Alagarno (13°9'N, 13°33'E), Borno State, Nigeria, our attention was drawn to a pair of Cricket Warblers *Spiloptila clamans* repeatedly alarm-calling. A recently fledged Didric Cuckoo *Chrysococcyx caprius* was located close to the warblers, and soon both individuals began feeding the cuckoo. The juvenile cuckoo's lack of white in the outer tail and indistinct whitish eye-stripe in front and behind the eye excluded Klaas's Cuckoo *C. klaas*. The observations were also north of the latter species' expected range. On 8 Nov 2002, a second recently fledged Didric Cuckoo was observed being fed by a pair of Cricket Warblers at a site approximately 15 km NE of the first. In both cases the juvenile cuckoos appeared to have fledged very recently, with flight appearing cumbersome and awkward. The cuckoos were observed being fed only by the Cricket Warbler pairs, and begging responses did not appear to be stimulated by the proximity of other birds (Olivaceous Warbler *Hippolais pallida*, Black Scrub Robin *Cercotrichas podobe*, Speckle-fronted Weaver *Sporopipes frontalis*). It therefore seems likely that the Cricket Warblers were the foster parents. These appear to be the first observations of Didric Cuckoo parasitizing Cricket Warbler. In Nigeria the main hosts of Didric Cuckoo are Village Weaver *Ploceus cucullatus* and Black-necked Weaver *P. nigricollis* (Elgood *et al.* 1994). Fry *et al.* (1988) also give *Ploceus* species as the main hosts and list several others known, although the only warblers included are Chestnut-vented Tit-Babbler *Parisoma subcaeruleum*, Rattling Cisticola *Cisticola chiniana* and Spotted Prinia *Prinia maculosa*.

Didric Cuckoo is a relatively common rains migrant in N Nigeria, breeding north to the Sahel and Sudan zones during Jul–Oct (Elgood *et al.* 1994). The first nests of Cricket Warbler in Nigeria have only recently been found (pers. obs.) but the species is a common resident in the Sahel and northern Sudan zones of the country (Elgood *et al.* 1994) and recent observations suggest breeding occurs at least Oct–Nov and Mar–Apr (pers. obs.). Doubt has been expressed over the veracity of several reported Didric Cuckoo hosts, particularly sunbirds building enclosed nests with side entrance (Fry *et al.* 1988). All Cricket Warbler nests observed in Nigeria have been domed with side entrances (pers. obs.), though elsewhere its nests have been described as variable, with both domed or partly domed known (Urban *et al.* 1997).

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On the occurrence of the Black Stork *Ciconia nigra* in Nigeria

Both Brown *et al.* (1982) and Dowsett & Forbes-Watson (1993) class the Black Stork *Ciconia nigra* as a scarce winterer in West Africa, a conclusion that remained valid even considering the rather large number of observations published by Walsh (1991). Recently, its status has been discussed further, mainly about whether it should formally be regarded as a vagrant or rare migrant (Salewski *et al.* 2000, Walsh 2002), rather than a regular winter visitor. In that context we add some observations of Black Storks made in northern Nigeria during the last decade, by Philip Hall and by people working on the Lake Chad Bird Migration Project and at the Leventis Ornithological Research Institute near Jos.

Elgood *et al.* (1994) give the status of Black Stork in Nigeria as an uncommon Palaearctic migrant recorded between November and April, from Lake Chad south to the Benue River in the east and the Kainji National Park in the west. The maximum number mentioned was 30, seen in the Hadeija wetlands east of Kano. Our observations are as follows: Dagona1 (2°45'N, 10°35'E), four, 22 Jan 1993; Doguntshugu, L. Chad (13°22'N, 13°30'E), one, 23 Feb 2002; Falgore GR (10°50'N, 8°40'E), six, 4 Dec 2002; W of Maiduguri (11°49'N, 13°09'E), 20, 22 Oct 2001; Vom (9°42'N, 8°45'E), one, 7 Dec 2001; Yankari NP (9°45'N, 10°30'E), 20, 21 Mar 1999; and multiple observations in Sambisa GR (11°40'N, 14°20'E): three, 20 Jan 1993; two, 20 Jan 1997; 35, 11 Nov 2000; five, 9 Nov 2001; four, 28 Jan 2002; three, 25 Feb 2002; five, 8 Nov 2002.

It thus seems that Yankari, from which there are several older records (Walsh 1991, Elgood *et al.* 1994), and Sambisa hold small regular wintering populations of Black Stork. Both are protected reserves with intact riverine gallery forest, which was suggested by Walsh (1991) to be the preferred habitat. Yankari lies within the

northern Guinea savanna, and Sambisa is a Guinea savanna outlier within the Sudan zone. This distribution roughly fits into the narrow latitudinal band (9°30'N–11°30'N), which Walsh (1991) regarded as the main wintering zone for the Black Stork in W Africa.

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Franklin's Gull *Larus pipixcan* in The Gambia

In the late afternoon of 17 Jan 2002, at Bund Road, Banjul, The Gambia, my companions and I had good views from the raised road over the sea and mud-flats below. The tide was low, and Slender Billed Gulls *Larus genei*, Grey Headed Gulls *L. cirrocephalus*, Caspian Terns *Sterna caspia* and Royal Terns *S. maxima* were present on the mud. I noticed a different-looking gull, with white crescents above and below the eye, and a black half-hood. Direct comparison with the other gulls suggested Franklin's Gull *L. pipixcan*. The mantle was quite light compared with my memory of a Franklin's Gull seen twice in Holland, in February 2000, but my companions agreed on the determination. It was an adult in winter plumage, and the mantle seemed

lighter because of the rather low sun shining over the back of the gull and making the colours seem less intense. It was identified by the following characteristics: rather small and sturdy, with a short dark bill; clear white crescents above and below the eyes; half black hood, mainly on the back of the head, the front edge of the hood smudged with paler black; forehead white; mantle rather dark, with the limit between grey and white in the neck rather vague, but sharp on the wings; broad white band between mantle and black wingtips; two large white tips of primaries in the black wingtips; wings below white; dark legs.

Winter-plumaged adult Franklin's Gull is most likely confused with Laughing Gull *L. atricilla* and Mediterranean Gull *L. melanocephalus*. It was distinguished from Laughing Gull by the shorter bill, more white in the wingtips, and by being smaller and more sturdy. Mediterranean Gull has a light-grey mantle, a heavier bill that is not completely black, and the half black hood is not so clear on the back of the head.

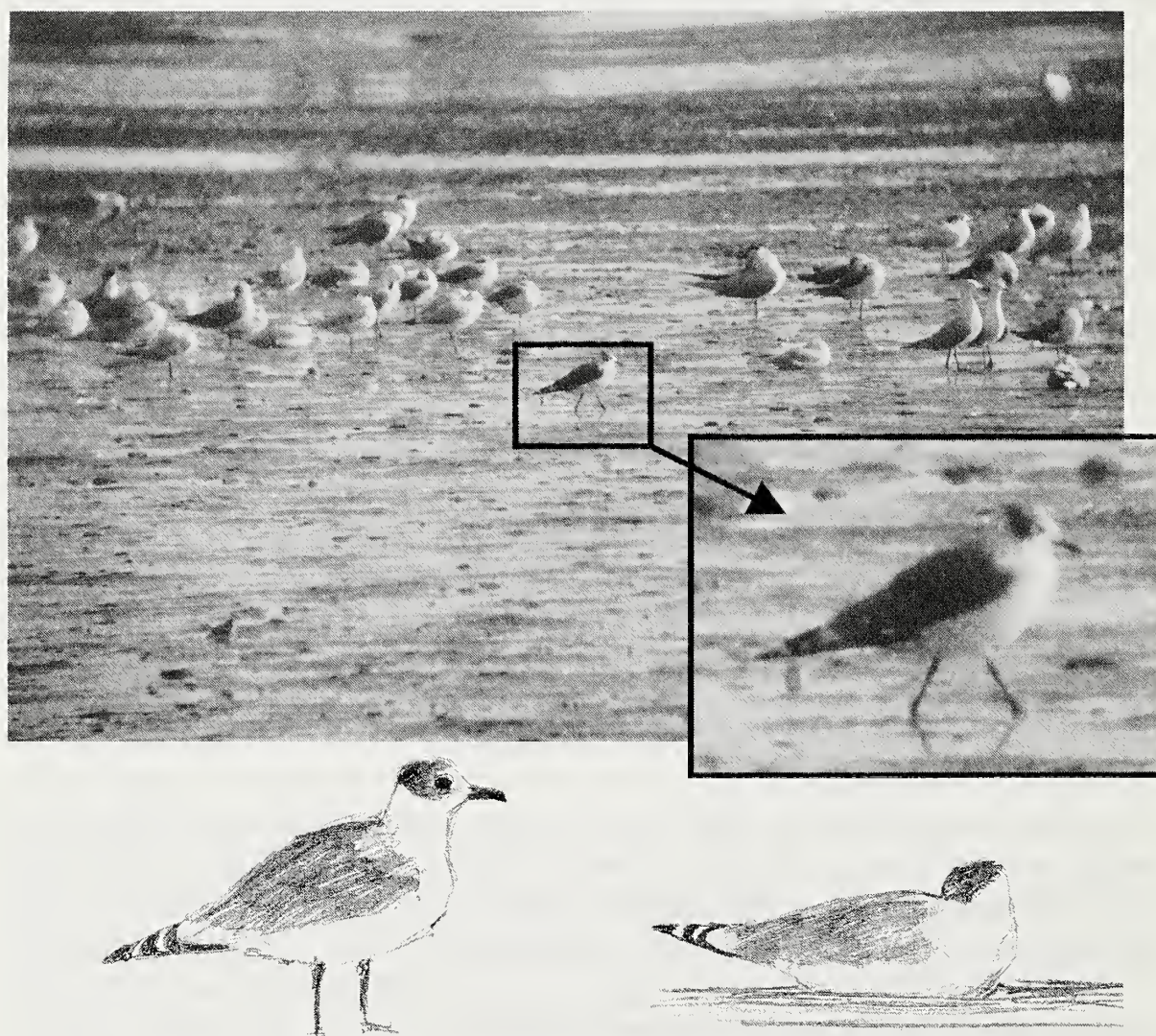


Figure 1. Drawings (by LvW) and photograph (by Oane Tol) of Franklin's Gull, The Gambia, 17 Jan 2002.

We watched the bird at a distance of about 100 m for about 1 h 15 min., using telescopes. During that time the bird rested, sometimes with its head in its feathers, sometimes sitting. It also cleaned itself, took short walks now and then, and stretched its wings. Drawings and photographs were made (Fig. 1).

Previous records of Franklin's Gull in Africa include two records at Beira, Mozambique, and four on the South African coast, plus the following W African records: one paired with a Grey-headed Gull and nesting in the Saloum Delta, Senegal, May 1983; one at Bund Road, Banjul, 1984; a first-winter bird at Ile de Gorée, Senegal, Jan 1986; an adult in the Siné-Saloum NP, Senegal, Apr 1986; an adult at Hann, Senegal, Dec 1988; a first-winter at Hann, Feb 1991 (Urban *et al.* 1986, Baillon & Dubois 1992). It seems that Franklin's Gull is a not uncommon vagrant to Senegambia.

I thank the members of my group, David Hoekstra, Piet Zuidhof, Rommert Cazemier, Huub Lanter, Oane Tol, Jan Kalsbeek, Sietse Bernardus, Roelf Hovinga and Bart Jan Prak, for helping with the identification.

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A major range extension of Locust Finch *Ortygospiza locustella* in West Africa

The Locust Finch *Ortygospiza locustella* has two distinct sub-species with the nominate in southern Africa and *uelensis* with a scattered distribution in east and central Africa. It was only recently found in W Africa, with 20 seen near the Benoué National Park in 1998 (S. de Kort pers. comm.) and in the extreme south of Cameroon (Dowsett & Dowsett-Lemaire 2000), probably part of the Congo Basin population. However, on 27 Oct 2002, a pair with three fledged young was found at Rockwater Fish Farm, Jos, on the Jos Plateau in central Nigeria (9°53'N, 8°52'E).

The birds appeared to be of the race *uelensis*, the male showing a plain dark greyish back with no white spots, flanks plain charcoal grey with no white barring, upper breast, neck, ear coverts, lores and supercilium bright orange-red, and rump and wings similarly reddish. The female showed red only on wings and rump, pale fawn

(rather than black) underparts, no white spotting on the back, and a small amount of diffuse barring on the flanks (considerably less prominent than that illustrated for the nominate race in either Clement *et al.* 1994 or Borrow & Demey 2001). The dark greyish on the head was browner than in the male and extended down onto the lores and ear coverts. The pale yellowish eye was very prominent in both sexes (eliminating other *Ortygospiza* spp.) as was the two-toned bill: blackish upper mandible and red lower mandible. The legs were whitish pink. The birds were distinctively very small and squat, with prominent bulging lores that gave the head a blunt appearance, even in flight. They flew with very rapid wing beats in shallow bounding flight, often giving a distinct *tinka-tinka-tinka...* call, quieter and softer than the harsh metallic calls most often given by Quail Finch. This call was extremely helpful in locating and identifying birds as Locust Finch.

A return visit to the same site on 30 Oct revealed a second pair still lining their nest, which was domed, made entirely of fine grasses, sparsely lined with feathers (mostly white feathers, probably from Cattle Egret *Bubulcus ibis*) and 10 cm above the ground. The habitat was very disturbed damp grassland on the edge of a fish farm. Nearby was a small market garden and harvested millet and maize fields. The area was heavily disturbed daily, as people moved through with livestock. The nest was in a patch of rushes on the edge of a shallow ditch that was used to move water between the fishponds. During the nesting period the ground below the nest became slowly wetter but water never reached the nest. On 30 Oct, it contained two eggs. On 8 Nov there were four eggs, being brooded by the female. The female was brooding on 2, 5, 11 and 22 Nov and the male on 15 and 18 Nov. Four chicks were first recorded on 18 Nov, when they were estimated to be about 3–4 days old. This suggested that incubation lasted from 1 November and that hatching was synchronous. As most small passerines begin incubation at the end of egg laying (Perrins & Birkhead 1983), we assumed that brooding began on 1 or 2 Nov. As the chicks were 3–4 days old on 18 Nov, we estimate that incubation took 13–15 days: normal for a small passerine (Perrins & Birkhead 1983). Both adults were seen feeding the chicks on several occasions. The nestlings were ringed on 27 Nov when their feathers were still in pin but close to emerging. On 2 Dec the flight feathers were approximately half grown and on 9 Dec the chicks had fledged.

During this period, what was possibly another pair was noted about 100 m from the first nest, but no nest could be found in the dense, rank grass. On 18 Dec a flock of 15 Locust Finches was seen at the same site.

These are the first records of this species for Nigeria and represent a major extension of range. It is known to wander widely within its breeding range (Clement *et al.* 1994) and the occurrence of a flock of 25 in W Kenya (Stevenson, 1992) clearly shows that it wanders out of its normal breeding range. However, Clement *et al.* (1994) state that these movements are temporary and birds return to their normal breeding areas at the onset of the rains. While Aspinwall (1982) suggests that Locust Finches only move very locally within their range, the occurrence of birds in Kenya

(Stevenson 1992) demonstrates that they sometimes undertake wider extra-limital movements. This new record being of breeding birds suggests that it is a genuine range extension rather than a case of vagrancy. The site has been popular with birdwatchers since the 1970s, has been visited at least annually by birdwatchers since then, and since 2001 has received much more attention by staff and students of the A.P. Leventis Ornithological Research Institute. Consequently it seems unlikely that the species remained undetected for very long at this site. However, African Quailfinch *O. atricollis* and Zebra Waxbill *Amandava subflava* are common there, so Locust Finch may have been overlooked. All three are highly terrestrial species and therefore difficult to see except in flight. We initially spotted a male on the ground in the open with fledglings. Further survey, including by calls, is recommended. The site is now managed by ECWA (Evangelical Church of W Africa) Rural Development, so it is ~~likely~~ hoped that the wet grassland habitat of the Locust Finches will be maintained.

Our work was funded by the Leventis Conservation Foundation, to whom we are very grateful. We would also like to thank the staff of ECWA Rural Development for access to the site. Ulf Ottoson and Paavo Sallinen helped in the field. This is publication no. 6 of the A.P. Leventis Ornithological Research Institute.

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A high altitude sighting of the São Tomé Short-tail *Amaurocichla bocagei*

São Tomé in the Gulf of Guinea is well known for its endemic, restricted range, bird fauna (Peet & Atkinson 1994), and it has been recognised by Fishpool & Evans (2001) as an Important Bird Area. Eleven species of breeding land birds are listed by

IUCN as in some degree threatened (IUCN 2002), all of which are endemic and occur in the remaining primary rainforest of the island.

One of the most elusive of these species is the São Tomé Short-tail *Amaurocichla bocagei*, a species listed as Vulnerable (BirdLife International 2000, IUCN 2002) because of its presumed small population size, based on estimates of the amount of habitat considered suitable for the species that remains in São Tomé. Previous sightings of *A. bocagei* have been in primary rainforest below 600m, in the south-west of the island, especially near watercourses (Peet & Atkinson 1994, Christy & Clarke 1998, Borrow & Demey 2001). During a systematic survey of the primary rainforest of the island, we sighted *A. bocagei* in high altitude rainforest in central São Tomé.

On 27 Dec 2001, a single adult *A. bocagei* was seen at Estação Sousa (0°16'N, 6°33'E) at an altitude of 1100 m in the central mountainous massif east of Pico de São Tomé. The bird was not especially close to a watercourse, but numerous small streams have their headwaters in the vicinity. It was seen about 1 m above ground level walking along a near-horizontal fallen tree branch. It had long legs, a long, thin bill and was an overall dark brown. It made several characteristic calls and was observed for more than 5 min. It appeared darker than other *A. bocagei* observed subsequently in the lowlands. The occurrence of *A. bocagei* at high altitudes in the central mountainous massif was confirmed by a local guide, who reported regular but uncommon sightings in the region (Pedro Leitão pers. comm.).

This sighting significantly extends the area of forest that may be considered occupied by *A. bocagei*. However, the species still has a restricted range as it occurs only in primary rainforest. The potential population size for the species could be much larger than previously thought, although *A. bocagei* is probably uncommon at high altitudes. We saw only a single individual during a six-day survey, whereas in the heart of its lowland forest distribution, we observed several individuals and pairs daily. We therefore do not recommend that its conservation status be changed unless significant populations are discovered at high altitude.

We thank Pedro Leitão, the staff of ECOFAC São Tomé and Príncipe, Angus Gascoigne and Peter Jones. The work was funded by the Davis Expedition Fund, the British Ecological Society and the John Ray Trust. Additional support was provided by Garmin (Europe) Ltd and Berghaus Ltd.

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New records of Moussier's Redstart *Phoenicurus moussieri* and Lesser Striped Swallow *Hirundo abyssinica* from Mauritania

During an expedition of the Swiss Ornithological Institute to Mauritania in September 2001, two bird species were observed, neither of which is mentioned in literature for the country (Lamarche 1988, Keith *et al.* 1992, Dowsett & Dowsett-Lemaire 1993, Borrow & Demey 2001) although they have been recorded in Mauritania (B. Lamarche *in litt.*).

***Phoenicurus moussieri* Moussier's Redstart.** At our camp at 18°33'N, 10°22'W between Tidjikja and Tichit on 12 September, VS and FL saw a bird fly into a bush, emerge after a short time to stay a few seconds on the ground, then fly off not to be seen again. Although the observation, from *c.* 15 m, was brief, the red tail indicated that it was a Redstart *Phoenicurus* sp. The deep red underparts excluded Black Redstart *P. ochruros* and female Common Redstart *P. phoenicurus*. The bird differed from male Common Redstart by the more intense colour of the underparts and the red rather than black throat. It had a distinctive whitish supercilium, extending from the forehead backwards and curving around the ear coverts. The supercilium was slightly mottled with black, and the crown was dark with brown feather fringes, indicating a male Moussier's Redstart in eclipse plumage (Svensson *et al.* 1999).

According to Keith *et al.* (1992) Moussier's Redstart is endemic to NW Africa (Morocco, Algeria, Tunisia, Libya) with vagrants recorded in Malta, Italy and Britain. It might be a short distance migrant but its movements are not well known (Keith *et al.* 1992). Our observation is apparently the first south of the Sahara to be published, although the species has been observed in the country by B. Lamarche (*in litt.*).

***Hirundo abyssinica* Lesser Striped Swallow.** On the afternoon of 22 September in the Guelta Metraugha, a narrow valley fringed by cliffs, at about 16°37'42"N, 11°24'12"W between Kiffa and Ayoun, we (VS, RA, FL, DP) observed a flock of *c.* 20 Lesser Striped Swallows together with some Barn Swallows *H. rustica* and African Rock Martins *H. fuligula*. The Lesser Striped Swallows were distinguished from Barn Swallows by the red head and rump. Some of them flew less than 10 m overhead in

good light, revealing their distinctly striped underparts and white undertail coverts, which distinguish them from Red-rumped Swallow *H. daurica*.

Lesser Striped Swallows are migratory visitors north of 10°N, where they breed in the rains (Keith *et al.* 1992). The present record, together with B. Lamarche's (*in litt.*) unpublished observations, is the northernmost sighting of this species. The number seen suggests that it may not be merely a vagrant.

The project was supported by Gesellschaft für Technische Zusammenarbeit (GTZ), Ministère de Développement Rural et de l'Environnement (MDRE), University of Nouakchott (Faculté de Science et Technique), and the Swiss and German embassies in Mauritania. VS was supported by the ESF BIRD programme. Mr Hambelli helped with the field work. Tara Shine kindly improved our English.

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First breeding record of Ovambo Sparrowhawk *Accipiter ovampensis* in West Africa

Ovambo Sparrowhawk *Accipiter ovampensis* is a scarce though fairly widespread endemic to woodlands in sub-Saharan Africa (Brown *et al.* 1982). Its movements and breeding patterns are poorly known, and the only breeding records come from southern Africa, where it regularly breeds from September to November (Maclean 1993), and Kenya, where there are single records from May and September (Ferguson-Lees & Christie 2001). It is thought not to breed north of 1°N, and only regularly breeds south of 6°S (Ferguson-Lees & Christie 2001), although juveniles have been recorded in Senegal (Brown *et al.* 1982).

In southern Africa, where it appears to be most common, it is generally resident, although Harrison *et al.* (1996) found it less common in Zimbabwe during the austral winter. In W Africa it occurs throughout the savanna zone as an uncommon to rare intra-African migrant during the wet season (Jun–Oct), from Senegal to Central African Republic (Borrow & Demey 2001), but may be resident in Togo and Ghana (Barlow *et al.* 1997). There is only one published record from Cameroon, of a specimen collected in 1936 (Louette 1981), although there are two doubtful records from Kalamaloué NP in the Far North province from Apr–May 1992 (Scholte *et al.* 1999) and a recent sight record from central Cameroon in Apr 2002 (N. Borrow pers. comm.).

On 21 March 2003, we located two accipiters busy building a nest, in well-developed Sudan-Guinea savanna woodland of the Bénoué National Park, Cameroon (8°20'N, 13°50'E, see Fotso *et al.* 2001). The following diagnosed them as Ovambo Sparrowhawks: dark red iris, orange-yellow cere and legs, three narrow white bands on the tail, white tip to the tail, and underparts barred all the way up to the chin. We watched for about 30 min. as the birds ferried branches back to their nest, a large pile of dry sticks. RH obtained photographs of one of the birds sitting on the nest (Fig. 1).

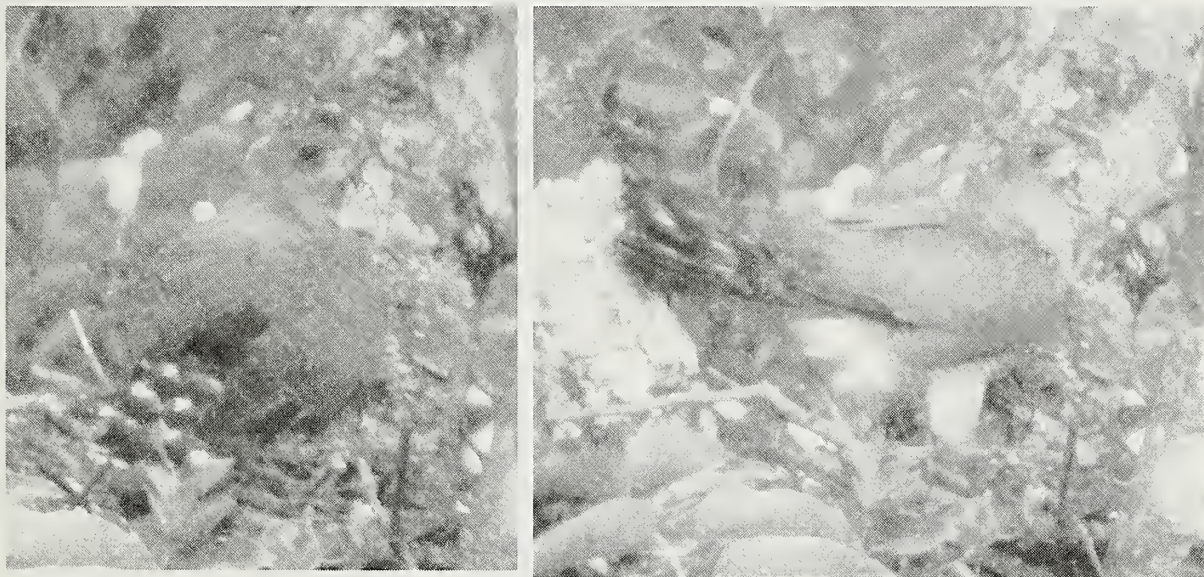


Figure 1. The Ovambo Sparrowhawk in Bénoué N.P., Cameroon. The original colour photos clearly show the red iris and orange-yellow cere (Ed.).

This observation constitutes the first confirmed breeding record of Ovambo Sparrowhawk for W and central Africa. The question now is whether this was an isolated breeding attempt, or whether Ovambo Sparrowhawk regularly breeds in this region.

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Comments on Kizungu *et al.* (2002): the birds of Idjwi, Democratic Republic of Congo

There are several errors in the paper by Kizungu *et al.* (2002). Of the 26 species claimed by the authors as new for Idjwi, one is certainly misidentified and another probably so: *Platysteira albifrons* is an Angola scarp endemic (listed here without this astonishing claim being mentioned) and is probably in error for *P. peltata*, and *Elminia longicauda* is almost certainly in error for the parapatric *E. albicauda* (already known from Idjwi). The total number of acceptable species on the list of Kizungu *et al.* (2002) probably stands, therefore, at 84. Three species claimed as new were in fact already recorded by Prigogine (1967, 1973): *Chrysococcyx cupreus*, *Campephaga sulphurata* (under the name of *C. (phoenicea) flava*) and *Nectarinia erythrocerca* (as *N. erythroceria*). Six other species are not indicated as new, but do appear to be so: *Ardea melanocephala*, *Lophaetus occipitalis*, *Chrysococcyx caprius*, *Apus apus* (if correctly identified), *Dendropicos xantholophus* (surprisingly the only

woodpecker on their list) and *Apalis binotata*. Thus of the 26 species claimed as new, five had already been recorded by Prigogine or have to be deleted, whereas six others were new but are not indicated as such; the number of species new to the Idjwi list therefore is 27. As Prigogine listed 118 species (not 115, as stated by Kizungu *et al.*), the total number of species for Idjwi stands at 145.

No fewer than 61 species recorded by Prigogine (1967, 1973) were not found by Kizungu *et al.* (2002), although some of these were common. These authors claim that extensive deforestation has resulted in the disappearance of many species, but not all those on Prigogine's list that they missed were forest birds, and in our experience many of those that do mainly inhabit forest in this region can be found in secondary situations. We must therefore question the thoroughness of their survey. In any case, the supposed disappearance of such species as *Apalis rufogularis eidos*, *Oriolus percivali*, *Coracina caesia* and *Nectarinia purpureiventris* (for example) requires a more detailed and convincing argument than is put forward here. The avifauna of Idjwi island remains in need of a thorough survey.

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Ectoparasite gleaning of *Sitatunga Tragelaphus spekeii* by Fire-crested Alethe *Alethe diademata* and a bulbul

Most of the documented bird-mammal associations in Africa have been observed in savannas (reviewed in Dean & MacDonald 1981, Vernon & Dean 1988) and include a wide diversity of both bird and mammal species, with most interactions noted being birds taking prey flushed by mammals. However, very few such interactions have been documented within African forests (Vernon & Dean 1988), where visibility is poor and mammals tend to flee when humans approach. This note describes one of the

few records of forest passerines gleaning ectoparasites from a large mammal in closed canopy rainforest in Africa. The only previous record of gleaning by birds in closed forests quoted in Dean & MacDonald (1981) is of Chorister Robin *Cossypha dichroa* gleaning a Nyala *Tragelaphus angasi*.

Ruggiero & Eves (1998) reported bird-mammal associations from the Central African forest in open, sedge-dominated clearings where visibility of mammals was good and observers were located on viewing platforms. Most observations were of birds catching insects disturbed by the mammals' activities, although some birds gleaned ectoparasites from their skins. All their observations were therefore made in roughly the same conditions as a savanna. These clearings are a striking feature of areas of the lowland forests of Central Africa, and are very attractive to some large mammalian herbivores, including Gorilla *Gorilla gorilla*, Forest Elephant *Loxodonta africana cyclotis*, and the aquatic antelope, the Sitatunga *Tragelaphus spekeii* (e.g. Blake 2002, Magliocca *et al.* 2002, Vanleeuwe *et al.* 1998).

Some aspects of Sitatunga population dynamics and ecology have been documented (Manning 1983, Magliocca *et al.* 2002, Owen 1970, Starin 2000) and Ruggiero & Eves (1998) documented three bird species (African Jacana *Actophilornis africanus*, Yellow-billed Oxpecker *Buphagus africanus* and Great Egret *Egretta alba*) gleaning arthropods from their skin. These three bird species, however, tend to be confined to open country, or to isolated patches of dry or swampy savannas embedded within the forest zone. No bird species was observed by these authors to glean arthropods from ungulates whilst actually within the forest itself.

The Mbeli clearing in the northern Republic of Congo is one of the sites mentioned by Ruggiero & Eves (1998). It lies 5 km inside the well-protected Nouabale-Ndoki National Park. There has been an almost continuous research presence (focusing on Gorillas) at the clearing since 1993 (e.g. Parnell 2002, Stokes *et al.* in press), and most of the large mammals visiting the clearing are habituated to human presence, especially at and around the viewing platform. Sitatunga are particularly tame and can be seen resting and feeding both in the clearing and in the closed swamp forest near the platform, often at distances of 10–20 m from the observer.

On 12 Mar 2001, a greenish coloured (unidentified) bulbul (Pycnonotidae) was observed sitting on the back of an adult female Sitatunga in closed forest about 40 m from the viewing platform at Mbeli. The bulbul was gleaning insects from the back of the Sitatunga as it moved through the undergrowth of the swamp. Both animals were completely unconcerned by the presence of the observer. The Sitatunga moved out of sight after about 20 min.

On 16 Mar 2003, a Fire-crested Alethe *Alethe diademata* was seen gleaning arthropods from the ears of a young male Sitatunga which was lying down ruminating in the swamp forest. The bird was mostly perched on the back of the Sitatunga, and leaped to the ears to pick off food, then settled again on the antelope's back. The animals were very close to the previous locality, but about 20 m further into the forest. After about 10 min., the Sitatunga got up and moved around in the undergrowth; the

alethe remained close to it, sometimes perching on its back and sometimes on adjacent vegetation. Finally the Sitatunga and its attendant bird walked out of sight. The antelopes were at no point worried about human presence, which allowed for excellent views of the interactions.

In both cases the Sitatungas were completely unconcerned by the gleaning activities of the birds. When they are hosts to Yellow-billed Oxpeckers *Buphagus africanus*, for example in the Odzala National Park, Congo, Sitatunga show signs of distress, shaking their ears and twitching their skins (pers. obs.). It may be that the smaller bills and weaker pecking of the two bird species observed here are less irritating or painful to Sitatunga than are those of the Oxpeckers. This is the first published record of Sitatunga being gleaned by birds, but other Tragelaphinae (Nyala and Bushbuck *Tragelaphus scriptus*) have been recorded being gleaned by Red-billed Oxpecker *Buphagus erythrorhynchus*, the Turdidae Chorister Robin and Natal Robin *Cossypha natalensis*, and the Pycnonotidae Yellow-bellied Bulbul *Chlorocichla flaviventris* (Dean & MacDonald 1981) and Yellow-spotted Nicator *Nicator gularis* (Roche & Kilpin 2003). Yellow-bellied Bulbul has also been recorded gleaning ectoparasites off Impala *Aepyceros melampus*, Common Duiker *Sylvicapra grimmia*, Red Duiker *Cephalophus natalensis* and Klipspringer *Oreotragus oreotragus* (Currie 1999, Dean & MacDonald 1981, Roberts 1993, 1995).

This sort of interaction between large mammals and birds may be very common in closed forest. It is, however, particularly difficult to observe relaxed ungulates, due to the high levels of hunting pressure in most areas of forested Africa. Hunting pressure is becoming ever greater as access into the last remote forest tracts is facilitated by logging roads throughout Central Africa. It will be increasingly more difficult to find areas where such interrelationships between species can still be observed. Observers in tropical forested Africa are encouraged to be alert for more records of this type, and to act where they can to conserve this intricate, multifaceted forest world.

I thank the government of Congo's Ministry of Forest Economy and the Department of Wildlife and Protected Areas (DWPA), especially Mr J.-P. Onday, Director of the DWPA, and Mr B. Djoni, Conservator of Nouabale-Ndoki National Park, for their support for the Park and for conservation in Congo. In the Wildlife Conservation Society (WCS), I thank Mr Bryan Curran, Director, and Mr J. Mokoko-Ikonga, Assistant Director, both of the WCS Congo Protected Areas Programme. I particularly thank Dr Emma Stokes and Thomas Breuer for their unfailingly warm welcome at Mbeli Bai Research and Conservation Project. At the time of writing, the author was supported by WCS and by a grant from the US Fish and Wildlife Service.

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News & Letters — Nouvelles & Lettres

Eleventh Pan-African Ornithological Congress

The 11th Pan-African Ornithological Congress (PAOC XI) is planned for 21–25 November 2004, in Djerba, Tunisia, with the theme “Birds crossing borders — linking people and habitats throughout Africa”. The convening organisation is the Association “Les Amis des Oiseaux”, BirdLife’s partner in Tunisia.

The congress programme is still being developed but will include sessions on:

- Migration
- Waterbird movements and distribution
- Transfrontier parks and conservation
- Birds in North African tradition and arts

Other papers on any topic related to African ornithology and conservation will also be accepted. Congress languages (simultaneous translation will be ensured) will be French and English. Full information can be obtained from:

Association “Les Amis des Oiseaux” — PAOC XI
Ariana Center, Bureau C 209, Avenue 18 Janvier 1952, 2080 Ariana, Tunisia
Phone/Fax: +216 71 717860; e-mail: aao.bird@planet.tn

Onzième Congrès Ornithologique Pan-Africain

L’onzième Congrès Ornithologique Pan-Africain (PAOC XI) est prévu du 21 au 25 Novembre 2004 à Djerba, Tunisie, avec pour thème “Oiseaux sans frontières — lien entre hommes et habitats à travers l’Afrique”. L’organisateur en est l’Association “Les Amis des Oiseaux”, partenaire de BirdLife en Tunisie.

Le programme du congrès est en cours de préparation, mais il comprendra les sessions suivantes:

- Migration
- Mouvements des oiseaux d’eau et leur répartition
- Aires protégées transfrontalières et conservation
- Oiseaux dans les traditions et les arts nord-africains

Les autres contributions sur les oiseaux et leur conservation en Afrique seront également acceptées. Les langues du congrès seront le français et l’anglais (la traduction simultanée sera assurée). On peut recevoir plus d’information de:

Association “Les Amis des Oiseaux” — PAOC XI
Ariana Center, Bureau C 209, Avenue 18 Janvier 1952, 2080 Ariana, Tunisie
Tél/Fax: +216 71 717860; e-mail: aao.bird@planet.tn

Reviews — Revues

Echassiers, Canards, Limicoles et Laridés de l'Ouest Africain, par O. Girard, 2003. 220 pp., 28 planches. ONCFS, Ile d'Olonne. ISBN 2-910399-59-1, broché. Disponible à: ONCFS, Service documentation, Saint-Benoist, F-78610 Auffargis, France, €20 frais de port inclus.

Voici la seconde version, révisée et augmentée, du livre de Girard (1998) *Echassiers, Canards et Limicoles de l'Ouest Africain* (analysée dans *Malimbus* 21: 64, 1999). Ce guide de poche est destiné d'abord aux personnes effectuant les comptages des oiseaux d'eau dans l'Ouest africain, mais aussi à tous ceux qui, à des titres divers, sont curieux de connaître cette avifaune. Comme dans la première édition, les pélicans et les cormorans sont inclus dans les "échassiers". Il y a deux changements importants dans cette nouvelle édition, l'une étant l'adjonction des Laridés (incluant les Sternidés), ce qui fait passer le nombre d'espèces traitées de 112 à 129.

Pour cette seconde version, les 30 premiers pages de la première version restent pratiquement inchangées, et traitent de sujets tels que méthodes de comptages et de baguage, protection des zones humides. La liste donnée des centres de baguage est plus importante que précédemment et la bibliographie sommaire, mise à jour, est plus longue. Manque en revanche l'annexe des longueurs d'ailes pliées, probablement parce que ces données sont inutiles dans un guide d'identification des oiseaux destiné aux comptages. Le texte est entièrement écrit en français, mais avec toujours référence du nom des espèces en anglais et en portugais.

Il y a aussi une amélioration de la présentation, en particulier dans le texte faisant vis-à-vis aux planches (taille de l'oiseau et caractères de son plumage, observé à terre ou au vol). Les planches de la version originale sont reprises avec des fonds en couleurs tenant compte de la couleur du plumage de l'oiseau, bleu par exemple pour les espèces au plumage à dominance blanche. Il en résulte que les dessins gagnent en lisibilité. Les couleurs sont également plus intenses, donc beaucoup plus ressemblantes. Il y a six nouvelles planches pour les Laridés et les Sternidés.

La deuxième amélioration importante est la description détaillée des espèces, qui maintenant occupent 118 pages contre 49 dans la première édition, avec seulement une espèce par page. Tandis que dans la première version, seules 52 espèces étaient décrites en détail, dans cette nouvelle version elles le sont toutes. Chaque espèce a sa carte tenant compte des dernières connaissances, elle est plus détaillée que dans la première version, et rendue particulièrement lisible par l'utilisation de couleur. Enfin, les espèces ressemblantes à terre ou vol sont signalées avec description sommaire et éventuellement dessins.

On peut regretter un certain manque de rigueur vis-à-vis de la classification. Un rappel des noms des familles regroupées sous le nom de limicoles eût été

pédagogique, mais l'auteur s'en excuse en expliquant que ce livre est d'abord un livre de terrain, dont le nombre d'espèces a été limité à celui retenu lors des comptages.

On ne peut que remercier l'auteur de cet ouvrage, agent de l'Office National de la Chasse et de la Faune Sauvage, spécialiste des canards et des limicoles et professeur d'ornithologie à l'école de faune de Garoua (Cameroun) de nous faire profiter de son expérience des zones humides de l'Ouest africain et le féliciter d'avoir, en moins de cinq ans, complété d'une façon aussi substantielle la première version de son livre.

Marie-Yvonne Morel & Alan Tye

Society Notices — Informations de la Société

Editor's Report for the years 2001–2

Since achieving in 1996 a standard publication schedule (March and September) for the two issues per year, the flow of manuscripts had, until 2002, been sufficient to maintain this schedule, except for delays of a single month for both issues of 1998. Since then, the news has been bad, with a three-month delay in the second issue of 2001, and enough material for only a single issue in 2002, both due to shortage of material. The future looks even bleaker, with not a single full-length manuscript having been received since May 2002, more than one year ago. Statistics for 2001–2 are summarized in Table 1.

Table 1. *Malimbus* publication statistics, 2001–2

	2001	2002
Number of pages	120	48
Scientific papers received	15	16
published	16	7
rejected or withdrawn	3 (20%)	4 (25%)
Book Reviews published	4	2
News & Letters (including Corrigenda) published	5	0
Society Notices published	2	1

Since Volume 1, the average number of pages per volume has been 123. The 2001 volume was close to this average, but there was a sudden drop in 2002, not predicted in my last report (written in March 2001: *Malimbus* 23: 72–74). I noted then a worrying steady decline in submissions, with the number received during 2000 being about half the annual average of the mid-1990s. Since then, submissions of full-length papers have fallen to zero, although Short Notes continue to arrive at the former rate.

What has happened to these full-length papers? To some extent it is clear that material suitable for *Malimbus* has been sent to other journals, such as the *Bulletin of the African Bird Club*. However, surprisingly, the short notes that would be most suitable for the latter and other competitors continue to be submitted to *Malimbus*. Our most serious loss has been the fuller analyses of regional avifaunas, and it is not obvious where these are now going, if indeed they are still being written. The continued dearth of biological and ecological submissions is equally disappointing.

All full-length papers and Short Notes were reviewed by two (occasionally one or three) referees, in addition to the Editor. Referees are acknowledged in each issue as the “Editorial Board”.

Seven papers were rejected or withdrawn by their authors for one or more of the following reasons: inadequate methodology (five), lack of new data (two) or poor presentation (two). The proportion rejected, of those received the same year, was higher

(20–25%) than in previous years (usually 0–10%), but this was not caused by any change in the standards for acceptance. Rejection took place within at most seven months of receipt. Of the 23 scientific papers published, 15 (65%) required revision by their authors (beyond minor editorial changes), a lower proportion than in previous years, perhaps reflecting the smaller proportion of full-length papers published. Revision by authors occupied from 12 days to five years and eight months(!) (median two months), similar to recent previous years. The delay between receiving a final acceptable version of a paper and its publication was one week to 13 months (median 5 months), similar to recent previous years and difficult to reduce further, given our 6-monthly publication schedule. Altogether, including the time taken for review by referees, editing by me and proof-reading by authors, the delay between first receipt of a submission and its publication varied from two months to five years 10 months (median 11 months), with 58% of papers published within one year of receipt.

No Index has been published since that to Volume 17 (1995). I should be interested to hear from any member interested to take on this task.

I should like to express my thanks to all referees for sacrificing their precious time and providing their valuable insights, as well as to Geoffrey Field, Gérard Morel, Bob Sharland, Roger Wilkinson and Hazell Thompson for continuing to manage the journal's printing, distribution, and mailing lists.

Alan Tye

Rapport du Rédacteur pour la période 2001–2

Depuis l'instauration en 1996 d'un rythme normal de deux publications par an (mars et septembre), l'arrivée des manuscrits fut suffisant jusqu'en 2002, excepté pour des retards ne dépassant pas un mois pour les deux numéros de 1998. Depuis lors, la situation s'est détériorée avec un retard de trois mois pour le deuxième numéro de 2001, et juste assez de texte pour un numéro unique en 2002, ces deux faits étant dus à la pénurie de soumissions. L'avenir paraît encore plus sombre car nous n'avons reçu aucun article de fond depuis mai 2002, donc depuis plus d'un an. Les statistiques pour les années 2001–2 sont résumées dans le Tableau 1.

Depuis le Volume 1, le nombre moyen de pages par volume a été de 123. Il faut remarquer que 2001 était proche de la moyenne, mais il y eut une chute brusque en 2002, ce qui n'était pas prévu dans mon dernier rapport (écrit en mars 2001: *Malimbus* 23: 72–74). On remarque alors un inquiétant déclin des manuscrits reçus: ainsi, le nombre reçu au cours de l'année 2000 fut à peu près la moitié du total annuel des années 1990. Depuis lors, l'arrivée des articles de fond est tombée à zéro, bien que celle des Notes Courtes continue au rythme habituel.

Qu'est-il arrivé à ces articles de fond? Il est clair, jusqu'à un certain point, que ce qui aurait pu être envoyé à *Malimbus* l'a été à d'autres revues, telles que le *Bulletin of the African Bird Club*. Pourtant, curieusement, les notes courtes qui auraient dû mieux convenir à ce dernier et autres concurrents continuent d'être soumises à *Malimbus*. Notre

perte la plus sérieuse concerne les analyses d'avifaunes régionales, et on ne voit pas bien où elles vont maintenant, si toutefois elles sont encore rédigées. La pénurie constante de manuscrits sur la biologie et l'écologie est également inquiétante.

Table 1. Statistiques des publications pour 2001–2

	2001	2002
Nombre de pages	120	48
Articles scientifiques reçus	15	16
publiés	16	7
refusés ou retirés	3 (20%)	4 (25%)
Revue de livres publiées	4	2
Nouvelles & Lettres publiées (Errata inclus)	5	0
Nouvelles de la Société publiées	2	1

Tous les manuscrits de fond et les Notes Courtes ont été revus par deux (parfois un ou trois) lecteurs en plus du Rédacteur. Les lecteurs sont cités dans chaque numéro dans le Comité de Rédaction.

Sept articles furent refusés ou retirés par leurs auteurs pour un ou plusieurs des motifs suivants: méthodologie inappropriée (cinq), manque de nouvelles données (deux) ou mauvaise présentation (deux). Le nombre de refus par rapport à ceux reçus cette même année (20–25%) fut plus élevé que les années passées (habituellement 0–10%), mais ce n'était pas dû à quelque changement des critères d'acceptation. Le refus eut lieu tout au plus dans les sept mois suivant la soumission. Sur les 23 articles scientifiques publiés, 15 (65%) exigèrent une révision par leurs auteurs (en plus de changements mineurs de la rédaction), une plus faible proportion que les années précédentes, peut-être due au plus petit nombre de manuscrits de fond publiés. La révision par les auteurs prit de 12 jours à cinq années et huit mois(!) (moyenne deux mois), semblable aux années précédentes. Le délai entre la réception de la version finale d'un manuscrit et sa publication fut d'une semaine à 13 mois (moyenne 5 mois), semblable à celui des années précédentes et difficile à réduire, étant donné notre rythme de parution bisannuel. Au total, c'est-à-dire le temps pris par les lecteurs, mes propres corrections et les lectures d'épreuves par les différents auteurs, le délai entre la première réception d'un manuscrit et sa publication a varié entre deux mois et cinq ans et 10 mois (moyenne 11 mois), 58% des articles étant publiés dans l'année de leur réception.

Aucun index n'a été publié depuis celui du Volume 17 (1995). J'aimerais bien savoir si un membre de la Société désire reprendre ce travail.

Qu'il me soit permis d'exprimer mes remerciements à tous les critiques qui ont pris sur leur temps et donné des avis précieux, à Geoffrey Field, Gérard Morel, Bob Sharland, Roger Wilkinson et Hazell Thompson pour continuer à diriger l'impression de la revue, sa distribution ainsi que tenir à jour la liste des abonnés.

Alan Tye

Instructions aux Auteurs

Malimbus publie des Articles, des Notes Courtes, des Revues de Livres, des Informations, des Nouvelles & Lettres et des illustrations traitant de l'ornithologie ouest-africaine.

Les **Articles** et les **Notes Courtes** doivent être des apports originaux; ceux déjà publiés ailleurs, en partie ou en totalité, seront normalement refusés. Les Notes Courtes sont des articles de moins de 1500 mots (références comprises) ou de trois pages imprimées. Autant que possible, les manuscrits auront été auparavant soumis au moins à un ornithologue ou biologiste pour un examen minutieux. Les manuscrits seront envoyés pour critique à au moins un lecteur compétent.

Les textes des **Nouvelles & Lettres** ne devraient dépasser 1000 mots.

Les **textes** sont acceptés en anglais et en français; la Rédaction pourra aider les auteurs dont la langue maternelle n'est pas l'une de celles-ci. Nous préférons les envois de manuscrits par e-mail (pièce jointe). Pour les envois sur papier, les textes seront tapés en deux exemplaires, d'un seul côté de la page, avec double interligne et larges marges. Consultez l'Éditeur pour tout détail supplémentaire, p. ex. les logiciels compatibles.

Les **conventions** concernant les tableaux, les chiffres, le système métrique, les références, *etc.* peuvent être trouvées dans ce numéro et doivent être soigneusement suivies. Notez en particulier que les dates s'abrègeront comme 2 fév 1990 mais dans un texte pourront s'écrire en entier; que les heures s'écriront comme 6h45, 17h00; que les coordonnées s'écriront comme 7°46'N, 16°4'W; que les nombres jusqu'à dix s'écriront en entier, excepté devant une unité de mesure (p. ex. 6 m), que les nombres à partir de 11 s'écriront en chiffres sauf au début d'une phrase. Toute **référence** citée dans l'article, et aucune autre, doit figurer dans la bibliographie.

Les **articles d'avifaune** doivent comprendre une carte ou une liste des localités citées. Ils devraient donner quelques détails sur le climat, la topographie, la végétation et l'environnement (y compris les événements inhabituels) avant ou durant l'étude (p. ex. pluies tardives, *etc.*). Les **listes d'espèces** ne devraient contenir que des données importantes: les listes complètes ne sont justifiées que pour les régions encore non étudiées ou délaissées pendant longtemps. Autrement, ne citer que les espèces sur lesquelles l'étude fournit de nouveaux faits sur la répartition, la période de séjour, la reproduction, *etc.* Pour chaque espèce, indiquer le statut migratoire, la période de séjour (telle qu'elle ressort de l'étude), l'extension de l'aire, une estimation d'abondance (*Malimbus* 17: 38) et les données datées sur la reproduction. Eventuellement, remplacez les faits dans le contexte en les comparant brièvement avec une liste régionale de référence. Les longues listes d'espèces devraient être sous forme de tableaux (p. ex. *Malimbus* 12: 39–51, 1: 22–28, ou 1: 49–54) ou sous forme de texte des derniers numéros (p. ex. *Malimbus* 12: 19–24, 12: 61–86, 13: 49–66, 16: 10–29). La **séquence taxonomique** et les **noms scientifiques** (et de préférence aussi les **noms vernaculaires**) devraient suivre Borrow & Demey (2002, *Birds of Western Africa*, Christopher Helm, London), ou Dowsett & Forbes-Watson (1993, *Checklist of Birds of the Afrotropical and Malagasy Regions*, Tauraco Press, Liège) ou *The Birds of Africa* (Brown *et al.* 1982, Urban *et al.* 1986, 1997, Fry *et al.* 1988, 2000, Keith *et al.* 1992, Academic Press, London), à moins de donner les raisons de s'écarter de ces auteurs. Un **guide plus complet aux auteurs** d'articles sur l'avifaune, comprenant une notation d'abondance des espèces la plus conseillée, est publié dans *Malimbus* 17: 35–39. On peut en obtenir une copie de la Rédaction, qui se fera aussi un plaisir d'offrir ses conseils sur la présentation de ce genre d'études.

Les **figures** doivent être préparées pour une reproduction directe, permettant une réduction de 20–50%. On préfère les figures préparées sur logiciel graphique approprié et sauvegardées en haute définition. Les fichiers de faible définition et les sorties sur imprimantes de mauvaise qualité seront refusées. Les imprimantes autres que laser sont rarement de qualité acceptable. Les figures sur papier utiliseront d'encre de chine avec du papier blanc de bonne qualité ou calque épais ainsi que des caractères auto-collants selon le cas. Pour le dessin des Figures, tenir compte du format de *Malimbus*. Consulter le Rédacteur pour tout renseignement.

Tous les Articles (mais non les Notes Courtes) comporteront un **Résumé**, n'excédant pas 5% de la longueur totale. Le Résumé mentionnera brièvement les principaux résultats et conclusions de l'Article et ne sera pas un simple compte rendu du travail. Les résumés seront publiés à la fois en anglais et en français et seront traduits au mieux par la Rédaction.

Dix **tirés-à-part** des Articles (mais non des Notes courtes) seront envoyés gratis à l'auteur ou à l'auteur principal. Les tirés-à-part ne seront ni agrafés, ni reliés ou recouverts; ce sont de simples extraits de la revue.

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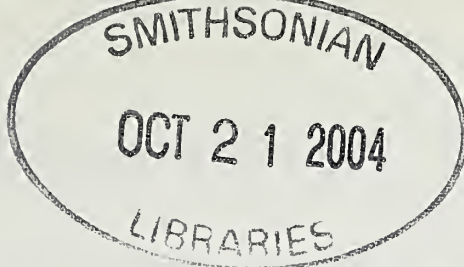
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Timing of moult and new species records of birds in the Lesio-Louna Reserve, Republic of Congo

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Summary

During three periods in 2002, 170 birds were netted, with 42 species identified, in the Lesio-Louna Reserve, Téké Plateau, Republic of Congo. The proportions of birds in primary moult differed between sampling periods. Fewer woodland-forest birds were in moult during the dry Jun–Aug sampling period than in the two wet sampling periods (Feb–Mar, Nov–Dec), suggesting a Nov–Mar moult season. The savanna species exhibited a different pattern, with 67% in moult during the Nov–Dec sampling period, and few in the other two periods. This suggests an earlier moult season than for woodland-forest birds, starting before late November and ending before the end of February. Nine species were added to the previous area list of 236, of which five (*Pogoniulus atroflavus*, *Lamprotornis purpureiceps*, *Ploceus nigerrimus*, *Quelea erythrops*, *Vidua macroura*) are widely recorded in Congo, while two (*Halcyon leucocephala*, *Anabathmis reichenbachii*) are recorded on either side of the Téké Plateau. A record of *Dendropicus elliottii* extends its known distribution south, and one of *Cossypha natalensis* adds to the few for Congo.

Résumé

Rythme de mues et signalement de nouvelles espèces d'oiseaux dans la Réserve de Lesio-Louna, République du Congo. Pendant trois périodes en 2002, 170 oiseaux furent capturés, et 42 espèces identifiées dans la réserve de Lesio-Louna, plateau Téké, République du Congo. Les proportions d'oiseaux en mue des primaires différaient entre les périodes d'échantillonnage. La proportion d'oiseaux de régions boisées en mue était plus faible pendant l'échantillonnage de saison sèche, juin–août, que lors des deux échantillonnages de saison humide (nov–déc et fév–mars), ce qui suggère une

période de mue de novembre à mars. Les espèces de savane montraient un schéma différent, avec 67% de mue au cours de l'échantillonnage de nov-déc, et peu au cours des autres échantillonnages, ce qui suggère une saison de mue plus précoce que pour les oiseaux de régions boisées, commençant avant fin novembre et se terminant avant fin de février. Neuf espèces furent ajoutées à la liste précédente de 236 espèces pour la région, dont cinq (*Pogoniulus atroflavus*, *Lamprotornis purpureiceps*, *Ploceus nigerrimus*, *Quelea erythrops*, *Vidua macroura*) sont largement représentées au Congo, tandis que deux (*Halcyon leucocephala*, *Anabathmis reichenbachii*) sont signalées de part et d'autre du Plateau Téké. Une mention de *Dendropicus elliottii* étends vers le sud sa présente distribution, et une de *Cossypha natalensis* s'ajoute aux quelques données pour le Congo.

Introduction

The Lesio-Louna Reserve, officially titled La Réserve Naturelle des Gorilles de Lesio-Louna, is an area of *c.* 500 km² located 130 km north of Brazzaville in the Republic of Congo (Figure 1). It is bounded by the Louna River to the west, the cliffs of Mâh to the east, the Galingolo River to the north, and a boundary from Mbina to the Louna River to the south. The Reserve comprises a small part of the Téké Plateau, an area of *c.* 58,000 km² in Congo, from Brazzaville in the south to Gamboma in the north, and extending west to Ewo and into Gabon (Dowsett-Lemaire 1997c). The climate of the reserve is similar to that elsewhere on the plateau, with a dry season from late May to Sep, the heaviest rains Oct–Nov and then again Mar–Apr, with a drier period around Jan–Feb (Moutsamboté 1994, Dowsett-Lemaire 1997c). The limited weather data available for 2002 (Table 1) suggest that the survey was conducted during a typical year. The altitude of the reserve ranges from 325 m along the Louna River in the north-west, to 700 m at the top of the cliffs in the south. The major habitat is savanna grassland (*c.* 360 km²) with gallery and swamp forests along the water-courses (*c.* 90 km²), plus some patches of dry forest on higher ground (*c.* 50 km²). Four types of savanna have been classified, based on the dominant species found within each: *Loudetia demeusei* with *Hymenocardia acida*, *Hyparrhenia*, *Loudetia simplex*, and *Loudetia demeusei* (Moutsamboté 1994). Gallery forest is dominated by *Erismadelphus exsul*, with *Xylopia rubescens*, *Uapaca guineensis*, *Vitex rivularis*, *Pycnanthus marchalianus* and *Albizia* sp., while swampy areas also contain *Mitragyna stipulosa*, *Symphonia globulifera* and *Alstonia boonei*, with areas of *Ancistrophyllum secundiflorum* and *Raphia* palms (Moutsamboté 1994). Dry forest on higher ground is often dominated by *Piptadeniastrum africanum*, with other large trees such as *Pentaclethra eetveldeana*, *Pentaclethra macrophylla*, *Entandrophragma angolensis* and *Millettia laurentii* (Moutsamboté 1994).



Figure 1. Location of the Lesio-Louna Reserve and other sites mentioned in the text, in the Republic of Congo.

Table 1. Weather data from Base-Vie, Lesio-Louna Reserve, during 2002.

Period	Mean daily minimum (°C)	Mean daily maximum (°C)	Mean daily temperature (°C)	Rain (total, mm)
2 June to 11 July	-	-	-	0 ¹
12–31 July	20.8	30.5	25.7	0
August	21.1	30.6	25.9	30
September	21.8	31.0	26.4	165 ¹
October	21.6	30.1	25.9	177
November	21.8	30.3	26.0	247
1–16 December	21.7	31.0	26.3	97

¹Following the last rain before the dry season on 1 Jun, the first heavy rains of the next wet season fell on 18 and 19 Sep.

A list of 236 birds for the reserve was presented by Dowsett-Lemaire (1997c), based primarily on a week-long survey of the Mâh region of the reserve in April 1996, but incorporating records from previous visits to the area, and records by L.M. Matteo and others. Since this report, no further observations of the avifauna of the reserve have been published. The current report summarises moult data collected during mist-netting in three distinct seasonal periods in the reserve in 2002, plus a few new species records for the reserve added by opportunistic sightings.

Methods

Mist-netting was conducted at three sites in the reserve: Base-Vie (3°16'S, 15°28'E), Ngondoro (3°12'S, 15°31'E) and Lac Bleu (3°19'S, 15°29'E). Nets were operated during three distinct seasonal sampling periods: 23 Feb to 10 Mar 2002 (late wet season); 2 Jun to 31 Aug 2002, plus one bird captured 25 Sep (dry season) and 28 Nov to 16 Dec 2002 (early wet season). Nets were placed in four broad habitat types: forest interior, forest edge (in savanna but within 10 m of the forest), savanna (>10 m from forest edge, this includes savanna with trees and shrubs) and habitation (within the well established field camp, in savanna close to a small forested river). It should be noted that our classification of "woodland-forest" species includes species of forest interior, forest edge, thickets and heavily wooded savanna. Net effort, quantified as net-hours between 05h00 and 19h00, was unequally distributed between sites (Base-Vie 1222 net-hours, Ngondoro 217, Lac Bleu 37), seasonal periods (Feb–Mar 252, Jun–Sep 859, Nov–Dec: 365), and habitat types (forest interior 266, forest edge 166, savanna 366, habitation 678). Generally, three nets (6 x 2.5 m, 38 mm mesh) were set at a time, almost always at 0.5–5 m from the ground. Whenever possible, nets were left open for two to three consecutive days, although logistical issues often limited net-time.

Birds captured were identified (and sexed if possible) using Borrow & Demey (2001), whose nomenclature we follow. Standard measurements were taken but are not presented in this paper. Each flight feather was assessed for moult, and a bird was recorded as being in moult if at least one primary feather was either growing or still had a sheath. Birds exhibiting primary moult were assigned cumulative scores between 0 and 50 based on a score between 0 and 5 for each primary feather (0 = old feather, 1 = pin, 2 = pin with emerging feather, 3 = half-grown feather, 4 = three-quarter-length feather, 5 = full-grown new feather). Moult scores presented here are for the left wing; right wing scores were generally but not always similar. χ^2 tests for association are presented for comparison of numbers of birds in moult, while the Mann-Whitney U test is used for comparison of moult scores (Chalmers *et al.* 2000).

Opportunistic sightings were also recorded during the three survey periods, but only species considered new to the reserve (*i.e.* not in Dowsett-Lemaire 1997c) are reported here.

Results

Moult

We captured 170 birds, with 42 species identified (Tables 2 and 3). Almost half (48%) of these species were represented by single individuals, and just two species (*Andropadus virens* and *Cyanomitra obscura*) were captured with any regularity. Consequently, individual species totals in the three different study periods are very different, which could invalidate the conclusions of the following analyses (which use grouped data from all species), if moult patterns are different in different species.

Table 2. Number of woodland-forest birds netted in the Lesio-Louna Reserve during 2002, with number in primary moult and moult scores in parentheses.

	Feb–Mar	Jun–Aug	Nov–Dec	Total
<i>Halcyon malimbica</i> Blue-breasted Kingfisher		1		1
<i>Ceyx pictus</i> African Pygmy Kingfisher		2	2(1:41)	4(1)
<i>Merops gularis</i> Black Bee-eater		1		1
<i>Pogoniulus atroflavus</i> Red-rumped Tinkerbird			1	1
<i>P. subsulphureus</i> Yellow-throated Tinkerbird	2		1(1:13)	3(1)
<i>Andropadus virens</i> Little Greenbul	2(1:6)	27(2:9,47)	8(1:0)	37(4)
<i>Thescelocichla leucopleura</i> Swamp Palm Bulbul		3		3
<i>Bleda notata</i> Lesser Bristlebill		2		2
<i>Pycnonotus barbatus</i> Common Bulbul	1(1:41)		3(2:2,23)	4(3)
<i>Nicator chloris</i> Western Nicator	1		1	2
<i>Cossypha natalensis</i> Red-capped Robin Chat		1		1
<i>Sylvietta virens</i> Green Crombec		1	1(1:13)	2(1)
<i>Hylia prasina</i> Green Hylia		1		1
<i>Fraseria cinerascens</i> White-browed Forest Flycatcher			1(1:14)	1(1)
<i>Myioparus plumbeus</i> Lead-coloured Flycatcher	1	2		3
<i>Terpsiphone batesi</i> Bates's Paradise Flycatcher			1	1
<i>Anthreptes aurantium</i> Violet-tailed Sunbird		2		2
<i>Anabathmis reichenbachii</i> Reichenbach's Sunbird	2(1:?)	1(1:27)	1	4(2)
<i>Cyanomitra verticalis</i> Green-headed Sunbird	1		1	2
<i>C. obscura</i> Western Olive Sunbird	2(1:33)	17(4:4,11,33,45)	3(1:11)	22(6)
<i>Chalcomitra amethystina</i> Amethyst Sunbird			1	1
<i>Cinnyris chloropygius</i> Olive-bellied Sunbird		1		1
Nectariniidae sp. unidentified	1		1	2
<i>Spermophaga haematina</i> Western Bluebill			1(1:13)	1(1)
<i>Lagonosticta rubricata</i> Blue-billed Firefinch			1	1
Total	13(4)	62(7)	28(9)	103(20)
Proportion in moult	0.31	0.11	0.32	0.19

Despite the higher net effort in savanna than in forest interior, more woodland-forest species were netted than savanna species; however, woodland-forest species were netted in all habitat types, including savanna if it was close to forest or if it separated two forest patches, while savanna species were not netted in forest.

For the woodland-forest species, the proportion of birds moulting their primary wing feathers was significantly different between the three seasonal sampling periods ($\chi^2_2 = 6.585$, $P < 0.05$) with 11% in moult during the dry Jun–Aug sampling period, compared to 31% and 32% in the two wet sampling periods (Table 2). Further, the moult scores for these species during the early wet sampling period (Nov–Dec) were generally low (seven of nine less than 15), while during the other two sampling periods the moult scores were apparently but not significantly (U test, $P > 0.05$) more advanced (six of ten greater than 25) (Table 2).

The savanna species exhibited a significantly different pattern of moult timing in comparison to the woodland-forest species (using woodland-forest moult proportions to generate expected frequencies for savanna species: $\chi^2_2 = 13.09$, $P < 0.01$).

Table 3. Number of savanna birds netted in the Lesio-Louna Reserve during 2002, with number in primary moult and moult scores in parentheses.

	Feb–Mar	Jun–Aug	Nov–Dec	Total
<i>Caprimulgus natalensis</i> Swamp Nightjar		3		3
<i>Merops variegatus</i> Blue-breasted Bee-eater		6		6
<i>Dendropicos fuscescens</i> Cardinal Woodpecker			1(1:27)	1(1)
<i>Mirafra rufocinnamomea</i> Flappet Lark		1(1:0)		1(1)
<i>Myrmecocichla nigra</i> Sooty Chat		1	2(2:16,27)	3(2)
<i>Cisticola galactotes</i> Winding Cisticola			1(1:8)	1(1)
<i>C. natalensis</i> Croaking Cisticola		1		1
<i>Prinia subflava</i> Tawny-flanked Prinia	3	1		4
<i>Camaroptera brachyura</i> Grey-backed Camaroptera	2		2	4
<i>Malaenornis pallidus</i> Pale Flycatcher			1	1
<i>Passer griseus</i> Northern Grey-headed Sparrow	1			1
<i>Ploceus nigerrimus</i> Vieillot's Black Weaver	21(1:8)	1	1	23(1)
<i>Quelea erythrops</i> Red-headed Quelea		1		1
<i>Euplectes macrourus</i> Yellow-mantled Widowbird			1	1
<i>Euplectes</i> sp. unidentified	1			1
<i>Estrilda melpoda</i> Orange-cheeked Waxbill	3			3
<i>Lonchura cucullata</i> Bronze Mannikin		2(1:23)		2(1)
<i>Serinus atrogularis</i> Black-throated Seedeater			9(8:23,24,26, 33,38,39,45,45)	9(8)
<i>Emberiza tahapisi</i> Cinnamon-breasted Rock Bunting	1(1:45)			1(1)
Total	32(2)	17(2)	18(12)	67(16)
Proportion in moult	0.06	0.12	0.67	0.24

The proportion of savanna birds moulting their primaries was significantly different between the three seasonal periods ($\chi^2_2 = 24.972$, $P < 0.01$), but low proportions were in moult during the Feb–Mar and Jun–Aug sampling periods (6% and 12% respectively), while a very high proportion were in moult during the Nov–Dec period (67%) (Table 3). Also, the moult scores during the Nov–Dec sampling period were significantly more advanced than for the woodland-forest species during the same period ($U = 17.5$, $p < 0.05$), with ten of 12 scores over 20 (Table 3).

New records

The mist-net survey produced five new species records for the Lesio-Louna Reserve, and a further four were added by sightings, as detailed below. These records bring the total number of species reported in the area to 245.

***Halcyon leucocephala* Grey-headed Kingfisher.** One adult observed for several minutes, perched on low branches of forest-edge trees and nearby *Hymenocardia acida* trees in savanna, Base-Vie, 26 Jul 2002. A new record for the Téké Plateau, although already known from the Brazzaville area to the south and Odzala to the north (Dowsett & Dowsett-Lemaire 1989, Dowsett-Lemaire 1997a).

***Pogoniulus atroflavus* Red-rumped Tinkerbird.** One mist-netted in scrubby savanna close to gallery forest, Base-Vie, 9 Dec 2002. Widely recorded elsewhere in Congo (Dowsett & Dowsett-Lemaire 1989, Borrow & Demey 2001).

***Dendropicos elliotii* Elliot's Woodpecker.** One observed for > 2 min., perched on vine within gallery forest at Base-Vie, 12 Dec 2002. A new record for the Téké Plateau, and an extension of the known range of this species, east from Gabon and south from NW Congo (Borrow & Demey 2001, Dowsett-Lemaire & Dowsett 1998).

***Cossypha natalensis* Red-capped Robin Chat.** One mist-netted in riverside gallery forest at Base-Vie, 4 Jun 2002, around 6h00. Few records and poorly known in Congo, this is a new record for the Téké Plateau. Previous Congo records from Ménengué in Kouilou (Dowsett-Lemaire & Dowsett 1991), Dimonika & Manenga in Mayombe and the Brazzaville region (references in Dowsett & Dowsett-Lemaire 1989).

***Anabathmis reichenbachii* Reichenbach's Sunbird.** Mist-netted four times, three of them in nets located close to the forest edge along a large stream (Ngondoro, 5 Mar 2002 (2), 20 Jul 2002), the last in scrubby savanna near a small river (Base-Vie, 1 Dec 2002). A new record for the Téké Plateau, but not unexpected due to previous records from Kouilou, Odzala and Nouabalé-Ndoki (Dowsett-Lemaire & Dowsett 1991, Dowsett-Lemaire 1997a,b).

***Lamprotornis purpureiceps* Purple-headed Glossy Starling.** One pair observed in savanna trees close to forest-edge and small river, Base-Vie, 26 May 2002. Already known from the Téké Plateau (Gamboma) and widely recorded elsewhere in Congo (Dowsett & Dowsett-Lemaire 1989).

***Ploceus nigerrimus* Vieillot's Black Weaver.** Breeding colonies at both Base-Vie and Ngondoro, mist-netted at both locations. Widespread and common throughout Congo (Dowsett & Dowsett-Lemaire 1989, Borrow & Demey 2001).

***Quelea erythrops* Red-headed Quelea.** One female or non-breeding male mist-netted at Ngondoro, 30 Aug 2002. Widespread and locally common in Congo but subject to seasonal movements (Dowsett & Dowsett-Lemaire 1989, Dowsett-Lemaire & Dowsett 1991, Dowsett-Lemaire 1997a, Borrow & Demey 2001).

***Vidua macroura* Pin-tailed Whydah.** A male in breeding plumage observed at Ngondoro, 6 Mar 2002. A widespread species (Dowsett & Dowsett-Lemaire 1989, Borrow & Demey 2001).

Discussion

In the southern tropics of Africa, moult often occurs between December and April, following a peak in breeding activity at the end of the dry season or beginning of the rains (Dowsett-Lemaire & Dowsett 1991). In Congo, two moult studies are available, from Odzala National Park in northern Congo (Dowsett-Lemaire 1997d) and the Kouilou basin in the south-west (Dowsett-Lemaire & Dowsett 1991) (see Figure 1). In Odzala, forest birds exhibited two main periods of moult, with some *Andropadus* (especially *A. virens*) moulting Aug–Dec, while most other species moulted Jan–Apr. In Kouilou, forest birds appeared to begin moult only in Jan, with just 6% and 8% recorded in moult in Nov and Dec respectively.

Our results suggest a moult pattern somewhat different from these, with a relatively high 32% of woodland-forest birds in moult during the Nov–Dec sampling period. Most of these birds were in very early moult, implying that moult had started no earlier than Nov. As elsewhere, the moult season appeared to continue to the Feb–Mar sampling period, when 31% of woodland-forest birds were still in moult.

Sample sizes are too small to draw conclusions about most individual species, but *Cyanomitra obscura* at least appears not to follow this general trend. As reported for this species in Odzala (Dowsett-Lemaire 1997d), birds in moult were netted throughout our sampling periods, with highly variable moult scores. This suggests a lack of strong seasonality in moult, and probably therefore breeding, in this common species.

The timing of moult of savanna species appears different from that of woodland-forest species. During the Nov–Dec sampling period, 67% of savanna birds netted were in moult, many with advanced moult scores. By the Feb–Mar sampling period, just 6% were in moult. These results suggest an earlier moulting season than for forest birds, starting well before the end of November (perhaps as early as September, but certainly by October), and ending before the end of February. Data for savanna birds elsewhere in Congo is limited, although Dowsett-Lemaire (1997d) found a high proportion of savanna birds moulting or in fresh plumage in early April in Odzala.

The relationship between moult and breeding seasons has been the subject of much debate. For afrotropical birds, good reviews are given by Wilkinson (1983) and Dowsett-Lemaire (1997d). The latter found little evidence of overlap between

breeding and moult in individual birds, with only small numbers of two or three species suggesting exceptions to a rule. She argued that the only reliable records of breeding-moult overlap come from more seasonal habitats than tropical forest, or from areas of unpredictable rainfall. Her extensive studies in Congo and Gabon provided strong evidence that the onset of flight feather moult is relatively fixed within the annual cycle of birds there, and may be the major factor determining the end of breeding. If this is so in our area, and if there is indeed an earlier moulting season in the Lesio-Louna Reserve than elsewhere in Congo, this may suggest a corresponding difference in timing of breeding. In accordance with this suggestion, during a week's visit to the Lesio-Louna Reserve in April 1997, F. Dowsett-Lemaire (*in litt.*) observed breeding activity in several species (*Eupodotis senegalensis*, *Hirundo fuligula*, *H. abyssinica*, *Bleda notata*, *Cisticola juncidis*, *C. brachyptera*, *Muscicapa cassini* and *Cinnyris cupreus*), indicating egg-laying for March or April. She also noted an unusually high level of vocal activity in both forest and savanna species, as at Lékoni (Gabon) on the Téké Plateau, in April 2000. These observations contrast with those she made elsewhere in Congo, and suggest that there is indeed more breeding activity at that time on the Téké Plateau than further north (Odzala) or on the coast (Kouilou).

Of the nine new species records for the reserve, five (*Pogoniulus atroflavus*, *Lamprotornis purpureiceps*, *Ploceus nigerrimus*, *Quelea erythroptus* and *Vidua macroura*) are widely recorded elsewhere in Congo (Dowsett & Dowsett-Lemaire 1989, Borrow & Demey 2001). The remaining four are new species records for the Téké Plateau, although two, *Halcyon leucocephala* and *Anabathmis reichenbachii*, fill a gap between records on either side (Dowsett & Dowsett-Lemaire 1989, Dowsett-Lemaire 1997a,b, Dowsett-Lemaire & Dowsett 1991). The record of *Dendropicus elliottii* appears to represent a small southern extension to its known distribution (Dowsett-Lemaire & Dowsett 1998, Borrow & Demey 2001), while that of *Cossypha natalensis* adds to the few records available for Congo (Dowsett & Dowsett-Lemaire 1989, Dowsett-Lemaire & Dowsett 1991), but its true status in the country remains uncertain.

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Songs of Mali Firefinch *Lagonosticta virata* and their mimicry by Barka Indigobird *Vidua larvaticola* in West Africa

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Summary

Vocalizations of Mali Firefinch *Lagonosticta virata* are distinct from other firefinches in having a long whistle “fee”, a downslurred harsh “kyah”, several slow and fast trills, and a distinctive “churrrr” excitement call. These support their distinctiveness as a species. All vocalizations of Mali Firefinch are mimicked in the songs of certain Barka Indigobirds *Vidua larvaticola*, a brood parasite with populations that mimic songs of several host species. We describe the song and calls of *L. virata* and their song mimicry by the indigobird, and suggest that populations of the indigobird have switched from Black-faced Firefinch *L. larvata* to parasitize Mali Firefinch.

Résumé

Les chants de l’Amarante de Koulikoro *Lagonosticta virata* et leur imitation par le Combassou de Barka *Vidua larvaticola* en Afrique de l’Ouest. Les vocalisations de l’Amarante de Koulikoro *Lagonosticta virata* sont distinctes de celles des autres amarantes en ayant un long sifflement “fee”, un “kyah” descendant rauque et indistinct, plusieurs trilles lents et rapides, et un cri d’excitation particulier “churr”. Ces particularités sont caractéristiques d’une espèce. Toutes les vocalisations de l’Amarante de Koulikoro sont imitées dans les chants de certains Combassous de Barka *Vidua larvaticola*, parasite des nids avec des populations qui imitent les chants de plusieurs espèces-hôtes. Nous décrivons les chants et cris de *L. virata* et l’imitation du chant par le combassou, et suggérons que les populations du combassou sont passées de l’Amarante masqué *L. larvata* au parasitisme sur l’Amarante de Koulikoro.

Introduction

Although Mali Firefinch *Lagonosticta virata* is morphologically and genetically distinct from other firefinch *Lagonosticta* species (Sorenson et al. 2003, Payne 2004) their songs have been incompletely documented (Nicolai 1982). Most indigobird species are host specific, mimicking songs and parasitizing a single estrildid species, mainly firefinches, with most parasite-host associations known only through song mimicry (Nicolai 1964, Payne 1982, 1998). We carried out field and aviary studies to determine the songs of *L. virata* and song mimicry by indigobirds that occur in the same geographic region.

The common name “Barka Indigobird” is here used for *Vidua larvaticola*, as in Payne (2004). In the original species description (Payne 1982), “Baka” Indigobird was used, with the etymological rationale of using a greeting term of the local Hausa people (much as “Jambandu”, a Fulani greeting, was used for another indigobird species there described). Later in 1982, R. Wilkinson (*in litt.*) drew my attention to the fact that, according to standard Hausa-English dictionaries, “Barka” is correct.

Study areas and methods

Field observations were carried out in September 1999 and October 2000 in Mali, between Bamako and Koulikoro at Tienfala forest reserve (12°55'N, 7°42'W) where Mali Firefinch *L. virata* were previously observed (Nicolai 1982, Wheatley 1985). *L. virata* is known in aviculture as Kulikoro Firefinch. The habitat at Tienfala was rocky hillside and surrounding grassy woodland, as illustrated in Hinze (2001). *L. virata* were common; Red-billed Firefinches *L. senegala* were the only other firefinches seen there. A bird dealer in Bamako had many *L. virata* in his aviaries and was told by his collectors they were caught east of Tienfala. *L. virata* occur westward to E Senegal and eastward as far as Fiko near Bandiagara escarpment in central Mali. Previous records of “*L. rubricata*” in Mali refer to *L. virata* (Lamarche 1981, Payne 1997, 2004). Song mimics of *L. virata* at Tienfala were identified in the field as Barka Indigobird *Vidua larvaticola*, by observing it at close range and in a mist-net. We tape recorded songs of two male indigobirds mimicking the calls and songs of this firefinch. One was an adult with bluish-green plumage gloss, brown wings and pale feet; the other was in sparrowy plumage.

Wild-caught indigobirds and estrildid finches were obtained from bird dealers in Dakar, Senegal. Specimens of captive birds from Dakar (origin unknown) were compared with museum series taken in the field. CRB interviewed two dealers in Dakar; both reported their birds originated in Senegal, Guinea and Mali. An earlier dealer's lot of birds from SE Senegal (Goudiry) had *L. virata* and Vinaceous Black-faced Firefinch *L. larvata vinacea* (Centre National pour la Recherche Scientifique et Technique (CNRST, formerly ORSTOM) collection at Mbour, Senegal; Morel &

Morel 1990, Payne 1997). Finches are legally caught in SE Senegal with Kédougou as the gathering centre. Field counts around Kédougou and elsewhere in Senegal by CNRST and the Direction des Eaux, Forêts, Chasses et de la Conservation des Sol, estimate population numbers to calculate a sustainable harvest (P. Reynaud pers. comm.). We suspect SE Senegal was the site of origin of our captive birds.

Firefinches and their indigobird song mimics were tape recorded both in the field in Mali and in captivity in The Gambia, using a Sony TC-D5M cassette recorder and 33 cm parabolic reflector. Songs were displayed using a Kay Elemetrics Digital Sound Processor from 0–16 kHz using a 256 points per s (234 Hz) filter and printed with a Mitsubishi P61U printer. We determined song mimicry by visually comparing audiospectrograms of each song of each indigobird with audiospectrograms of recordings of the estrildids. Such comparisons by different observers give consistent and repeatable results (Payne *et al.* 2000a). Field and aviary recordings, and bird specimens, are in the University of Michigan Museum of Zoology (UMMZ). Recordings (Barlow *et al.* 2001) are also in the Wildlife Sounds Archive, British Library, London

Mali Firefinch *Lagonosticta virata* and its indigobird song mimic

Calls and songs of *L. virata* are readily identified in the field (Fig. 1). (1) A short-distance contact call (“tschek” or “kyah”) rises rapidly in pitch from 1.0 to 2.8 kHz then falls slowly to 1 kHz and lasts 0.2 s; it is similar in form to the contact call “peeeh” of *L. rara* in temporal pattern, nasal tone and harmonic overtones. (2) A long-distance contact call “feeee” is a single whistle, usually held at one pitch *c.* 3 kHz and 0.8 to 1.0 s in duration, sometimes rising or falling in pitch (“doooeey”) or displaying a harmonic overtone with the fundamental lower than in simple “feeee”. (3) Alarm call or contact note is a distinctive rattling trill, “churrrr”, with each note falling from 1.9 to 1.2 kHz or rising from 1.9 to 2.0 kHz then falling to 1.2 kHz, the notes with a harmonic peak at 3.8 kHz and overtone at 5 kHz, repeated 20–22 notes per s, somewhat as in Jameson’s Firefinch *L. rhodopareia* but louder, deeper-pitched and more mellow. (4) A slower variant “choorrrr” (Fig. 1). (5) A series of whistled trills, the notes either rising or falling in pitch.

Calls of *L. virata* were described briefly but not recorded by Burkhard (1961) and Goodwin (1982). Nicolai (1982) had audiospectrograms of “feeee”, “kyah” and “churrrr”, corresponding with calls recorded in the present study, but he reported an absence of trills. Later (J. Nicolai pers. comm.) he recorded trills as well. The distinctive calls of *L. virata* are “churrrr”, wheeze “kyah” and whistle “feeee”, while their whistled trills are similar to trills of some other firefinches (Payne 1973, 1982, 1998).

Calls of *L. virata* in the field and captivity are similar. Indigobirds at Tienfala mimicked most calls and songs of *L. virata* (Fig. 2). Compare Figs. 1 and 2, particularly Fig. 1 a–c, e with Fig. 2 a, b (feeee”); Fig. 1 d–g with Fig. 2 c, d (“kyah”); Fig. 1 g–h with Fig. 2 e–g (“churrrr”); Fig. 1 i–l with Fig. 2 h–m (trills).

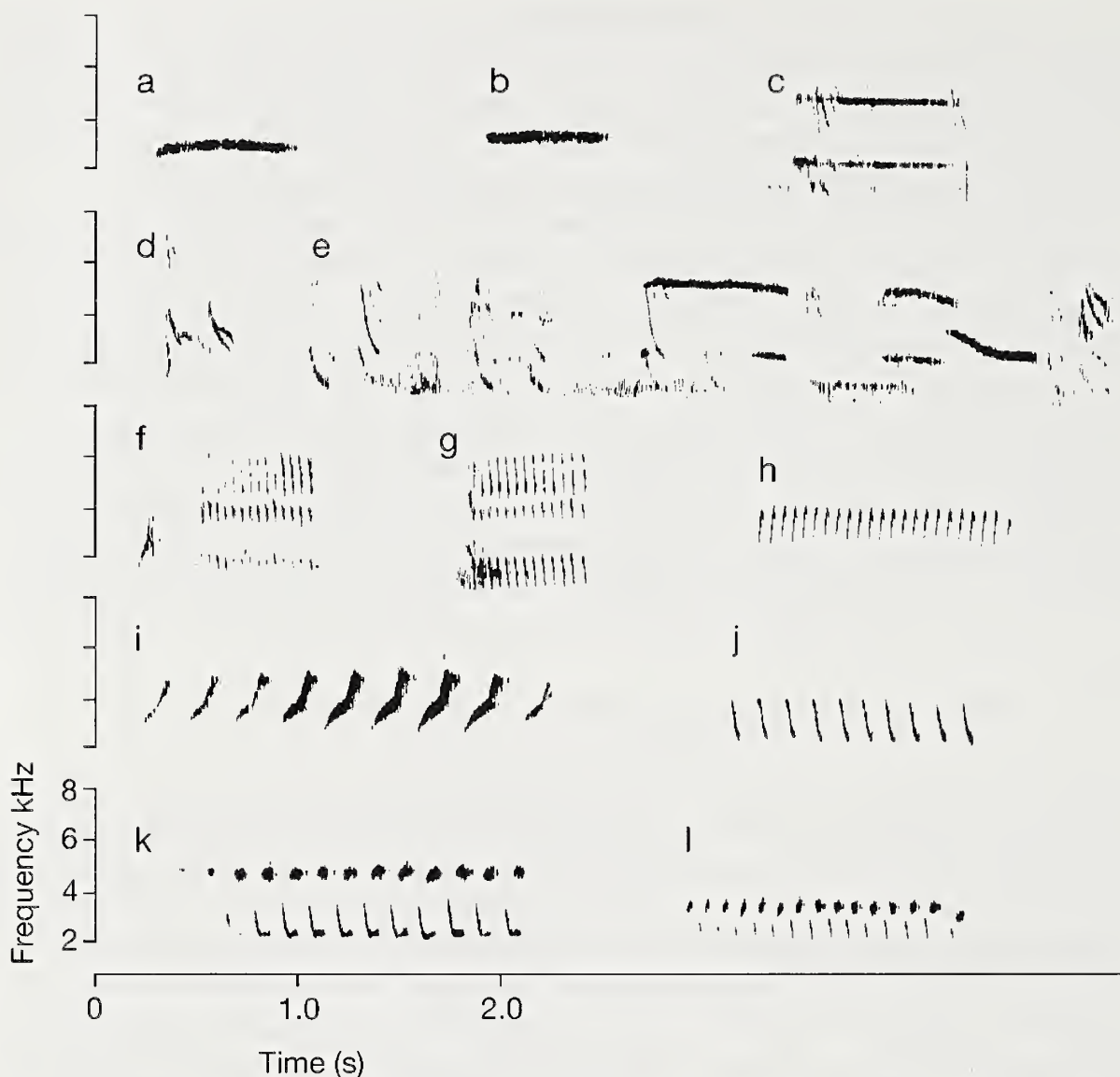


Fig. 1. Songs and calls of Mali Firefinch *Lagonosticta virata*: a–c, “feeee”; d, “kyah”; e, “kyah” of one bird with “feeee” of its mate; f, g, h, “churrrr”; i, j, simple trills; k, l, complex trills. Source of recorded birds: e, g, h, i, k, l, Tienfala, Mali; a–d, f, j, captives.

Indigobird song mimicry of *L. virata* was first recognized in a male *Vidua* obtained from a bird dealer in Dakar. CRB recorded its songs from Dec 1999 through March 2000, when it was saved as a specimen (UMMZ 236300), in blue-green breeding plumage with brown wings and pale feet. Songs of Tienfala indigobirds were similar to those of the captive, with the mimetic songs “feeee”, “kyah”, “churrrr” and various trills (Fig. 2). The song mimicry strongly indicates a host–brood parasite association between these birds. The wing of UMMZ 236300 is 64 mm, compared with 64–68 mm (mean 66.4, $n = 18$) for male *V. larvaticola* (UMMZ) that mimicked songs of *L. larvata*. Comparison of specimen UMMZ 236300 with other

UMMZ specimens of known song mimicry of *L. larvata* confirmed its identification as *V. larvaticola*.

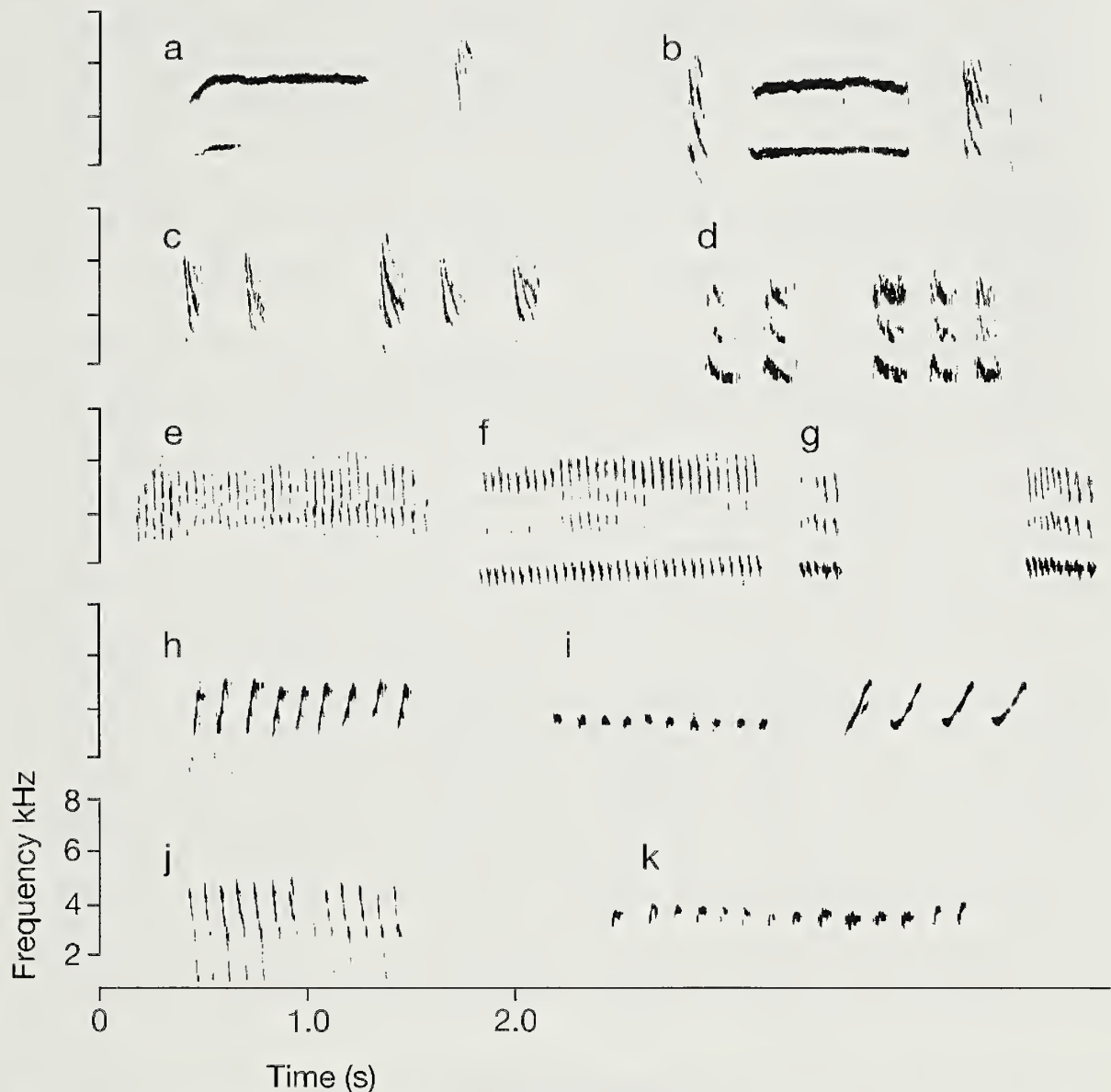


Fig. 2. Mimicry songs and calls of Mali Firefinch *L. virata* by *V. larvaticola*. a, b, “feeee” with introductory and terminal “kyah”; c, d, “kyah”; e–g, rattling trill (e, f, “churrrr”, g, “choorrrr”)h–k, trills. Source of recorded birds: a, b, c, e, i, Tienfala, Mali; d, f, g, h, j, k, captive.

Discussion

Songs and calls of *L. virata* are distinct from the songs and calls of other firefinches including the most closely related Rock Firefinch *L. sanguinodorsalis*, Chad Firefinch *L. umbrinodorsalis* and *L. rhodopareia* (Payne 1973, 1998, Brunel *et al.* 1980). *V.*

larvaticola normally parasitizes *L. larvata*, and *L. virata* occurs in more arid regions than *L. larvata*, although they overlap in Senegal. At Goudiry, E Senegal, the only known site of *L. virata* in Senegal, *L. larvata vinacea* also occurs (Payne 1997). The males of the morphologically similar *V. larvaticola* and Cameroon Indigobird *V. camerunensis* have greenish or bluish breeding plumage, brown wings and pale feet (Payne 1982) but *V. larvaticola* is more greenish and the wing primaries are darker in fresh plumage. *V. larvaticola* usually occur in drier habitats than *V. camerunensis*, although the two overlap in N Nigeria. Nestling mouth colours of *V. larvaticola* in Nigeria match those of the host young of *L. larvata* (Payne 1982, Payne & Payne 1994) and it would be instructive to determine the mouth colours of young indigobirds reared by *L. virata*.

There are no records of nests or brood parasitism of *L. virata*. The song mimicry of *L. virata* by *V. larvaticola* suggests a recent host switch by this indigobird. Certain host–parasite associations have been substantiated by observations of mixed broods of host and indigobird, and by song mimicry of the host by the indigobird (Payne 1973, 1982). Behaviour experiments confirm that male indigobirds learn the songs of their foster species, and females imprint to the songs of their foster species and lay eggs in the nest of the same foster species (Payne *et al.* 1998, 2000b, 2001). The molecular genetic variants that are shared across indigobird species and the occurrence of male indigobirds with the appearance of one species and song mimicry of a host not the normal host of that species indicate the success of occasional host switches by indigobirds from one to another host species (Klein & Payne 1998, Payne *et al.* 2002, Sorenson *et al.* 2003). The mitochondrial genes that have been characterized and compared to date are not diagnostic for species identification of the indigobirds. Finally, in *V. camerunensis*, song mimic populations are sympatric across a wide geographic area, and the genetic similarity between these populations suggest that other indigobirds have switched from one host species to another within W Africa (Klein & Payne 1998, Sorenson & Payne 2002, Sorenson *et al.* 2003, Payne 2004).

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Notes sur l'Echenilleur caronculé *Lobotos lobatus*

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Résumé

L'Echenilleur caronculé *Lobotos lobatus* est un oiseau rare et local, de la Sierra Leone au Ghana, et menacé par la destruction de la forêt. Son statut et sa distribution sont ici révisés. L'espèce a été observée en 1999 dans la région de Divo, dans le sud de la Côte d'Ivoire, ce qui constitue un nouveau site. Ces observations sont présentées, avec des notes sur le comportement et le plumage de cet oiseau mal connu.

Summary

Note on the Western Wattled Cuckoo-shrike *Lobotos lobatus*. The Western Wattled Cuckoo-shrike is a rare and local bird from Sierra Leone to Ghana, and is threatened by forest destruction. Its status and distribution are reviewed. Observations in 1999 in the Divo area, south-central Ivory Coast, a new locality, are presented, with notes on behaviour and plumage of this little-known bird.

Introduction

Endémique du bloc forestier de Haute-Guinée, l'Echenilleur caronculé *Lobotos lobatus* est connu de cinq pays: Ghana, Côte d'Ivoire, Guinée, Libéria et Sierra Leone. Une observation au Nigéria pourrait plutôt se rapporter au très voisin Echenilleur loriote *L. oriolinus*, avec lequel il est peut-être conspécifique (Keith *et al.* 1992, Elgood *et al.* 1994).

L'oiseau est répandu et localement fréquent au Libéria (Gatter 1997) mais semble beaucoup plus rare ailleurs. La population sierra-léonaise, restreinte à la Forêt de Gola, a beaucoup diminué depuis les années 1970 (Allport *et al.* 1989). En Guinée, l'oiseau est uniquement connu du Massif de Ziama, où il est peu commun (Halleux 1994); il pourrait toutefois se rencontrer dans d'autres forêts du sud-ouest du pays, peu prospecté par les ornithologues. Au Ghana, d'où le spécimen type est réputé provenir, l'espèce a été collectée trois fois entre 1875 et 1937 (Grimes 1987, Keith *et al.* 1992) mais aucune observation n'a été publiée depuis; Gartshore (1989) cite une observation récente par M. Taylor, mais ne donne aucune précision. Des recherches à

la fin des années 1980 (Dutson & Branscombe 1990) n'ont pas permis de retrouver l'oiseau, qui semble donc très rare dans ce pays, voire au bord de l'extinction.

En Côte d'Ivoire, l'Echenilleur caronculé est très local, présent surtout dans l'ouest du pays. On le connaît des localités suivantes: Parc National de Taï, où il n'est pas rare (Thiollay 1985, Gartshore 1989, Demey & Fishpool 1991, Gartshore *et al.* 1995); Réserve du Mont Nimba (Gartshore 1989, Yaokokore-Beibro 1997); Parc National de la Marahoué (Demey & Fishpool 1991), probablement très rare sur ce site, n'a pas été revu par Christy & Schulenberg (1999) ni par H.J. Rainey (com. pers.); Mont Kopé (Gartshore *et al.* 1995.); Forêt classée de Mopri (Gartshore *et al.* 1995.); Forêt classée de la Bossématié (Yaokokore-Beibro & Ellenberg 2000).

Connu de tous les types de forêts depuis les plus humides (Mont Kopé) jusqu'aux lisières nord de la zone forestière (Marahoué), l'oiseau semble curieusement absent de nombreuses localités apparemment favorables, comme la réserve de Lamto, la Forêt classée de Yapo (Demey & Fishpool 1991), les Parcs Nationaux du Mont Péko (H.J. Rainey com. pers.) et du Banco (obs. pers.). Gatter (1997) a d'ailleurs fait le même constat au Libéria.

Si la répartition de cet oiseau n'est pas très bien connue, ses préférences écologiques et ses moeurs le sont encore moins. Keith *et al.* (1992) le disent restreint à la forêt primaire, bien qu'il ait été observé en forêt dégradée (Allport *et al.* 1989), dans des plantations de café et de cacao avec arbres d'ombrage (Gartshore 1989, Demey & Fishpool 1991, Gatter 1997) et même dans des plantations forestières de framiré *Terminalia ivorensis* (Gartshore *et al.* 1995). Son adaptation réelle à de tels milieux reste discutable: les observations citées ont eu lieu en périphérie de réserves comportant encore d'importantes surfaces de forêt primaire, comme le Parc National de Taï (Demey & Fishpool 1991) ou la Réserve du Mont Nimba (Gartshore 1989), ou bien (en forêt de Mopri) dans des zones récemment défrichées et plantées où l'oiseau pourrait être une "relique" (Gartshore *et al.* 1995). L'oiseau fréquente essentiellement la canopée entre 20 et 50 m de hauteur (Keith *et al.* 1992, Gatter 1997), descendant rarement jusqu'à 6 m (Gartshore 1989). Il se joint parfois aux rondes d'insectivores; toutefois, au Libéria, plus des deux tiers des observations ont eu lieu en dehors de ces rondes (Gatter 1997).

Observations

La région de Divo (5°50'N, 5°22'W), jusqu'ici totalement délaissée par les ornithologues, se trouve à la limite des forêts sempervirentes et semi-décidues, à c. 50 km à l'ouest de la forêt de Mopri, où l'Echenilleur caronculé a été signalé (Gartshore *et al.* 1995). Lors d'une visite de deux jours dans la région (31 oct et 1 nov 1999), j'ai pu observer à quatre reprises l'oiseau, ce qui suggère qu'il soit loin d'y être rare.

Ecologie et comportement

Deux jours de suite, j'ai observé un petit groupe de 5–6 oiseaux à l'hôtel Djiboua, en

périphérie est de la ville de Divo, dans un milieu de lambeaux de forêt défrichée, où seuls quelques arbres de taille moyenne ont été épargnés, et présentant par conséquent une canopée très ouverte. Les oiseaux venaient s'y nourrir tôt le matin, explorant le feuillage entre 4 et 10 m de hauteur. Plusieurs étaient attirés par un *Albizia* en fleurs, en compagnie de soui-mangas (Nectariniidae) et de Pouillots siffleurs *Phylloscopus sibilatrix*. Les oiseaux furent observés dans de bonnes conditions et à c. 10 m de distance ou moins. Un comportement très remarquable, et qui ne semble pas avoir été noté jusqu'à présent, consistait à courir sur les branches obliques, à la manière des autres échenilleurs ou des *Malimbus*, mais bien plus rapidement. Le vol est assez reconnaissable: les oiseaux volent lentement, d'arbre en arbre, et toujours les uns à la suite des autres, tenant leur queue à demi étalée et lançant continuellement un "tseet-tseet" déjà mentionné par Gartshore (1989), Keith *et al.* (1992) et Halleux (1994); excepté ce cri, faible et audible uniquement à courte distance, l'oiseau semble être silencieux.

Les deux autres observations eurent lieu sur la station de recherche du Centre National de Recherche Agronomique (CNRA), à 20 km au sud-est de la ville de Divo. Cette station couvre 3600 ha dont 2000–2500 de forêt encore bien conservée, le reste étant occupé par des plantations (cacao, café, hévéa, palmiers). En lisière de forêt dense, deux Echenilleurs caronculés exploraient le feuillage d'un *Piptadeniastrum africanum*, entre 10 et 20 m de hauteur. Ils attrapaient régulièrement des insectes au vol à la manière des gobe-mouches. Un Lorient à tête noire *Oriolus brachyrhynchus* se tenait non loin d'eux et la séparation des deux espèces, même à distance, était immédiate. Le même jour, un peu plus loin sur la station, j'aperçus trois oiseaux en vol au-dessus de la forêt, qui se posèrent ensuite dans un arbre à grande hauteur avant de disparaître dans le feuillage.

Plumage

Selon Keith *et al.* (1992), le mâle adulte se distingue de la femelle par sa large caroncule orangée (la femelle n'ayant qu'un petit barbillon), la poitrine et le ventre rouge-orangé (et non jaunes), le croupion rouge (non vert) et les bordures jaunes des rémiges primaires. Aucun des oiseaux que j'ai observés ne présentait ce plumage. Seuls certains, parmi le groupe de 5-6 observés à l'hôtel Djiboua, avaient les rémiges bordées de jaune, mais pas de caroncule ni de coloration rouge sur le dessous; leur croupion n'était ni vert ni rouge, mais jaune. Ces oiseaux étaient vraisemblablement des mâles immatures, hypothèse probable car l'espèce vit habituellement seule ou par couples (Keith *et al.* 1992, Gatter 1997), et/ou des mâles adultes en plumage usé ou d'éclipse. Il semble en effet que la caroncule se dilate en période de reproduction (R. Demey com. pers.). Les oiseaux observés sur la station CNRA ne présentaient ni caroncule ni coloration rouge sur le dessous, mais je n'ai pu observer nettement la coloration du croupion et de la bordure des rémiges.

Des observations supplémentaires sont nécessaires afin de déterminer si l'Echenilleur caronculé et l'Echenilleur lorient, ont ou non un plumage d'éclipse. Si tel

était le cas, ce serait un argument supplémentaire pour la séparation du genre *Lobotos*, souvent inclus dans *Campephaga* malgré son plumage très particulier, la présence de caroncules et le faible dimorphisme sexuel, contrairement à *Campephaga* où mâle et femelle sont très différents.

Conservation

Stattersfield & Capper (2000) placent l'Echenilleur caronculé dans la catégorie Vulnérable, ce qui paraît justifié étant donné son aire restreinte, et sa rareté à l'intérieur même de cette aire. Seules quelques populations sont protégées (dans la forêt de Gola en Sierra Leone, le Parc National de Taï, la Réserve naturelle intégrale du Mont Nimba, et le Parc National de la Marahoué où l'espèce est probablement rare) et la majorité ne bénéficie que d'une protection très incomplète dans des "réserves forestières" ou "forêts classées" très exposées au défrichement. L'espèce semble plus adaptable à la dégradation de son milieu que d'autres endémiques ouest-africaines; rien ne garantit pourtant qu'elle puisse survivre à long terme dans des milieux dégradés en l'absence d'îlots forestiers voisins.

La Côte d'Ivoire a subi en 20 ans la déforestation la plus rapide du monde. La région de Divo ainsi que les régions voisines du centre de la zone forestière (Gagnoa, Soubré, Lakota, Sinfra, Issia) ont été les plus touchées. Très peu de forêt y subsiste et uniquement sous forme de taches isolées dont la surface continue de se réduire; l'Echenilleur caronculé y est donc très menacé.

Parallèlement, il s'agit d'une région très mal connue sur le plan ornithologique, puisque depuis les collections de Pfeffer (1961) dans la région de Gagnoa-Sinfra (zone aujourd'hui intégralement défrichée ou presque), les seules prospections ont été celles de Gartshore *et al.* (1995) en forêt de Mopri. Celles-ci ont permis de découvrir trois espèces Vulnérables (l'Echenilleur caronculé, le Bulbul à barbe jaune *Criniger olivaceus* et le Gobe-mouches du Nimba *Melaenornis annamarulae*) et cinq quasi-menacées (Calao à joues brunes *Bycanistes cylindricus*, Calao à casque jaune *Ceratogymna elata*, Grive-akalat du Libéria *Illadopsis rufescens*, Gladiateur de Lagden *Malaconotus lagdeni*, Choucador à dos bleu *Lamprotornis cupreocauda*). Toutes ces espèces, ainsi que deux autres collectées par Pfeffer (1961), le Bulbul à queue verte *Bleda eximia* et la Fauvette à capuchon *Bathmocercus cerviniventris* (les deux Vulnérables: Stattersfield & Capper 2000), pourraient se retrouver dans d'autres forêts de la région. Il serait urgent d'identifier les sites à protéger avant que ceux-ci disparaissent.

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Behaviour of the White-necked Picathartes *Picathartes gymnocephalus*, at nest sites prior to breeding

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Summary

White-necked Picathartes *Picathartes gymnocephalus* apparently made regular visits to their nesting sites outside the breeding season and roosted in the vicinity all year round. Observations during breeding suggested that the birds do not have helpers at the nest as has been previously speculated. All nests in a colony were used simultaneously by different breeding pairs. Previous assessments of *Picathartes* population sizes based on reports that one breeding pair uses two nests at a colony were therefore probably underestimates. A rarely seen group interaction behaviour, involving group mutual bowing, is probably associated with breeding.

Résumé

Comportement du Picatharte à cou blanc *Picathartes gymnocephalus* sur le site des nids avant la reproduction. Le Picatharte à cou blanc *Picathartes gymnocephalus* faisait, semble-t-il, des visites régulières au site des nids en dehors de la saison de reproduction et passait la nuit à proximité toute l'année. Des observations au cours de la reproduction suggèrent que les oiseaux ne reçoivent pas d'aide au nid comme on l'avait pensé auparavant. Tous les nids d'une colonie étaient utilisés simultanément par les différentes paires nicheuses. Des estimations antérieures de la population de *Picathartes*, reposant sur le fait qu'une paire nicheuse utiliserait deux nids dans la colonie, étaient probablement sous-évaluées. Un comportement de groupe, rarement observé, avec des salutations mutuelles, est sans doute associé à la reproduction.

Introduction

The White-necked Picathartes *Picathartes gymnocephalus* occurs in Guinea, Sierra Leone, Liberia, Ivory Coast and Ghana whilst its only congener, the Grey-necked Picathartes *P. oreas* has been recorded from Nigeria, Cameroon, Gabon, continental

Equatorial Guinea and Bioko (Fry *et al.* 2000, Marks *et al.* 2004). Both species have conservation status Vulnerable (BirdLife International 2004) and are listed on Appendix 1 of CITES. National law in Cameroon, Ghana and Sierra Leone protects them but enforcement is minimal (pers. obs., R. Fotso & E. Owusu pers. comm.). Unusually for rainforest birds, *Picathartes* breed in mud nests in colonies of up to 40, usually on rock or cliff faces and/or cave roofs (Thompson & Fotso 1995) but occasionally on tree trunks (*e.g.* Waltert & Muhlenberg 2000).

Picathartes biology and ecology have until recently not been studied in detail and with a few exceptions (Grimes & Darku 1968, Tye 1987, Fotso 1993) studies have been qualitative and based on either brief observations in the wild (*e.g.* Mudd & Martins 1996, Waltert & Muhlenberg 2000) or on observations of captive birds (*e.g.* Faust 1971, McKelvey 1981). This paper describes roosting and pre-breeding behaviour of White-necked *Picathartes* observed during a long-term study of the ecology and behaviour of the species in Sierra Leone (Thompson 1997, 1998, 2001, 2004).

Study area and methods

The study was carried out in three forest reserves in Sierra Leone: the Western Area Peninsula Forest (WAPF, 177 km², 8°15'N, 13°15'W) on the Atlantic coast, the Gola Forest (748 km², 7°40'N, 10°45'W) on the eastern border with Liberia, and the Kambui Hills (158 km², 7°45'N, 11°15'W) about 70 km to the west of Gola. All three areas are rugged and hilly (up to 800 m a.s.l.) with steep-sided valleys and numerous streams. Vegetation is essentially lowland evergreen rainforest, which grades into forest-farm regrowth mosaic within 1–2 km of the reserve boundaries. The three study colonies comprised three (WAPF), six (Gola) and seven nests (Kambui Hills), situated on huge rocks (5.5–13.5m high by 13.5–16.1m wide) in closed canopy forest of canopy height at least 10m, close to seasonally flowing streams.

Nest sites were observed for a total of 508 h (WAPF 206, Gola 48, Kambui 254). Total observation time was distributed between different stages of the breeding cycle as follows: pre-breeding activity (before any eggs were laid) 145 h, incubation 153 h, nestling stage 154 h. Observations were made from a 1.5 x 1 x 1 m hide constructed from leaves and branches about 10 m from each breeding colony. This paper describes observations made during the pre-breeding period in 1992 and 1993. To determine diurnal activity at nesting sites, birds were observed at the WAPF and Kambui Hills nesting sites from 8h00–18h00 for 30 hours over three days in April and May 1992. Similar observations were made at the same sites for 57 hours over seven days with observations from 0800–1800 hours between 8 and 27 July 1993.

Behaviour was quantified using the individual focal sample method and simultaneous scanning (Altmann 1974). The number and duration of the following activities were measured and recorded: nest repair (birds bringing nesting material to

the nest or actively arranging material already in the nest); nest visits (birds sitting in the nest or perched on its rim without engaging in nest repair); aggressive encounters (fights or one bird chasing another without any immediate subsequent behaviour to indicate that the chase might be part of some other type of interaction); preening (auto- and allo-preening); hopping about; standing still (for longer than 1 min.); perched on a branch; bathing; foraging for food. Active behaviours were given precedence over passive ones whenever two or more categories occurred simultaneously. Structured observation periods were supplemented by opportunistic observations.

Results

The breeding cycle

Detailed results on the timing of breeding in Sierra Leone will be published elsewhere but in general egg-laying occurred from June to December with chicks in the nest from August to January. However, onset of egg-laying differed between sites and years and began later, in late July to August, at WAPF and Kambui Hills in 1993 (Thompson 1997 and unpubl.). From February to May, there were no eggs or nestlings at nesting sites. Birds were regularly seen at nest sites from April onward and nest repair started in May after the first rains (Thompson 1997 and unpubl.).

Activity at nesting sites

In April and May, birds were seen at the WAPF and Kambui Hills nesting sites (no observations were made in the Gola forest at this time) only at dawn and dusk, 08h00–10h00 and 16h00–18h00. Numbers seen per day ranged from two to nine and birds were present at the sites for 12 % of observation time. Birds arrived at the sites singly or in pairs, from the same general direction each day, and carried out maintenance activity such as bathing and preening. Occasionally, birds made brief visits to nests, or chased each other short distances; they sometimes displaced each other at nests. Nest repair activity was not observed until late May.

In July, about 2 – 8 weeks prior to the start of egg-laying, birds visited the WAPF and Kambui Hills nesting sites more or less throughout the day, being present for 22 % of observation time. Maximum numbers seen at this time were 14–16 birds at the Kambui Hills nesting site. Birds spent most of this time repairing damaged nests (31 %). The remaining time was largely divided between perching on nest rims (17 %), sitting in nests for 5–60 s periods (14 %), hopping about (14 %), autopreening (9 %, allopreening was seen only once), and standing still (5 %). Other activities (10 %) included bathing, foraging, aggression, and a peculiar group behaviour pattern described below.

Nest repair was mainly observed in July at the WAPF and Kambui Hills nesting sites and comprised birds resealing holes in the bottom of old mud nests remaining

from the previous breeding season, and building up nest cup walls. Two individuals cooperated in repairing each nest. As in many passerines, one bird remained at the nest and arranged nesting material (mainly wet mud but also dried leaves, fibres and twigs) brought by the other. Roles were frequently switched and birds occasionally swallowed and regurgitated mud before using it on the nest.

Group Behaviour

A peculiar group behaviour was observed three times in July between 18h00 and 19h30 at the Kambui Hills site, as birds prepared to roost. Typically, 6–7 birds would stand 0.5–1 m apart in a loose circle on the ground in front of the nesting rock and make short abrupt runs toward each other. The bird approached would move a short distance off and in turn chase the same or another individual. Chasing sequences sometimes extended to low branches on the trees surrounding the breeding site. At intervals, a bird would stand and lower its head in a bowing display as if briefly looking at the ground between its legs. The effect was to present the yellow crown and black ear patches to the other bird(s) in the immediate vicinity. Each bow was usually followed by feather ruffling and tail shaking. One interaction session lasted 5 min. whilst each of the others lasted 15 min. Bowing behaviour occurred about once every 2–3 min. within each display session. Not all birds at the site took part in the displays; on one occasion, two individuals remained standing on a nearby rock throughout the session.

Roosting behaviour

In July and August 1992, a year when egg-laying started in October at the Kambui Hills nesting site (Thompson 1997), single birds were found roosting in the nests at night, in all three site checks made. A maximum of three nests at the nesting site were seen to be used in this way for roosting, although there were seven nests at the site. However, all seven nests were subsequently used for breeding. At certain times in the breeding season, all nests were being used simultaneously by breeding pairs of birds. When eggs and chicks were in the nest (Oct–Jan), single birds invariably roosted in the nests at night.

From February to April 1993, after chicks had fledged (the non-breeding season), birds congregated at the Kambui Hills breeding site in the evenings but usually left at dusk in different directions, singly or in pairs, to roost in nearby trees. This occurred in five of six site checks. In one case however, two birds roosted singly in separate nests at the nesting site. No site checks were made at night in May and June.

Discussion

The pattern of activity observed at nesting sites suggests that White-necked Picathartes made regular visits to their nesting sites outside the breeding season and roosted in the vicinity all year round.

No more than two birds at a time were seen repairing a particular nest. Although birds were not distinguishable by plumage and only a few marked birds were eventually observed breeding (Thompson 1997), these observations agree with those of Tye (1987) and Fotso (1992) who also did not observe more than two individuals attending nests. Contrary to speculation by Grimes (1976), of possible cooperative breeding by the species, the birds do not seem to have helpers at the nest.

A striking feature of the behaviour of White-necked Picathartes prior to breeding was the group interaction behaviour observed in the Kambui Hills, in which birds engaged in group bowing displays. Similar behaviour has been observed during the Picathartes breeding season in Ivory Coast (Mudd & Martins 1996), when a single individual was seen performing a behavioural pattern (repeated three times in 30 min.) which included a deep bow with raised and partially open wings, whilst facing a roosting cave entrance around which several other birds were gathered. Mudd & Martins (1996) were uncertain whether the behaviour observed was peculiar to that individual, or a formalised display associated with roosting or breeding, but Fry *et al.* (2000) refer to it as a “pre-group-roosting-intention-display”. The observations described in this study and the timing of the behaviour (pre-breeding in Sierra Leone and breeding in Ivory Coast) indicate that it is more likely associated with breeding.

Several authors have suggested that each pair of White-necked Picathartes uses one nest for breeding and another for roosting at the same colony (Grimes & Darku 1968, Collar & Stuart 1985, Allport *et al.* 1989, Fry *et al.* 2000), so that number of nests would be double the number of breeding pairs present. However, these statements all trace back to observations by Grimes & Darku (1968) who found nests in pairs at two colonies, and two nests associated with one pair of birds at one of these sites. In contrast, the present study showed simultaneous use of all nests in a colony by different pairs, indicating that previous population assessments based on one pair using two nests (*e.g.* Allport *et al.* 1989, Collar & Stuart 1985) may have been underestimates.

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Short Notes — Notes Courtes

Nest of the Nkulengu Rail *Himantornis haematopus* in Gabon

In 1993, we discovered a nest of the Nkulengu Rail at Makande (0°40'S, 11°54'E) in central Gabon. It was a few hundred metres from a major river (the Offoué), but in an area that does not flood in the wet season. The habitat was mixed lowland forest, which had been selectively logged three years previously. The undergrowth was thick and tangled, mostly of Marantaceae (a predominance of *Haumania liebrechtsiana*). The nest was about 1.5 m above the ground, on a flat liana tangle, above a small path regularly used by forest antelope and other small mammals. It was constructed of sticks and, seemingly, parts of the liana tangle itself, but few details could be seen, as the parent bird was sitting on the nest. The bird continued to sit, eyeing us but without moving, and we left after a few minutes.

Two subsequent visits about week apart were made to the nest: on the first visit the bird was still sitting, and we left immediately. On the next visit the bird had gone, and examination of the nest revealed no eggs or fragments thereof: either the young had already hatched and left, or had been predated.

The only other published record of a nest of this species known to us was made by Brosset (pers. comm. to Urban *et al.* 1986). This was described as a large thick structure of twigs and leaves, 1.2 m high in the undergrowth, and sounds similar to the nest seen at Makande. This nest was “far from water” although this rail is known to occur often by water.

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On sexual dimorphism and vocal behaviour in the Mount Kupe Bush Shrike *Malaconotus kupeensis*

The Mount Kupe Bush Shrike *Malaconotus kupeensis* is endemic to the forests of western Cameroon. The main population is apparently centred on the Bakossi Mts, with a few pairs on Mt Kupe and a single bird observed in Banyang Mbo (a northern extension of the Bakossi range) (Stattersfield & Capper 2000). The primary rain forest in Bakossi may contain as many as 50 pairs, at medium altitudes (Dowsett-Lemaire & Dowsett 2000). Since the territorial song was tape recorded in 1998 (Dowsett-Lemaire 1999) I have searched for the species with tape playback on the lower slopes of Mt Nlonako (Feb 1999) and Mt Manenguba (Mar 2000) but failed to find it. The tall, primary rain forest on Nlonako is superficially similar to the type of forest favoured by the bird elsewhere but is noticeably drier than in Kupe-Bakossi. The mid-altitude gallery forests on the lower, SE slopes of Manenguba are of relatively recent origin and may be too secondary (Dowsett-Lemaire & Dowsett 2000).

Four museum specimens of the species exist (not five as in Fry 2000), all collected on Kupe. Serle obtained the type (an adult female) in 1949 and three birds (adult pair and immature female) in 1951 (Serle 1951). Adults show limited dimorphism in the breast pattern, with either a thin blackish necklace (thickened in the middle) between white throat and grey breast, or a large, dark maroon round spot within the white just above the grey breast. The former has been attributed to males and the latter to females (Fry 2000, Harris & Franklin 2000). My initial observations of two birds in song, both with black necklace (Mar 1997 on Kupe, Mar 1998 in Bakossi), and unpublished observations by S.M. Andrews (in Dowsett-Lemaire 1999) also led me to assume that the dark necklace was restricted to males.

In Mar 2000 I spent a week in the forest around Lake Edib (Bakossi) and located four territories of Mount Kupe Bush Shrike. Two of the calling birds (presumed males) showed a large maroon spot and the other two a dark necklace. One of the presumed males with maroon spot was called up in precisely the same location where I had recorded the song two years earlier, given then by a bird with clearly a dark necklace. The other was observed for an hour and was accompanied by its mate, following silently behind. Both members of this pair were seen close to each other for several minutes and looked identical: both had a similar maroon spot. The "male" produced an occasional babbler-like song (as described in Dowsett-Lemaire 1999), between feeding bouts, and a few detached soft whistles, of strange, distorted quality, on a pitch reminiscent of Western Nicator *Nicator chloris*. These were tape-recorded. Both members of the pair moved with noisy wing-snapping and were (initially) feeding in a small, loose, mixed bird party. The presumed female was vocally silent.

The third territorial bird was called up with tape playback and sang back within seconds. The fourth was feeding low down in a bird party; brief tape playback brought it closer to me, followed by its mate 1–2 m behind, both birds were wing-snapping and the "male" sang back a few times (the usual babbler-like chatter). I lost sight of its mate before I could see details of the breast plumage. The third and fourth songsters were clearly seen and had a complete blackish necklace, thickened in the middle. The necklace of the male specimen collected in 1951 is apparently somewhat broken as it

consists of a row of small dark spots (Fry 2000, Harris & Franklin 2000); these details could not be seen in the field. The only immature specimen collected (a female) had an “indistinct necklace of yellowish brown” (Serle 1951). In March 2002 Cohen & Mills (2002) visited the Edib region in Bakossi and video-taped a Mount Kupe Bush Shrike coming to tape playback, using a copy of my tape of babbler-like song (C. Cohen pers. comm.); the bird photographed has a large maroon spot and no necklace.

Borrow & Demey (2001) correctly quote a pers. comm. by me saying that “presence of maroon throat patch and necklace appears unrelated to sex”, based on the above observations. But their general plumage description is a little ambiguous as they write “with or without round maroon patch in centre; ‘necklace’ present in some”. This suggests one might even come across a bird with both a necklace and a maroon spot or with neither, which combinations have not yet been reported. Nevertheless territorial birds assumed to be males (because the loud, stereotyped song is given by only one bird per territory and the observed mates were vocally silent) can have either, and the significance of one pattern over the other remains unclear. Possibly the breast pattern might be related to age, with the maroon spot developing after the necklace (as a necklace is already present in the one immature specimen).

Further observations on vocal behaviour by myself and also others (e.g. N. Borrow, C. Cohen pers. comm.) confirm that the main song-type is clearly the loud, babbler-like chatter (Dowsett-Lemaire 1999). Soft whistles (as above) were heard only once, they are not far-carrying and are unlikely to be used in territorial advertisement. Those I heard are probably related to the trisyllabic whistle heard by Serle (1951) and detached whistles, “out of tune”, heard by I. Faucher (*in* Dowsett-Lemaire 1999). Harris & Franklin (2000) describe several other vocalizations without giving a specific source (they have never been to Cameroon) but they apparently come from an unpublished manuscript by S.M. Andrews (seen by me), but with some modifications. Bowden (2001) describes a “subsequent recording” to mine, obtained by N. Borrow, which appears different. Bowden did not specify, however, that this song was obtained in reaction to playback of my original tape and sounded just like another babbler-like territorial song. The “cheow-cheeow-cheeow” notes given in Bowden could equally be rendered “tchraa-tchraa-tchraa” as in my original description (N. Borrow pers. comm.). Bowden (2001) mentions Dowsett-Lemaire (1999) only in respect of “more detailed descriptions of calls”; but the main babbler-like song I described had not been published previously. The “insect-like grating” mentioned by Bowden & Andrews (1994) but never tape recorded, is said to be given almost continuously by pairs (Harris & Franklin 2000). Colleagues and I have still not come across it and I suspect that, either it is not as frequent as claimed, or that it is the babbler-like chatter heard by different ears. Certainly confirmation based on good tape recordings is required to clarify the description.

Almost nothing is known of the feeding ecology and territory size of this highly localized species, whose endangered status should make such a study a priority among conservationists in Cameroon. This would be greatly helped by colour-ringing a few individuals but despite regular mist-netting on Mt Kupe over several years, only one Mount Kupe Bush Shrike has been captured (Bowden & Andrews 1994, Bowden 2001). Birds seen feeding before tape playback was attempted were rather low down

in the mid-stratum, mainly 4–10 m up; they tend to sing a bit higher, often around 10–15 m, and birds excited by tape playback go even higher, up to about 20 m.

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Status of the Cape Verde Cane Warbler *Acrocephalus brevipennis* on São Nicolau, with notes on song, breeding behaviour and threats

The Cape Verde Cane Warbler *Acrocephalus brevipennis* is a little known species endemic to the Cape Verde Islands, regarded as Endangered because of its small and declining population (Stattersfield & Capper 2000). Until 1998, it was thought to survive only on the island of Santiago, with a population of probably several hundred pairs, and to have become extinct on Brava (last recorded in the 1960s by Frade 1976) and São Nicolau (last seen in 1970: see Hazevoet *et al.* 1999). However, it was

rediscovered on São Nicolau in February 1998, when eight singing males were located at three sites around 3 km apart (Hazevoet *et al.* 1999). All apparently suitable habitat on the island was searched and it was concluded that these represented the entire São Nicolau population and that the species' future on the island was bleak, as increasingly severe droughts pose a major threat to the dense stands of vegetation it appears to need.

Few nests have been found. Castell (1999) photographed one in a stand of the introduced Giant Reed *Arundo donax* ("cane"), but birds also nest in trees (Hazevoet 1995). Behaviour at the nest is unrecorded and the species' vocalisations on São Nicolau are poorly known. In late September and October 2001, and in January 2003, we revisited all the sites on São Nicolau where the species was recorded in 1998, as well as some other potentially suitable areas, to assess changes in population and distribution. We also collected data on breeding biology, behaviour and song.

We found Cape Verde Cane Warblers at all three 1998 sites, and in almost identical numbers, although we did not find them in 2001 at one of these sites, the Fajã Valley, despite two intensive searches of the same small area where a pair was located in 2003. The results of timed simultaneous counts by observers 100 m apart (measured by GPS) at these three sites are given in Table 1. No birds were found away from these three sites despite extensive searching. However, undiscovered populations might exist, especially in large cane stands in deep gullies in the Fajã Valley. Most records were of singing males, as these were easier to locate, but some were confirmed to have mates.

Table 1. Counts of Cape Verde Cane Warbler on São Nicolau. Numbers are singing males (number of confirmed pairs in parentheses).

	Feb 1998 ¹	Apr 2001	Sep–Oct 2001	Jan 2003 ²
Ribeira Tucudo ³	4		5–6 (2)	4–5 (2)
Ribeira da Fragata ⁴	3	5 ⁶	4 (2)	3 (2)
Fajã Valley ⁵	1		0	1 (1)
Total	8		9–10 (4)	8–9 (5)

¹Hazevoet *et al.* (1999): only singing males recorded. ²Hazevoet (2003). ³A tributary of Ribeira da Queimada. ⁴Also referred to as Ribeira da Prata. ⁵Ribeira Chafariz, above Canto da Fajã. ⁶Total seven birds.

The pair in the Fajã Valley and two pairs at the lower end of Ribeira da Fragata were found in large, open patches of cane with surrounding tree cover. All other birds were in dense stands of large fruit trees, particularly Mango *Mangifera indica*, with or without small patches of cane nearby, which appears to be the most important habitat in the species' stronghold on Santiago (Hazevoet *et al.* 1999). In the first habitat, birds spent much time in the cane but sometimes foraged in the surrounding fruit trees. Birds in the second habitat were not observed using the small patches of cane that

were available to them, but fed instead in the canopy of large fruit trees in the company of many Blackcaps *Sylvia atricapilla* and Iago Sparrows *Passer iagoensis*. As *A. donax* is an introduced species on the Cape Verdes, being native to central Asia but widely introduced across the world, the Cape Verde Cane Warbler must formerly have been able to survive without it. Cane may now be important, as few birds were seen in apparently suitable habitat without it, and it may have replaced a native species with similar structure. Alternatively, it may be coincidental that *A. donax* occurs in the damper areas that the warblers might favour anyway.

Songs of males were highly variable, though apparently similar to those given on Santiago (Cramp & Brooks 1992, C.J. Hazevoet, pers. comm.). Most started with a short, dry, two-note phrase with a rather croaking, frog-like quality, the second syllable usually lower than the first but sometimes higher. This was usually followed by a rapid two-note rattle, reminiscent of Lesser Whitethroat *Sylvia curruca*. In some birds, the two-note rattle was greatly embellished with extra notes giving a far more complex song. Some birds added a final liquid flourish of fast ascending, or ascending and then descending, notes. Birds in Ribeira Tucudo seemed to give less complex songs than those at Ribeira da Fragata. It is not known whether there is any interchange of birds between these two populations, which are separated by a high ridge of mountains. Birds appeared to sing throughout the day, although the quantity of song output was low. Crude imitations by observers of elements of the call and song caused birds to respond immediately, suggesting that playback could be a useful tool in future surveys of this inconspicuous species.

On 29 Sep 2001, we found a nest in a tall sapling of a non-native Indonesian tree known locally as Jambroeira *Syzygium jambos*. The nest was built in the junction of four small branches c. 12 m above the ground. It was a deep, closely woven, cone-shaped structure, larger and more substantial than many other *Acrocephalus* nests and reminiscent of that of a Golden Oriole *Oriolus oriolus*. On that day and on 6 Oct, the birds were clearly incubating eggs, changing places on the nest approximately every 15 min. Several times, the presumed female (smaller and never sang) left the nest for less than a minute before returning. Egg-turning was observed several times, c. 2 min. after changeover. On approaching the nest, both sexes gave a low, disyllabic call, the second note lower than the first. While the female was incubating, the male often sang quietly from nearby trees. When flying between perches, birds often landed with a short glide, in the manner of some *Hippolais* warblers. A similar but old nest was found later in the same valley in the same species of tree, but at a height of only 4 m.

Although estimates in 2001 and 2003 suggested that there was no serious decline on São Nicolau since 1998, this population faces a number of threats. Declines on Santiago are attributed at least partly to loss of dense vegetation through drought (Birdlife International 2000). It may be no coincidence that the areas with birds in both Ribeira Tucudo and Ribeira da Fragata are irrigated, whereas apparently suitable but unoccupied areas in Ribeira Brava and Ribeira da Queimada are not. Water in irrigation tanks may be an important source of insects, and Cape Verde Cane

Warblers were seen to drink from puddles around these on a number of occasions. Cutting of cane for livestock feeding is another potential threat to the species, and evidence of cane cutting was seen in Ribeira Tucudo in October 2001. However, there was no evidence of substantial loss of cane at any of the three occupied sites between 2001 and 2003. The population requires monitoring, and efforts to maintain or increase stands of cane and fruit trees in areas where the species persists, for example by subsidising farmers to plant trees or cane, or promoting irrigation, would doubtless help the species to survive on São Nicolau.

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La distribution de l'Hirondelle des mosquées *Hirundo senegalensis* en Côte d'Ivoire

L'Hirondelle des mosquées *Hirundo senegalensis* est largement répandue dans les savanes de l'ouest africain, atteignant la côte du Ghana au Nigeria (Borrow & Demey 2001) ainsi que dans une grande partie de l'Afrique subsaharienne. En Côte d'Ivoire, elle n'aurait été identifiée que dans l'extrême nord du pays, au-delà de 9°30'N (Thiollay 1985). Plus récemment cependant, Christy & Schulenberg (1999) citent sa présence dans le Parc National de la Marahoué (6°55'–7°13'N) où elle serait peu commune.

Ayant résidé près de cinq ans en Côte d'Ivoire, entre 1997 et 2002, j'ai pu constater que l'Hirondelle des mosquées a une répartition beaucoup plus vaste. Je l'ai ainsi observée à Napié (9°18'N, 5°36'W, plusieurs oiseaux en avr 1999), Réserve d'Abokouamékro (6°50'N, 5°2'W, commune en mars 1999) et Sassandra (4°57'N, 6°8'W, commune sep–avr). Dans la Région d'Abidjan (5°19'N, 4°1'W), je l'ai observée tous les mois de sep à juin, en diverses localités: Riviéra près du Groupe Scolaire Jacques Prévert (peu commune), Akouédo (commune), Forêt Classée d'Anguédedou (fréquente), Adiopodoumé (une observation en mars, mais peut-être plus abondante). N'ayant jamais été présent en juillet-août j'ignore si l'espèce est résidente ou migratrice.

Ces localités se trouvent, soit dans les savanes, soit dans la région côtière (Abidjan, Sassandra). Il est possible que l'Hirondelle des mosquées pénètre dans la zone forestière proprement dite à la faveur des grandes clairières, mais cela reste à confirmer. Des observations possibles, mais trop brèves pour être certaines, ont été faites dans la région de Tiassalé-N'Douci (5°53'N, 4°50'W) en juin 1999 et avril 2001.

L'espèce paraît locale, au moins dans la région côtière; elle est commune en certaines localités, mais absente d'autres sites immédiatement voisins. Ainsi, dans la région de Sassandra, toutes les observations proviennent du même endroit, à quelques kilomètres au nord de la ville, où l'espèce était présente à chaque visite; elle n'a jamais été vue dans la ville elle-même. De même, en Forêt Classée d'Anguédedou, les observations ont toutes été réalisées dans la même clairière.

Assez similaire à l'Hirondelle à ventre roux *H. semirufa*, *H. senegalensis* s'en distingue principalement par ses joues orangées (non bleues), la présence d'un collier roux, et la gorge pâle. Les couvertures sous-alaires sont blanches, et non orangées comme chez *H. semirufa*; ce caractère important n'est cependant pas toujours facile à voir, même en vol. Les ailes sont plus larges, et le vol plus lourd et moins agile. De plus, la voix d'*H. senegalensis* est typiquement nasale. Les deux espèces sont fréquemment sympatriques; toutefois, je n'ai jamais observé de bandes mixtes. J'ai noté que *H. senegalensis* se perche uniquement sur les branches, et jamais sur les fils électriques comme le fait souvent *H. semirufa*.

H. senegalensis avait déjà été signalée de la côte par Bouet & Millet-Horsin (1916–7); mais les auteurs ne mentionnent pas *H. semirufa*, ce qui laisse penser à une confusion entre les deux espèces (Thiollay 1985). De même, Brunel (1955) mentionne *H. senegalensis* de Lamé, près d'Abidjan, mais cette observation n'est pas reprise dans Brunel & Thiollay (1969) ce qui suggère que Brunel soit plus tard revenu sur son identification. L'espèce semble trop commune aujourd'hui pour avoir pu passer inaperçue d'observateurs tels que Demey & Fishpool (1991), et sa présence dans le sud de la Côte d'Ivoire est certainement récente. Deux origines sont possibles pour ces oiseaux: les populations du nord de la Côte d'Ivoire, attribuées à la sous-espèce septentrionale *H. s. senegalensis* (Brunel & Thiollay 1969) ou celles du sud du Ghana, appartenant à la sous-espèce plus méridionale *saturator* (Grimes 1987). En l'absence de photographie ou de spécimen, il n'est pas possible de dire quelle sous-espèce est présente dans le sud de la Côte d'Ivoire.

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Zebra Waxbill *Amandava subflava*, new for Mauritania

The Zebra Waxbill *Amandava subflava* is a locally common to scarce resident in West Africa (Borrow & Demey 2001). It is uncommon and local in Mali north to 15°N (Lamarche 1981), and frequent in Djoudj National Park, Senegal, where it breeds (Rodwell *et al.* 1996). There are no published records from Mauritania so far (Gee 1984, Lamarche 1988, Dowsett & Dowsett-Lemaire 1993, Messaoud *et al.* 1998).

Zebra Waxbills were observed in Diawling National Park, Mauritania (16°18'12''N, 16°23'56''W), during two visits in 2003. On 18 May a flock of 5–7 was observed foraging in short grass near the park headquarters, c. 11 km north of the Diama dam on the Senegal river, the border with Senegal. Several flocks of similar size were observed on 25–26 Oct, < 1 km from the first site. They were small, active estrildids with olive-brownish mantle and barring on sides of belly, yellow-orange breast and belly, and red bill and supercilium in males. The red rump and short brown tail distinguished them from Black-rumped Waxbill *Estrilda troglodytes*, which might also occur in the area. The field identification was confirmed by J. Korb, I. Maggini, and A. Mauley.

These are apparently the first records of the species for Mauritania, despite records in nearby Djoudj NP (Rodwell *et al.* 1996), northeast of ours. These observations suggest that Zebra Waxbills belong to the regular avifauna of the western Senegal River valley.

These observations stem from the Swiss Ornithological Institute project on Bird Migration across the Sahara.

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Cas de prédation par les Corbeaux bruns *Corvus ruficollis*

Le Corbeau brun *Corvus ruficollis* est connu pour son extrême opportunisme alimentaire, ce qui est une adaptation aux milieux nord sahélien et subsaharien dans lesquels il vit et se reproduit. Il consomme aussi bien des termites et des tiques que des grains de maïs ou de riz, des poissons ou des petits mammifères et des charognes, liste bien entendu non exhaustive. Valverde (1957) notait déjà que ce corbeau consomme pratiquement tout ce qu'il y a de comestible dans le désert et mentionnait qu'il est réputé s'attaquer aux lièvres et aux faons de gazelles, sans cependant faire état d'observations confirmées. Cramp *et al.* (1994) mentionnait des attaques de lièvres en Israël, information reprise dans par Urban (2000). La présente note n'a pour objet que de le confirmer sur la base de témoignages de ses rédacteurs.

Le 2 avril 2004, à 70 km au SW d'Agadez (Niger), en zone subdésertique (16°27'N, 7°38'E) et en début de saison chaude et sèche (le 1 avril, à 13h00, il faisait 42°C à l'ombre avec 8% d'humidité relative), nous avons observé vers 8h00 au bord de la piste le cadavre d'un faon de Gazelle dorcas *Gazella dorcas*, probablement né le matin même, à côté duquel voletaient deux corbeaux bruns. Dans cette zone, où le terrain est très plat et la végétation peu fournie, nous n'avons pas vu de chacal s'éloigner, ni de traces d'un tel prédateur, qui aurait d'ailleurs probablement emporté sa proie. La nuit précédente, nous avons subi dans notre campement installé à environ 1 km une violente tempête de sable, qui avait duré de 20h30 à 2h00. Cette tempête avait effacé toutes traces antérieures. Le thorax de la petite gazelle était à nu, sanguinolent et rouge frais, mais déjà complètement vidé des entrailles. A notre retour, moins de deux heures plus tard, il avait été complètement disloqué et les restes éparpillés par les deux corbeaux. En dehors de la tête et de la peau, il ne restait plus grand chose de leur proie.

Au mois de février 2004, MI avait observé au NE du massif de l'Aïr, près de Tezirzek (19°19'N, 8°51'E), en lisière du désert du Ténéré, un Lièvre du Cap *Lepus capensis* harcelé par deux Corbeaux bruns, qui l'attaquaient en volant en rase-mottes, cherchant avec les pattes et le bec à le faire tomber et à le blesser. Fonçant sur eux en voiture, jusqu'à l'éclatement d'un pneu, il a fait diversion, ce qui a permis au lièvre de se réfugier sous un rocher et ainsi d'échapper à ses agresseurs.

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Reviews — Revues

Handbook of the Birds of the World, vol. 8, Broadbills to Tapaculos, ed. by J. del Hoyo, A. Elliott & D. Christie, 2003. 850 pp., 81 col. plates, 672 maps Lynx, Barcelona. ISBN 84-87334-50-4, hardback, £120 from Lynx Edicions, www.hbw.com.

This is the first of the passerine volumes of *HBW*, dealing with all of the suboscines except the cotingas, manakins, tyrant-flycatchers and the probably basal scrub-birds, lyrebirds and New Zealand wrens. As such, the present volume deals with relatively few West African species, but it does indicate differences between tropical areas in recent levels of ornithological research. African species in this volume include four broadbills (Eurylaimidae), the Madagascan asities (four species of Philepittidae), and two pittas (Pittidae), of which all the broadbills and pittas occur within the WAOS area of interest. All six are relatively poorly known forest birds, as are the majority of the (Neotropical) species covered by the book, but whereas most of the information on the West African species is relatively old, much of that for Neotropical species is new (including many species recently discovered). This surely reflects the fact that the number of ornithologists resident or working in West Africa is still tiny, whereas Neotropical ornithology is expanding fast, with many studies being carried out by residents of the countries where they work. Similar differences in study levels between West and East-southern Africa are illustrated by the fact that the only photo of African Broadbill *Smithornis capensis* included was taken at the extremity of its range, in South Africa, and no photo of the central African Grey-headed Broadbill *S. sharpei*, Grauer's Broadbill *Pseudocalyptomena graueri* or Green-breasted Pitta *P. reichenowi* is included. Even the asities are better served by photographs.

A 33-page foreword essay by M.D. Bruce on the history of bird classification introduces the biggest Order, the Passeriformes, in a review starting from the days of the Greek philosophers and including fascinating anecdotes about many of the less well-known but interesting characters who contributed to bird systematics, along with sympathetic critiques of their work.

The Introduction begins by summarising innovations in this volume, among which is that photos are now indexed. The maps have been slightly improved by the inclusion of major rivers, although I would have liked to see country boundaries too, as it is still impossible to assign range boundaries on the maps to countries (like it or not, we all use political boundaries as a practical frame of reference for distributions).

As regards the family and species accounts, little needs to be said. The family sections include the usual detailed comparative treatment and superb photographs, often of little known, newly discovered or difficult to see (never mind photograph) understorey or canopy species. The species accounts are, if anything, more detailed than in previous volumes, incorporating much unpublished information collected up to 2003.

This volume shows signs of hurried production, especially in spelling errors in the introductory sections. Given the task of producing such a huge volume each year, this is hardly surprising, but the proof reading lets down the content a little. However, such a quibble only shows what we have come to expect of this wonderful series, and in general this volume matches the usual exacting standards.

Alan Tye

Birds of Africa South of the Sahara, par I. Sinclair & P. Ryan, 2003. 760 pp., 359 planches en couleurs, 2100 cartes. Struik, Cape Town. ISBN 0-691-11815-9, broché, £29.95.

Nous allons dire: encore un! Car les ouvrages se succèdent pour traiter de l'avifaune africaine. Mais, cet ouvrage ne comporte qu'un seul volume pour couvrir toute l'Afrique au sud du Sahara. Son format, légèrement plus grand que ceux dont on a l'habitude pour ce genre d'ouvrages (21 x 14.5 x 3.8 cm), et son poids (1.2 kg) le rendent un peu gros pour la poche mais encore facilement transportable et de présentation séduisante. Tout d'abord 5–7 espèces figurent par page, ce qui est suffisant pour donner à chacune toute la place voulue. La typographie est satisfaisante même pour les porteurs de lunettes.

Au début de l'ouvrage, l'identification des espèces est facilitée par la représentation des espèces typiques (grèbes, ombrette, hiboux, soui-mangas, etc.) et les coins des pages, dont les couleurs correspondent aux familles, permettent d'atteindre rapidement le groupe recherché.

Sur la page de gauche figurent cartes de distribution, certes réduites à la dimension d'un timbre-poste, mais bien contrastées et donnant une idée claire de la répartition, avec un texte qui comprend description (3–4 lignes), habitat, statut (abondance, sédentaire ou migratoire, endémique). La voix, en plus de la description habituelle subjective, se réfère aux disques de Chappuis (2001 *African Bird Sounds*, Société d'Etudes Ornithologiques de France, Paris) et de Gibbon (1995 *Southern African Bird Sounds*, Durban), déjà utilisés dans le Borrow & Demey (2001, *Birds of Western Africa*, Helm, London). Désormais, tout guide de terrain se doit de comprendre les références à des disques que l'on peut maintenant écouter sur des appareils portables.

La page de droite est réservée à l'illustration qui a retenu toute l'attention des auteurs. Une disposition très heureuse permet de localiser rapidement sur la planche, l'espèce traitée en vis-à-vis grâce à un chiffre très visible. De plus, les représentations des formes (adulte, immature, mâle ou femelle) d'une même espèce sont bien regroupées et nettement délimitées par un trait. Les oiseaux ne sont pas figés mais figurés dans différentes postures, éventuellement sur leur support caractéristique. La

plupart des plumages sont bien colorés, certains même excellents tel celui des Calaos à bec rouge *Tockus erythrorhynchus*. Mais d'autres espèces, des groupes éprouvants pour les artistes, sont mal colorées, comme la plupart des *Streptopelia* (le patron de la queue en revanche est bien illustré) et les engoulevents (dont pourtant les taches alaires et caudales typiques sont figurées). Il en va d'ailleurs ainsi, du moins dans notre exemplaire, pour tous les oiseaux ternes, bruns ou noirâtres, ce qui représente en fait beaucoup d'espèces. Il en résulte que l'ensemble des planches est fâcheusement inégal. Pour la taille des oiseaux, il faut se contenter des mensurations en cm.

La bibliographie laisse à désirer et est curieusement incomplète. Il est en effet regrettable que les auteurs aient privilégié les références anglophones au détriment des francophones. Par exemple, la "Liste commentée des oiseaux de Mauritanie" (Lamarche 1988, *Étud. Sahar. Ouest-Afr.* 1(4)) n'est pas citée, ni quelques guides tel celui de Serle & Morel (1977, *A Field Guide to the Birds of West Africa*, Collins, Londres) pourtant écrit en anglais. Peut-être faut-il attribuer à cette carence certains oublis tels que l'extension de l'aire de la Tourterelle de l'Adamaoua *Streptopelia hypopyrrha*, vers l'ouest au Togo et au sud-est sénégalais.

On doit regretter que les noms des espèces ne soient donnés qu'en anglais — ce qui avantage les anglophones, évidemment les plus nombreux utilisateurs — mais pas dans les deux autres langues largement parlées en Afrique, le français et le portugais. Les noms dans ces deux langues seraient pourtant utiles même si l'ouvrage est traduit ultérieurement.

En conclusion, cet ouvrage atteint les buts qu'il se proposait: fournir non seulement aux touristes tournés vers la nature mais aussi aux ornithologues un manuel facile à consulter.

Gérard Morel et Marie-Yvonne Morel

News & Letters — Nouvelles & Lettres

24th International Ornithological Congress, 13–19 August 2006, Hamburg, Germany

If you wish to receive information about this congress, please use the electronic submission form available on the IOC meeting web site <http://www.i-o-c.org>. If you are unable to use the electronic form, please contact us at the following addresses.

IOC 2006
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New bibliographic database for ornithologists

The BOU, AOU, and Birds Australia are proud to announce the replacement of Recent Ornithological Literature (ROL) with the new Worldwide Ornithological Literature (OWL). OWL is an indexed bibliographic database of citations from the worldwide scientific literature that pertain to the science of ornithology. OWL deals almost exclusively with serial publications. The new database is accessible at www.birdlit.org at no charge. OWL's scope will be more than just the "recent" literature of ornithology. Eventually, the goal is to have the online database go back 50 or more years for citations to the serial literature.

OWL also asks for citations for all recent doctoral dissertations and those papers published in obscure serials not usually covered in OWL. Anyone interested in helping should contact Jay Sheppard, Managing Editor (JMSheppar@aol.com) or Bob Dowsett, Afrotropical Coordinator (Dowsett@aol.com), for a list of journals needing abstractors and other information. Abstractors should ideally have access to a computer and their assigned journals.

Over 1100 serials have been cited in ROL/OWL since 1990. In a sample, 24% were exclusively ornithological in scope, 73% were not and 3% were undetermined. Bibliographies from forty *Birds of North America* life history accounts were evaluated. Of the 5442 total citations, 66% were serials. A comparison revealed that 59% of the serial citations should have been found in *Biological Abstracts* and approximately 96% should have been found in the ROL. These numbers are only for comparative purposes, as many papers preceded both indexes by decades, if not a century or more. The commercial abstracting services charge a considerable fee for their services, while OWL is free to any Internet user. The database will be expanded

with the addition of the old ROL supplements to the *Ibis*, *Auk*, and *Emu* printed over the past 20 years. By the end of 2004, we expect to have a searchable database of 75,000–100,000 records.

Previously published scientific information that cannot be later found is literature that may be lost to science. One must be able to find all those papers published in one's field of interest regardless of where in the world one is working. Please consider helping to abstract. This is not an exceptionally time-consuming endeavour and you will be helping generations of ornithologists to come.

R.J. Dowsett
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Society Notices — Informations de la Société

W.A.O.S. membership changes

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BRITISH TRUST FOR ORNITHOLOGY

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R.E. Sharland

Mr A.P. Leventis, CBE

Members will be delighted to hear of the award of a CBE by the Queen to WAOS Member Mr A.P. Leventis, for services to conservation, particularly in Nigeria.

R.E. Sharland

West African Ornithological Society

Revenue Account for the year ended 31 December 2003

Income		<u>2002</u>
Subscriptions and donations	£2080	£2340
Sales of back numbers	50	234
Interest	<u>79</u>	<u>46</u>
	<u>£2209</u>	<u>£2620</u>
 Expenditure		
Printing and publication	£1444	£1603
Postage	400	450
Council expenses	<u>225</u>	<u>166</u>
	2069	2219
Surplus for year	<u>140</u>	<u>401</u>
	<u>£2209</u>	<u>£2620</u>

Balance Sheet as at 31 December 2002

Assets		
Bank and building society balances	£8182	<u>8387</u>
	8182	8387
 Liabilities		
Creditors	840	1200
Subscriptions in advance	<u>225</u>	<u>210</u>
	<u>1065</u>	<u>1410</u>
	<u>£7117</u>	<u>£6977</u>
 Accumulated funds		
Balance at 1 January	£6977	£6576
Surplus for year	<u>140</u>	<u>401</u>
	<u>£7117</u>	<u>£6977</u>

R.E. Sharland, Treasurer

Certified that I have verified the Society's bank balances.

G.D. Field

Instructions to Authors

Malimbus publishes Papers, Short Notes, Reviews, News & Letters, and illustrative material covering the field of West African ornithology.

Papers and Short Notes must be original contributions; material published elsewhere, in whole or in part, will not normally be accepted. Short Notes are articles not exceeding 1500 words (including references) or three printed pages in length. Wherever possible, manuscripts should first have been critically scrutinised by at least one other ornithologist or biologist before submission. Manuscripts will be sent for critical review to at least one relevant authority.

Items for **News & Letters** should not exceed 1000 words.

Contributions are accepted in English or French; editorial assistance will be made available to authors whose first language is not one of these. Submission by email (attached file) is preferred. For submissions on paper, two copies are required, typed on one side of the paper, with double spacing and wide margins. Consult the editor for further details, *e.g.* acceptable software.

All Papers (but not Short Notes) should include a **Summary**, not exceeding 5% of the paper's length. The Summary should include brief reference to major findings of the paper and not simply review what was done. Summaries will be published in both English and French and will be translated as appropriate by the Editorial Board.

Format of tabular material, numbers, metric units, references, *etc.* should match recent issues. Note particularly: dates are written 2 Feb 1990 but months standing alone may be written in full; times of day are written 6h45, 17h32 and coordinates in the form 7°46'N, 16°4'E (no leading zeros); numbers up to ten are written in full, except when followed by abbreviated units (*e.g.* 6 m), numbers from 11 upwards are written in figures except at the beginning of a sentence. All references mentioned in the article, and only such, must be listed in the bibliography.

Avifaunal articles must contain a map or gazetteer, including all localities mentioned. They should include brief notes on climate, topography, vegetation, and conditions or unusual events prior to or during the study (*e.g.* late rains *etc.*). **Species lists** should include only significant information; full lists are justified only for areas previously unstudied or unvisited for many years. Otherwise, include only species for which the study provides new information on range, period of residence, breeding *etc.* For each species, indicate migratory status, period of residence (as shown by the study), range extensions, an assessment of abundance (*Malimbus* 17: 36) and dated breeding records. Where appropriate, set data in context by brief comparison with an authoritative regional checklist. Lengthy species lists may be in tabular form (*e.g.* *Malimbus* 25: 4–30, 24: 15–22, 23: 1–22, 1: 22–28, or 1: 49–54) or in the textual format of recent issues. **Taxonomic sequence and scientific names** (and preferably also **vernacular names**) should follow Borrow & Demey (2002, *Birds of Western Africa*, Christopher Helm, London), or Dowsett & Forbes-Watson (1993, *Checklist of Birds of the Afrotropical and Malagasy Regions*, Tauraco Press, Liège) or *The Birds of Africa* (Brown *et al.* 1982, Urban *et al.* 1986, 1997, Fry *et al.* 1988, 2000, Keith *et al.* 1992, Academic Press, London), unless reasons for departure from these authorities are stated. A **more complete guide for authors** of avifaunal papers, including the preferred abundance scale, appeared in *Malimbus* 17: 35–39; a copy may be obtained from the Editor, who will be happy to advise on the presentation of specific studies.

Figures should be prepared as for final reproduction, allowing for 20–50% reduction. When designing Figures, pay attention to *Malimbus* page-shape. Figures prepared in or scanned into an appropriate graphics package and saved at high resolution are preferred. They should be supplied as graphics files, and not pasted into a text file. Low-resolution files and poor-quality printouts will not be accepted. Authors are encouraged to submit **photographs** that illustrate salient points of their articles. Photographs should be high-contrast (for publication in monochrome) and high resolution (at least 600 dpi). They should be supplied in graphics file format (*e.g.* jpg or tif) and not pasted into a Word file. Consult the Editor for further advice.

Ten **offprints** of Papers (but not of Short Notes) will be sent to single or senior authors, *gratis*. Offprints will not be stapled, bound, or covered; they are merely cut from copies of the journal.



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- to the Secretary to Council (Zoological Gardens, Chester CH2 1LH, U.K.; <r.wilkinson@chesterzoo.co.uk>) regarding W.A.O.S. Research Grants;
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- to the President (1 Route de Sallenelles, 14860 Bréville-les-Monts, France <gjmorel@wanadoo.fr>) regarding policy matters.

The Society grew out of the Nigerian Ornithologists' Society, which was founded in 1964. Its object is to promote West African ornithology, especially by publishing its journal *Malimbus* (formerly the *Bulletin of the Nigerian Ornithologists' Society*).

Applications for Membership are welcome. Annual subscriptions are £10 (€17) for Ordinary Members (individuals) and £25 (€39) for Corporate Members (libraries and other organisations). Payments may be made in £ Sterling to the Treasurer, or in Euro to the President. Ordinary Members receive *Malimbus* by surface mail, Corporate Members by airmail, free of charge. An extra charge is made for airmail to Ordinary Members (enquire of the Treasurer for rate).

Back Numbers: Vols 11–14 (1975–78) of the *Bulletin of the Nigerian Ornithologists' Society* (A5 format, as *Malimbus*) are available at £2 per issue (£4 per volume) or £15 a set. *Malimbus* Vols 1–9 are available at £3 per issue (£6 per volume) and Vol. 10 onwards at £5 per issue (£10 per volume). A full set of *Malimbus* Vols 1–26 may be purchased at the reduced price of £195. Postage and packing are free. Please enclose payment with your order, which should be addressed to the Treasurer.

W.A.O.S. Research Grants: guidelines for applicants may be found in *Malimbus* 25: 72–75, and can be obtained from the Secretary to Council, to whom applications should be sent.



New bird records from Cameroon

by Marc Languy¹, K. Serge Bobo², Francis M. Njie³, Kevin Y. Njabo³,
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Received 23 April 2004; revised 15 December 2004.

Summary

We review recent records of species new for Cameroon and document eight additional species new to the country: White-tailed Tropicbird *Phaethon lepturus*, Brown Booby *Sula leucogaster*, Little Crake *Porzana parva*, Eurasian Oystercatcher *Haematopus ostralegus*, Rosy Bee-eater *Merops malimbicus*, Grey-headed Bristlebill *Bleda canicapillus*, Green-backed Eremomela *Eremomela canescens* and Grant's Bluebill *Spermophaga poliogenys*. These bring the number of species known for the country to 926. Additional data on species rare or for which there are few published records in Cameroon, and range extensions within the country are also included.

Résumé

Nouvelles données d'oiseaux du Cameroun. Nous réexaminerons les données récentes des espèces nouvelles pour le Cameroun, et présentons huit espèces additionnelles nouvelles pour le pays: Phaéton à bec jaune *Phaethon lepturus*, Fou brun *Sula leucogaster*, Marouette poussin *Porzana parva*, Huitrier pie *Haematopus ostralegus*, Guépier gris-rose *Merops malimbicus*, Bulbul fourmilier *Bleda canicapillus*, Erémomèle grisonnante *Eremomela canescens*, Sénégal à bec bleu *Spermophaga poliogenys*. Avec ces additions, le nombre d'espèces documentées pour le pays est 926. Des données sont également fournies pour des espèces rares au Cameroun, ou pour lesquelles il y a peu de données publiées, ainsi que des extensions de l'aire de répartition dans le pays.

Introduction

We review recent published additions to Dowsett's (1993) avifaunal checklist for Cameroon, as well as range extensions within the country and records for species considered rare or for which there are few published data. Most records are from the period January 1999 to December 2001 and were obtained during the BirdLife International's Important Bird Areas programme and other field trips by the authors. Our own records are followed by the observer's initials; those of other observers by their name. Abbreviations used are: IBA Important Bird Areas field survey team; FR Forest Reserve; NP National Park. The main areas covered during the IBA programme include, from south to north, Campo Ma'an NP, Mengame Sanctuary, sites around Yaoundé and Ngovayang, Rio del Rey, Plaine Tikar, Bamenda Highlands (including Mt Mbam), Mapé Reservoir, Mbam Djerem NP, the Adamawa plateau, Tchabal Ngandaba, the Alantica mountains, Gashiga-Demsa, Kalfou FR, Mayo-Louti FR and Mozogo-Gokoro NP.

Sequence and nomenclature follow Borrow & Demey (2001), with the gender of some species corrected following David & Gosselin (2002). Localities in Cameroon mentioned in the text but not found in Louette (1981) are given in Table 1. Coordinates for observations away from named localities are included in the species entries.

Table 1. Gazetteer.

Abonshie	6°59'N, 10°44'E	Magba	5°57'N, 11°13'E
Akom II	2°49'N, 10°33'E	Maham	4°59'N, 10°42'E
Akwaya airport	6°23'N, 9°31'E	Mape Reservoir	6°4'N, 11°12'E
Bafut Ngemba FR	5°53'N, 10°12'E	Mayo-Louti FR	10°43'N, 13°43'E
Bali-Ngemba FR	5°49'N, 10°5'E	Mbam Djerem NP	5°50'N, 12°45'E
Batoke	4°2'N, 9°7'E	Mbilishi	6°11'N, 9°27'E
Bénoué NP	8°20'N, 13°50'E	Mozogo-Gokoro NP	10°35'N, 13°33'E
Boki	8°48'N; 13°31'E	Mt Mbam	5°57'N, 10°44'E
Bonaberi	4°4'N, 9°41'E	Ndiguina	11°28'N, 14°41'E
Boumba-Bek	2°40'N, 15°E	Ndongo	2°4'N, 14°52'E
Campement des Eléphants	8°46'N, 13°41'E	Ngok	2°40'N, 10°16'E
Douala Edea	3°21'N, 9°30'E	Ngaoundaba	7°8'N, 13°42'E
Ebianemeyong	2°25'N, 10°21'E	Nki	2°12'N, 14°39'E
Eboumetoum	3°39'N, 12°54'E	Nyabizan	2°24'N, 10°24'E
Fundong	6°16'N, 10°17'E	Obonyi	6°8'N, 9°16'E
Kepani	6°6'N, 9°24'E	Pelican Point	4°31'E, 8°52'E
Ketté	4°50'N, 14°33'E	Santchou Faunal Reserve	5°17'N, 9°55'E
Kika	1°58'N, 15°40'E	Suellaba Point	3°49'N, 9°33'E
Korup NP	5°10'N, 8°52'E	Takamanda FR	6°1'N, 9°10'E
Lake Maga	10°50'N, 15°E	Tchabal Ngandaba	7°27'N, 12°26'E
Langui	9°19'N, 13°39'E	Waza NP	11°20'N, 14°42'E
Limbe	4°1'N, 9°12'E	Wouri estuary	3°33'N, 9°21'E
Lobéké NP	2°15'N, 15°45'E	Wum	6°23'N, 10°5E

Results

Review of species new for Cameroon in recent years

Since Dowsett (1993), 46 additions to Cameroon's avifauna have been published, 39 of them new or previously overlooked (Dowsett & Dowsett-Lemaire 2000, Sinclair *et al.* 2003, Messemaker 2004). The other seven arise if the taxonomy of Fry *et al.* (1988, 2000), Urban *et al.* (1997) and Fry & Keith (2004) is followed, and are: *Indicator conirostris*, *Pitta reichenowi*, *Acrocephalus baeticatus*, *Terpsiphone batesi*, *Prionops rufiventris*, *Dicrurus modestus*, *Vidua camerunensis*. Dowsett (1993) considers the first six conspecific with, respectively, *I. minor*, *P. angolensis*, *A. scirpaceus*, *T. rufocinerea*, *P. caniceps* and *D. adsimilis*. Both members of all these species pairs are found in Cameroon. A further four species, *Asio flammeus*, *Oenanthe deserti*, *Cisticola aridulus* and *Emberiza hortulana*, have been reported recently (Demey 2003a, b) but await proper documentation, so we prefer not to include them yet.

The following 54 species are to be added to the Dowsett (1993) list, the 46 reported in previous publications and eight in this paper.

Phaethon lepturus White-tailed Tropicbird. This paper.

Sula leucogaster Brown Booby. This paper.

Platalea leucorodia Eurasian Spoonbill. Scholte *et al.* (1999).

Phoenicopterus ruber Greater Flamingo. Scholte *et al.* (1999).

Aythya fuligula Tufted Duck. Bobo *et al.* (2000).

Buteo buteo Common Buzzard. Holyoak & Seddon (1990).

Aquila heliaca Eastern Imperial Eagle. Sørensen *et al.* (1996).

Hieraaetus ayresii Ayres's Hawk Eagle. Clark (1999), Dowsett & Dowsett-Lemaire (2000).

Coturnix coturnix Common Quail. Serle (1950).

Turnix sylvaticus Little Buttonquail. Scholte *et al.* (1999).

Porzana parva Little Crake. This paper.

P. porzana Spotted Crake. Dowsett & Dowsett-Lemaire (2000).

Neotis nuba Nubian Bustard. Scholte *et al.* (1999).

Eupodotis (ruficrista) savilei Savile's Bustard. Scholte *et al.* (1999).

Haematopus ostralegus Eurasian Oystercatcher. This paper.

Vanellus lugubris Lesser Black-winged Lapwing. Scholte *et al.* (1999).

V. gregarius Sociable Lapwing. Messemaker (2004).

Limicola falcinellus Broad-billed Sandpiper. Sørensen *et al.* (1996).

Xenus cinereus Terek Sandpiper. Sørensen *et al.* (1996).

Actitis macularius Spotted Sandpiper. Languy & Lambin (2001).

Larus minutus Little Gull. Quantrill & Quantrill (1995).

Chlidonias hybrida Whiskered Tern. Sørensen *et al.* (1996).

Glaucidium capense African Barred Owlet. Dowsett & Dowsett-Lemaire (2000).

Caprimulgus sp. ?*prigoginei*. Dowsett & Dowsett-Lemaire (2000).

C. eximius Golden Nightjar. Sinclair *et al.* (2003).

- Schoutedenapus myoptilus* Scarce Swift. Dowsett & Dowsett-Lemaire (2000).
Apus pallidus Pallid Swift. Stuart (1986).
Tachymarptis melba Alpine Swift. Stuart (1986).
Merops malimbicus Rosy Bee-eater. This paper.
Lybius guifsobalito Black-billed Barbet. Van Beirs (1997).
Indicator conirostris Thick-billed Honeyguide. Fry *et al.* (1988).
Campethera abingoni Golden-tailed Woodpecker. Dowsett & Dowsett-Lemaire (2000).
Pitta reichenowi Green-breasted Pitta. Keith *et al.* (1992).
Motacilla cinerea Grey Wagtail. Dowsett & Dowsett-Lemaire (2000).
Bleda canicapillus Grey-headed Bristlebill. This paper.
Oenanthe hispanica Black-eared Wheatear. Van den Elzen (1975).
O. isabellina Isabelline Wheatear. Sørensen *et al.* (1996).
Locustella luscinioides Savi's Warbler. Fry (1970).
Acrocephalus baeticatus African Reed Warbler. Urban *et al.* (1997).
Spiloptila clamans Cricket Warbler. Van Beirs (1999).
Apalis flavida Yellow-breasted Apalis. Green (1996).
Macrosphenus kempii Kemp's Longbill. Rodewald & Bowden (1995).
Eremomela canescens Green-backed Eremomela. This paper.
Phylloscopus budongoensis Uganda Woodland Warbler. Dowsett & Dowsett-Lemaire (2000).
Terpsiphone batesi Bates's Paradise Flycatcher. Urban *et al.* (1997).
Chalcomitra adelberti Buff-throated Sunbird. Hopkins (1998) is the first confirmed record, an earlier report from south of Kribi being doubtful (Louette 1981, Dowsett 1993).
Prionops caniceps/rufiventris Rufous-bellied Helmet-shrike. Fry *et al.* (2000). Vocalisations of ssp. *harterti*, included in *P. caniceps* by Fry *et al.* (2000), suggest that it actually belongs to *P. rufiventris* (F. Dowsett-Lemaire pers. comm.); if this proves to be the case, *P. caniceps* will have to be deleted from the Cameroon list.
Dicrurus modestus Velvet-mantled Drongo. Fry *et al.* (2000).
Euplectes gierowii Black Bishop. Dowsett & Dowsett-Lemaire (2000).
Spermophaga poliogenys Grant's Bluebill. This paper.
Lagonosticta umbrinodorsalis Reichenow's Firefinch. Reichenow (1911), Fry & Keith (2004).
Ortygospiza locustella Locust Finch. Dowsett & Dowsett-Lemaire (2000).
Vidua nigeriae Quailfinch Indigobird. Payne (1996), Fry & Keith (2004).
V. camerunensis Cameroon Indigobird. Fry & Keith (2004). Replaces previously listed *V. funerea*.

Details of new records

Phaethontidae

Phaethon lepturus White-tailed Tropicbird. About ten records of birds flying close to the coast, Douala and Suellaba Point, 1969–78 and Jan 1989 (JML). Also observed from Etinde, Jan 1999 (H. Slabbekoorn). First records for Cameroon. Breeds on São Tomé and Annobón; vagrant elsewhere off W Africa (Borrow & Demey 2001).

Sulidae

Sula leucogaster Brown Booby. Single immatures seen at close range from a boat in Wouri Estuary, Jun and Oct 1975, (JML). First records for Cameroon. Uncommon wanderer along entire W African coastline (Borrow & Demey 2001).

Threskiornithidae

Platalea alba African Spoonbill. Two adults, Campement des Éléphants, south of Lagdo town, 15 Mar 2001 (J.F. Magne). First record south of Waza-Logone area.

Anatidae

Aythya fuligula Tufted Duck. A male, Magbe River at Takamanda FR, 10 Mar 2001 (FMN). Third record for Cameroon, following those reported by Bobo *et al.* (2000).

Sagittaridae

Sagittarius serpentarius Secretary Bird. One adult captured and photographed along a logging road, north of Lobéké NP (c. 2°34'N, 15°51'E), 25 Apr 1997 (J.C. Ndo Koumou). This locality is deep inside the lowland forest zone, but with many natural clearings.

Rallidae

Porzana parva Little Crake. One mist-netted and photographed, Lake Maga, 21 Feb 2000 (J. Bredenbeek). First record for Cameroon. Recorded at about the same latitude in nearby Nigeria (Wilkinson *et al.* 1982, Ash 1990); might be a regular visitor to the L. Chad area.

Haematopodidae

Haematopus ostralegus Eurasian Oystercatcher. Coastal records, all from Nov–Feb: one, Limbe, 1972 and 1991; Suellaba Point, one, 1975, and three, 1982 (JML). First records for Cameroon. Throughout W African coast, regularly south to Gabon (Borrow & Demey 2001).

Scolopacidae

Calidris temminckii Temminck's Stint. Five, Mbam River near Magba, 1 Mar 1999 (RD, SKB, FMN & IBA). Other records: singles at Kousseri, 23 Jan 1991 (OAG Münster unpubl.), Ndiguina, 25 Oct 1992 (S. Keen), Dizangue, 4 Jan 1994 (C. Bowden) and Kalamaloué NP, 26 Feb 2002 (J.F. Magne); two earlier records, from Waza and southern Logone floodplain (Louette 1981, Scholte *et al.* 1999).

Xenus cinereus Terek Sandpiper. Two, Dizangue, 29 Mar 2001 (ML). Two previous records: Bénoué River south of Garoua, 13 Nov 1993 and 5 Jan 1995 (S. Gantlett *et al.* unpubl., Sørensen *et al.* 1996).

Laridae

Larus cirrocephalus Grey-headed Gull. Four, Mape Reservoir, 27 Mar 2000 (ML): southernmost record. An adult in non-breeding plumage, lake at Ngaoundaba, 11 Apr 2002 (N. Borrow). Previously only known from Waza-Logone area and Lake Maga (Scholte *et al.* 1999).

Sternidae

Chlidonias hybrida Whiskered Tern. One, Bonaberi, 1 May 1991 (C. Bowden); Ngaoundaba, late Mar 1995 (M. Andrews); one, Dang Lake, Ngaoundéré, 2 Apr 1998 (N. Borrow); six, Pelican Point, Rio del Rey, 13 Feb 1999 (RD & ML); three, Bénoué

River at Garoua, 3 Apr 1999 (N. Borrow); two, Lagdo Reservoir, 12 Mar 2001 and four, Lake Maga, 17 Feb 2002 (J.F. Magne); two, Waza NP, 1 Apr 2002 (N. Borrow). These records, with those mentioned by Sørensen *et al.* (1996) (four records in Bénoué Plain) and Scholte *et al.* (1999) (frequent Oct–Nov in the southern Logone floodplain) show that this previously overlooked species is regular in Cameroon.

Musophagidae

Musophaga violacea Violet Turaco. One, freshly killed by a local hunter, photographed, Wum, Feb 1997 (J. DeMarco); two, Agabble, east of Bafut-Ngamba FR, 13 Apr 2001 (FMN). Regularly for sale on markets in Bamenda (C. Bowden pers. comm.) indicating that it is not uncommon in the area. These are the only records south of the Adamawa Plateau. Agabble is 50 km west of Mt Mbam and 22 km south of Sabga Pass, where Ross's Turaco *M. rossae* occurs (RD & KYN, M. Andrews).

Cuculidae

Pachycoccyx audeberti Thick-billed Cuckoo. One, Ebogo, 17 Sep 1998 (ML); two in wooded savanna and gallery forest *c.* 60 km south of Tibati (6°8'N, 12°28'E), 13 Apr 1999 (RD, ML & IBA). Observed at Boumba-Bek in two different areas, Dec 1997 (F. Dowsett-Lemaire & R.J. Dowsett unpubl.). One earlier record, Bitye (Louette 1981).

Apodidae

Apus caffer White-rumped Swift. Colony of *c.* 15 birds on bridge between Banyo and Tibati (6°42'N, 11°46'E), 7 Apr 1999; two, bridge near Tibati (6°30'N, 13°36'E), 7 Apr 1999 (RD, ML & IBA). Apparently fairly common in the Bénoué NP area: two, 1 Apr 1998 and 10–20, 8–10 Apr 2000 (N. Borrow); 40, 1 Aug 2000 (V. Schollaert); 2–6, 10–12 Mar 2001 and six, 8 Apr 2002 (N. Borrow). Previous records from Manenguba, Oku, Ngaoundaba, Ngaoundéré, Hosséré Vokré and Logone floodplain (Louette 1981, Stuart 1986, B. Larison *et al.*, J. Hornbuckle, Scholte *et al.* 1999).

A. horus Horus Swift. One, Kim River, Ngambe Tikar (5°54'N, 11°29'E), 15 Mar 1999 (RD & IBA); two, bridge near Tibati, 7 Apr 1999 (RD, ML & IBA); six, Bianco (6°30'N, 12°37'E and 6°31'N, 12°37'E), Mar–Apr 1999, the birds at the latter locality visiting nests (ML & IBA); two, Mt Mbam, 13 Mar 2000 (RD); near Ngaoundaba, *c.* 30, 29 Dec 1995 and ten, 5 Apr 1999 (N. Borrow). Also observed Ngaoundaba 1997 (J. Vermeulen) and Faro NP, Mar 1999 (F. Dowsett-Lemaire & R.J. Dowsett unpubl.). One earlier record (Robertson 1993a).

Coliidae

Urocolius macrourus Blue-naped Mousebird. Three, Langui, 6 Feb 2000 (SKB & IBA). Gashiga-Demsa area, NW of Garoua, first recorded 8 Feb 2000, then regularly (groups of 4–8) in Oct 2000 (ML, SKB & FMN). Southernmost records in Cameroon.

Meropidae

Merops hirundineus Swallow-tailed Bee-eater. Two pairs at each of Mayo-Louti FR and Mozogo-Gokoro NP, Jan 2000. Seven sightings at Tchabal Ngandaba, Apr 2000, and Bouba Ndjida NP, Jul 2001 (SKB, FMN, KYN). Observed at Faro NP, Mar 1999 (F. Dowsett-Lemaire & R.J. Dowsett unpubl.). Previously only known from Bénoué NP (Robertson 1992).

M. malimbicus Rosy Bee-eater. One, Abonshie, Donga River, Jun 1982; one, Akwaya airport, Apr 1991 (JML). First records for Cameroon. Known nearby in Nigeria (Elgood *et al.* 1994). Reichenow (1910) reports it from Akonangi, Equatorial Guinea, but the locality may actually lie in S Cameroon. Akonangi is a Fang name used both sides of the border.

Picidae

Dendropicos poecilolaemus Speckle-breasted Woodpecker. Several records of a pair at forest edge, Bali-Ngemba FR, Bamenda, Mar–Jun 2000 (RD, KYN). Recorded nearby at two localities near Akah on the E edge of Bafut Ngemba FR, 4–5 May 2001 (FMN). Only two other records since those of Germain *et al.* (1973): Mt Febe (Quantrill & Quantrill 1998) and Plaine Tikar (F. Baillon pers. comm.).

Alaudidae

Galerida modesta Sun Lark. Two, Eboumetoum airfield, 24 Oct 2001 (ML, SKB & FMN). The airfield lies in lowland forest; by far the most southerly record in Cameroon.

Motacillidae

Anthus pallidiventris Long-legged Pipit. Commonly recorded west, north and east of Campo Ma'an NP, from Kribi to Nyabizan, 1999–2001 (RD & IBA); further north at Batoke, 16 Feb 2000 (V. Schollaert) and further east at Eboumetoum airfield, 24 Oct 2001 (ML, SKB & FMN). Cameroon distribution now includes the coastal area west to Korup, and inland south of a line Douala–Yaoundé–Eboumetoum, Eboumetoum being the easternmost locality. Known at Odzala (Congo) and there is extensive suitable habitat in SE Cameroon, in particular at Kika, but so far not found there.

Campephagidae

Lobotos oriolinus Eastern Wattled Cuckoo-shrike. One, Ebianemeyong, Campo Ma'an NP, 27 Mar 1999 (RD, ML & IBA); one, north of Lobéké NP (2°31'N, 15°34'E), 30 Nov 2001 (FMN). First records since those of Good (1952–3).

Pycnonotidae

Bleda canicapillus Grey-headed Bristlebill. An adult mist-netted in secondary forest at Mbilishi, at the edge of Takamanda FR, 20 Dec 2001; another caught the next day (FMN). First records for Cameroon. Recorded across Nigeria (Elgood *et al.* 1994).

Turdidae

Zoothera camaronensis Black-eared Ground Thrush. One, Matsari area (5°24'N, 12°12'E), 10 Mar 1999 (ML); one mist-netted, Mbam Djerem NP near River Mékié (5°45'N, 12°40'E), c. 70 km NE of previous site, 12 Mar 2000 (FMN & R. Fotso, SKB). The only records in Cameroon outside the Atlantic forest.

Sylviidae

Bradypterus grandis Dja River Warbler. Three new sites: north of Ndongo (at 2°12'N, 14°51'E) and north of Lobéké NP (2°31'N, 15°34'E and 2°34'N, 15°51'E), Nov 2001 (SKB & FMN). Previously known only from Bitye (Dja area), Nki and Lobéké NP, and five sites in Gabon and Central African Republic (BirdLife International 2000, Fontaine 2003).

Cisticola dorsti Dorst's Cisticola. Many singing in wooded savanna, Bouba Ndjida NP, Jul 2001 (SKB & FMN). New site. Rather common in Faro and Bénoué NPs (F. Dowsett-Lemaire & R.J. Dowsett unpubl.). Few sites yet known.

Macrosphenus kemp Kemp's Longbill. Seen and heard on three occasions, Takamanda FR, Jan 2001 (FMN). Previously known only from Korup NP (Rodewald & Bowden 1995, Rodewald *et al.* 1994).

Eremomela canescens Green-backed Eremomela. Two seen in excellent conditions, Yangamo area (4°56'N, 14°2'E), 20 Oct 2000 (ML, SKB & FMN). They were easily identified by their black eye-stripe highlighted by a white supercilium; top of head pearl-grey contrasting with green back; throat pure white contrasting with bright yellow underparts. The plumage was typical of *E. canescens* and not intermediate between it and Senegal Eremomela *E. pusilla*, as in the specimens collected near Meiganga and Garoua-Boulai by Good (Louette 1981). Also recorded at nearby Ketté, Feb 1982 (JML). First records for Cameroon.

Phylloscopus budongoensis Uganda Woodland Warbler. One seen and tape-recorded, Akom II area, Campo Ma'an NP, 16–18 Feb 2000 (RD & ML). Western range extension. Since found in forest concessions 10-037 (3°N, 14°E) and 10-047 (3°40'N, 13°15'E) near Dja Faunal Reserve, Jan 2002, and in Dimako Community Forest (4°10'N, 13°23'E), Dec 2000 and Feb 2001 (SKB), filling the gap between Campo Ma'an and the Lobéké area, where it was discovered in Apr 1997 (Dowsett-Lemaire & Dowsett 2000).

Muscicapidae

[*Muscicapa ussheri* Ussher's Flycatcher. Kepani, Takamanda FR, 23 and 24 Jan 2001, two and one respectively (FMN). One perched near a Sooty Flycatcher *M. infusata*, allowing excellent comparisons in good light: it was distinctly darker and duller and clearly lacked the stripes of the latter. This single-observer sight record would constitute the first for Cameroon, but we treat it as a possible record pending further evidence. Claims from Nigeria (one mist-netted at Serti and sightings near Obudu and at the Benin River mouth (Elgood *et al.* 1994) are unsupported by specimens or photographs and, being well to the east of the species' main range, are also best treated with caution (cf. Marchant 1966).]

Platysteiridae

Dyaphorophya blissetti Red-cheeked Wattle-eye. A male seen well in a mixed-species flock, Takamanda FR near Obonyi, 15 Jan 2001 (FMN). The site is <10 km west of the nearest observation of Black-necked Wattle-eye *D. chalybea*, recorded during the same survey. One, near Poacher Jean's Cave, Korup NP, 21 Mar 2000 (N. Borrow). Previously known from Kumba and the Mt Cameroon area, at about the same longitude as Obonyi (Eisentraut 1973, Louette 1981).

Batis orientalis Grey-headed Batis. Common, Bouba Ndjida NP, Jul 2001 (SKB & FMN). Seems to replace Senegal Batis *B. senegalensis*, found to the west of Bouba Ndjida, although *B. senegalensis* has been collected at Boki (van den Elzen 1975).

Timaliidae

Phyllanthus atripennis Capuchin Babbler. Six, Santchou Faunal Reserve, 12 Dec 1999 (SKB & IBA); two groups, Takamanda FR, Jan 2001 (FMN). Also reported Ngaoundaba, Feb 1999 (H. Slabbekoorn). Three previous records, Bangwa, Abonando and Nkongsamba (Reichenow 1911, Louette 1981).

Salpornithidae

Salpornis spilonotus Spotted Creeper. Two, south of Maham (4°59'N, 10°42'E), 13 Apr 2001 (ML). Southernmost record in Cameroon, indicating that it may also occur in forest-savanna mosaic south of the Adamawa Plateau.

Nectariniidae

Cinnyris osea Palestine Sunbird. A territorial male and a female, east of Meiganga (6°37'N, 14°17'E), 24 Oct 2000; seen again and tape-recorded, 31 Oct (ML). Another singing male, c. 50 km to the south-west (6°25'N, 13°53'E), 1 Nov 2000 (SKB & FMN). One previous record: one collected at Tello, c. 50 km north of the Meiganga site, 1974 (Louette 1981).

Laniidae

Lanius meridionalis Southern Grey Shrike. One, Kalfou, 6 Feb 2000 (KYN & SKB). Southernmost record. Previously only recorded from Maroua and Waza-Logone area (Louette 1981, Scholte *et al.* 1999).

L. excubitoroides Grey-backed Fiscal. One, south of Garoua (9°19'N, 13°39'E), 1 Feb 2000; one, 10 km W of previous site, Oct 2000 (SKB). Southernmost records for Cameroon.

Malaconotidae

Dryoscopus angolensis Pink-footed Puffback. One male, seen well south of Lobéké (2°3'N, 15°37'E), 13 Nov 2000 (FMN). Very easterly record. Mainly restricted to montane areas, but also known from lowland forest localities (Louette 1981).

Sturnidae

Grafisia torquata White-collared Starling. Five, Kika in extreme south-east, 13 Nov 2001 (FMN). Most southerly record for Cameroon, deep in the forest block. A pair at treehole (nest?), with another pair nearby, Tibati–Yoko road (5°51'N, 12°15'E), 13 Apr 1999 (RD, ML & IBA).

Creatophora cinerea Wattled Starling. C. 40 km south of Maroua: three, 12 Nov 2000 and four, 13 Nov 2000. Previously known from Ngaoundaba and Waza-Logone region (Robertson 1993b, Scholte *et al.* 1999).

Ploceidae

Brachycope anomala Bob-tailed Weaver. A pair feeding four fledglings in the SIBAF logging company compound, Kika, 7 Oct 2001 (ML & SKB). An adult at the same spot, 29 Nov 2001 (SKB & FMN). One in a grassy area along the Dja River near Ndongo village, 27 Nov 2001 (SKB). Only previous record, a pair collected at Moloundou (Good 1953).

Euplectes gierowii Black Bishop. Three males in breeding dress, marshy areas west of Meiganga, 1 Nov 2000 (SKB & FMN). A male in similar habitat near Dimako, more to the south, 1 Dec 2000 (SKB). Discovered in the Fundong area, North-west Province, Jul 1997 (J. DeMarco). The new sites fill the gap between the Fundong area and records at Bangui, Central African Republic (Dowsett & Dowsett-Lemaire 2000).

Estrildidae

Spermophaga poliogenys Grant's Bluebill. A pair seen well in a swampy area north of Lobéké (2°31'N, 15°34'E), 30 Nov 2001 and a pair three days later at 2°34'N,

15°51'E (FMN). First records for Cameroon. Discovered in nearby Nouabalé-Ndoki NP, Congo (*c.* 2°12'N, 16°12'E), May 1997 (Dowsett-Lemaire & Dowsett 1998).

Emberizidae

Emberiza flaviventris African Golden-breasted Bunting. An adult *c.* 40 km S of Maroua, 12 Nov 2000. Apparently the fourth record for Cameroon, the others being from Garoua, south of Waza and Gagadje (Louette 1981, Robertson 1992).

Discussion

The records documented in this paper add 54 species to the previous total of 872 species (874 listed by Dowsett 1993, minus two, *Tauraco erythrolophus*, deleted by Dowsett & Dowsett-Lemaire 2000, and *Vidua funerea*, now replaced by *V. camerunensis* by Fry & Keith 2004). Note that Dowsett & Dowsett-Lemaire (2000) miscalculated the additions they report, the correct figure being 34, not 35. Thus, the total of species for Cameroon now stands at 926.

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New bird records for the Korup Project Area, southwest Cameroon

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Abstract

Twelve new bird species are reported from Korup Project Area, giving a total of 419 species so far recorded there. Seven species previously recorded only once or twice are confirmed. Most of the species newly added have their principal range in savanna.

Résumé

Nouveaux records d'oiseaux pour la zone du projet Korup, sud-ouest Cameroun. Douze nouvelles espèces sont listées, élevant à 419 le nombre d'espèces d'oiseaux jusqu'à lors observées dans la Zone du Projet Korup. Sept espèces sont aussi présentées pour leur confirmation. La plupart de ces espèces sont connues principalement des zones de savane.

Introduction

The Korup Project Area (KPA) in SW Cameroon, adjoining the border with Nigeria, includes Korup National Park (KNP), three Forest Reserves (Nta Ali, Ejagham and Rumpi Hills) and logging concessions and communal land, covered to a large extent by closed forest. It encompasses roughly 5000 km² and lies mainly below 850 m but includes forested peaks of which the highest is Mt Rata (1768 m) in the Rumpi Hills.

The avifauna of this area is one of the best known in Cameroon, with high diversity due to the variety of habitats, from coastal mangroves and swamp forests, rivers, lowland and sub-montane forest with both Atlantic and continental influences, and various derived land uses. The proximity of the area to the savanna belt further increases the diversity.

The first published ornithological accounts from the KPA were those of Agland (in Gartlan 1984) and Thomas (1991), while an intensive 36-month survey was

conducted by Rodewald *et al.* (1994) between 1990 and 1993. The latter included information from lowland forests and montane areas, and indicated that up to 1993, 390 bird species had been found in KPA. More records were provided by Green & Rodewald (1996) bringing the total to 407.

The present report is a compilation of recent observations in the area around Abat-Mgbegati-Basu, which lies between 5°21'N and 5°25'N and 9°9'E and 9°13'E in the Korup Support Zone (Fig. 1), which is that part of the KPA, as defined by Rodewald *et al.* (1994), outside the KNP.

Study area and methods

The area is flat, between 200 and 250 m a.s.l. At Nguti (Fig. 1), annual rainfall and average temperature were 3809 mm and 27.4°C (with average monthly maximum of 33.2°C) in 2002 (Nambu 2003).

Primary forests in the area have mostly only been converted to other land use close to villages, but conversion seemed to be increasing compared to the period 1998–2002 (BKS & WM pers. obs.). The bird species discussed here were observed in natural or logged lowland forest, as well as in adjacent land use types of which agroforestry (cocoa, coffee) and annual cultures of maize and cassava are the most prominent. More severe in terms of area converted is the establishment of large oil-palm plantations.

Almost as much time was spent in farmland as in forest. Most surveys were in the form of point counts (Bibby *et al.* 1995), during the dry season Dec 2003 to Mar 2004, while studying land use effects on bird communities (Waltert *et al.* in press). Additional observations were obtained during a survey of Grey-necked Picathartes *Picathartes oreas* between Dec 2000 and Feb 2001 (Fichtler 2002). Repeated visits were made to plots in four different habitat types: natural (old-growth) forests, secondary forests, agroforestry (cocoa, coffee) and annual cultures (maize, cassava). Natural forests were along the Mgbegati–Basu road, secondary forests along Mgbegati–Abat road, cocoa-coffee farms along Abat–Basu road and annual crops along Abat–Bajo road (Fig. 1). Six plots were established in each habitat. Each was visited nine times within the study period, for 20 min. between 6h00 and 9h00. Species were identified using mainly Borrow & Demey (2001) and Kemp & Kemp (1998). Unfamiliar bird voices were taped and confirmed using Chappuis (2000). Status (from Rodewald *et al.* 1994) is: R (resident); PM (Palaeartic migrant); AM (intra-African migrant); LM (local movements).

Results

Species recorded for the first time in KPA are indicated by an asterisk. The others have previously been recorded only once or twice in the area.

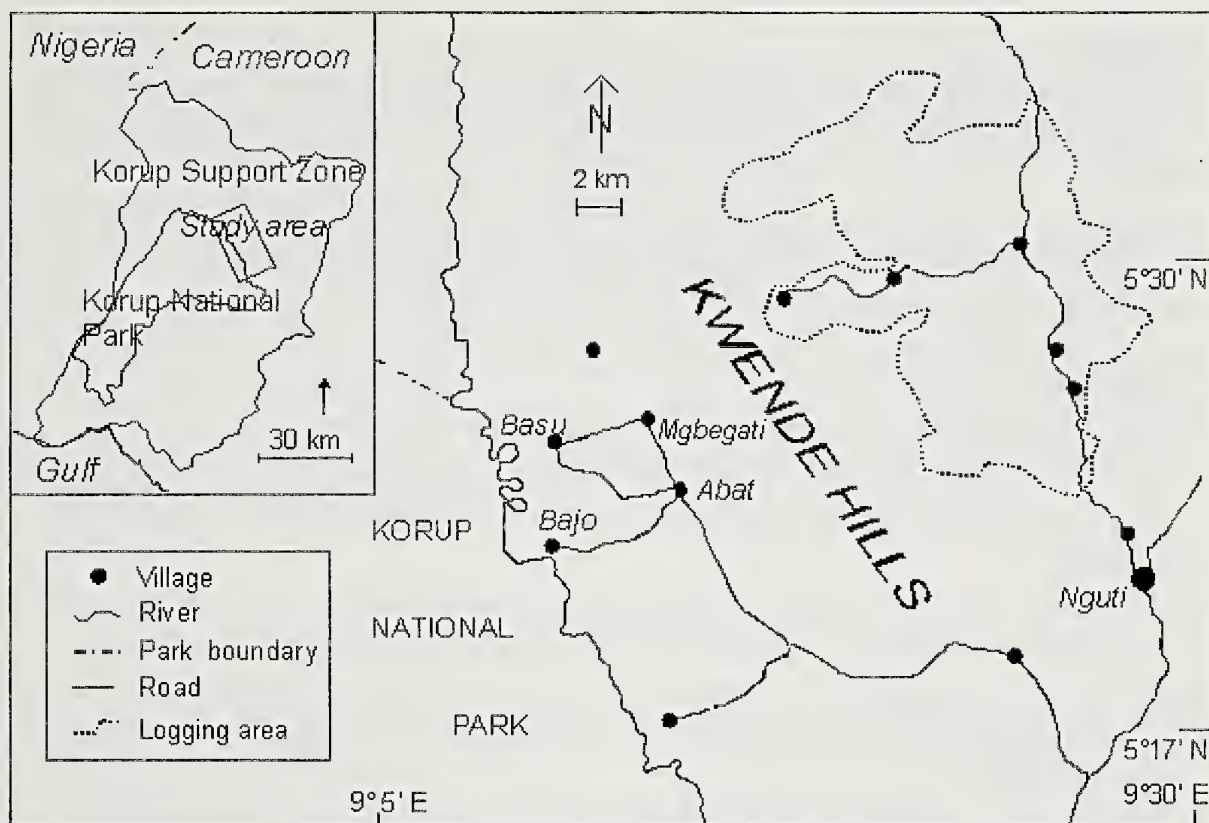


Figure 1. Study area.

Accipitridae

Elanus caeruleus Black-shouldered Kite. One seen along the Mamfe–Eyumojock road, 7 Jan 2001. [LM. Observed once near Mundemba, 29 Sep 1992 (Rodewald *et al.* 1994).]

**Circaetus beaudouini* Beaudouin's Snake-eagle. An adult male flying over a cocoa-forest farm beside the Abat–Basu road, 26 Feb 2004. [LM. Normally further north, but could appear during dry season (Borrow & Demey 2001, Kemp & Kemp 1998).]

Falconidae

**Falco cuvierii* African Hobby. Two atop a large tree at the border of a farm and secondary forest near Abat, 21 Jan 2004. [LM.]

Rallidae

Sarothrura elegans Buff-spotted Flufftail. One calling at sunset at secondary forest edge, Mgbegati, 19 Jan 2004. [R. First seen in KPA in 1992 (Green & Rodewald 1996).]

Cuculidae

**Pachycoccyx audeberti* Thick-billed Cuckoo. Seen twice: in canopy of trees in farmland near Abat, 28 Jan 2004; in fallow land near Basu, 15 Feb 2004. [R/LM.]

Trogonidae

**Apaloderma narina* Narina's Trogon. Two calling at different positions in primary forest along the Mgbegati–Basu road, 30 and 31 Dec 2003. No call heard Jan–Apr. [R. Dowsett & Dowsett-Lemaire (1988) listed it from Oban East (Nigeria), but requiring confirmation.]

Meropidae

Merops pusillus Little Bee-eater. Four hunting insects in a cassava farm in Abat, 15 Jan 2004; four in farmland, Mundemba, Jan 2001. [R. First mentioned by Green & Rodewald (1996).]

Picidae

Dendropicos pyrrhogaster Fire-bellied Woodpecker. Seen once in secondary forest near Mgbegati, and frequently on old trees in cocoa-coffee plantations and annual crops along Abat–Basu–Bajo road, Jan–Mar 2004. Seen in secondary forest around Nguti, Dec 2000 to Jan 2001. [R. First mentioned by Green & Rodewald (1996).]

Hirundinidae

Hirundo aethiopica Ethiopian Swallow. Two seen in Mundemba town, 20 and 23 Jan 2001. [Well known to the coast in Nigeria, but few records so far south in Cameroon. A pair at Mundemba, between Dec 1994 and Feb 1995 (Green & Rodewald 1996).]

Motacillidae

**Anthus pallidiventris* Long-legged Pipit. A pair seen many times along Abat–Bajo road near farmland, and two couples regularly seen on Abat football field. [R, frequent. Unconfirmed reports by several observers near Baro and south of Mundemba (Green & Rodewald 1996). One unpublished record at Baro (E. Williams *per* M. Languy *pers. comm.*).]

Campephagidae

Campephaga phoenicea Red-shouldered Cuckoo-shrike. A pair in the canopy of a tree in a cocoa-coffee farm, 12 Jan 2004. A male and two females or young seen twice on a tree at the edge of a farm near Abat, 28 Jan and 21 Feb 2004. [LM. Only previous dry season record in Korup was at Baro (Green & Rodewald 1996). Generally a savanna species (Louette 1981), moving northward during the rains (Borrow & Demey 2001).]

Sylviidae

**Acrocephalus arundinaceus* Great Reed Warbler. Many individuals singing at different locations: one in Nguti in dense tall grasses near a small stream, 15 Jan 2001; one at Pamol Plantation, 5 Jan 2001; one in garden in Mundemba, 26 Jan 2001; one in Mundemba in dense grasses near a small stream, 23 Feb 2001. [PM, frequent.]

**Hippolais icterina* Icterine Warbler. One seen in heavily degraded forest along the main road south of Nguti, 2 Jan 2001. [PM.]

Turdidae

**Luscinia megarhynchos* Nightingale. One singing at noon in a bush in oil palm plantations at Makeke, Mundemba, 26 Jan 2001. [PM].

Monarchidae

**Dyaphorophya blissetti* Red-cheeked Wattle-eye. One seen on an understorey shrub in a cocoa-coffee farm along Abat–Basu road, 10 Jan 2004. [R. Only recently recorded: KNP, 21 Mar 2000 (N. Borrow, *pers. comm.*); Takamanda Forest Reserve, 15 Jan 2001 (Languy & Njie 2003) *c.* 30 km NW of the present record.]

Timaliidae

**Phyllanthus atripennis* Capuchin Babbler. A flock of four seen and heard in secondary forest understorey along the Mgbegati–Abat road, 5 Jan 2004. [R].

Nectariniidae

**Chalcomitra senegalensis* Scarlet-chested Sunbird. A couple seen in a crop farm in Mgbegati, 28 Dec 2003. Two pairs seen on farmland along the Abat–Bajo road, 28 and 29 Jan 2004. [LM/AM, frequent. Normally in savanna (Louette 1981), but some southern records exist (Borrow & Demey 2001).]

**Cinnyris cupreus* Copper Sunbird. Two couples seen on farmland along Abat–Bajo road, 14, 15, 28 and 29 Jan 2004. [R/LM, frequent].

Laniidae

Lanius senator Woodchat Shrike. One seen many times on small trees in a farm area near Abat, 28 Jan to 28 Feb 2004. One hunting from an electrical line south of Mundemba, 22–23 Jan 2001. [PM, first observed in an oil palm plantation, 28 Dec 1994 (Green & Rodewald 1996).]

Discussion

Twelve species appear to be new for the Korup region, making a total of 419 bird species in KPA including KNP. Most of the new species are local migrants (*sensu* Green & Rodewald 1996) from savanna less than 30 km to the north. Many more species probably remain to be discovered as new sites are surveyed.

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New bird records from Mauritania

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Summary

A total of 13 months of avifaunal research was carried out in Mauritania between November 2000 and May 2004. We describe 65 species new to the country, or rarely reported, or observed outside their confirmed range, although previous unconfirmed observations exist for many in the last category. Breeding populations of Stonechat *Saxicola torquata moptana* and Spectacled Warbler *Sylvia conspicillata* were discovered. The occurrence of Tristram's Warbler *Sylvia deserticola* was confirmed and six species new for Mauritania discovered (Verreaux's Eagle *Aquila verreauxii*, Lesser Striped Swallow *Hirundo abyssinica*, Moussier's Redstart *Phoenicurus moussieri*, Iberian Chiffchaff *Phylloscopus ibericus*, River Prinia *Prinia fluviatilis*, Zebra Waxbill *Amandava subflava*).

Résumé

Nouvelles observations d'oiseaux en Mauritanie. Un total de 13 mois de recherche sur l'avifaune a été mené en Mauritanie entre novembre 2000 et mai 2004. Nous décrivons 65 espèces nouvelles pour le pays, ou observées rarement ou encore observées en dehors de leur habitat reconnu, bien que des observations antérieures non confirmées existent déjà pour beaucoup de la dernière catégorie. Des populations nicheuses du Traquet pâle *Saxicola torquata moptana* et de la Fauvette à lunettes *Sylvia conspicillata* ont été trouvées. La présence de la Fauvette de l'Atlas *Sylvia deserticola* a été confirmée et on a découvert six espèces nouvelles pour la Mauritanie (Aigle de Verreaux *Aquila verreauxii*, Hirondelle à gorge striée *Hirundo abyssinica*, Rouge-queue de Moussier *Phoenicurus moussieri*, Pouillot ibérique *Phylloscopus ibericus*, Prinia aquatique *Prinia fluviatilis*, Bengali zébré *Amandava subflava*).

Introduction

The distribution of bird species in Mauritania is of special interest as the country is at the interface of two zoogeographical regions: Palaearctic and Afrotropical (Browne 1981a, Hoyo *et al.* 1992). Therefore, many tropical and Palaearctic species may reach their northern and southern breeding limits within Mauritania. The two zones are separated by the Sahara, which serves as an ecological barrier. However, the coast and oases within the desert, as well as wetlands in the Sahel zone connect the two regions. Palaearctic birds have been found breeding in the Afrotropics in SW Mauritania (Browne 1981b) and afrotropical species in N Mauritania (Lamarche 1988). Furthermore, both Palaearctic and afrotropical migrants, which use the country as stopover areas, increase the overlap between Palaearctic and tropical faunas. Additionally, there are true desert species, adapted to conditions in the Sahara. Thus, Mauritania could serve as a field laboratory for study of the co-occurrence of faunal elements from different zoogeographical regions, as well as the consequences of the relatively recent desertification on gene drift and speciation.

Such studies require a profound knowledge of the country's avifauna. Relatively little ornithological work has been done in Mauritania, with the exception of local studies by Gee (1984), studies of Palaearctic migrants in Banc d'Arguin NP (*e.g.* Zwarts *et al.* 1998) and SW Mauritania (Browne 1982) and of waterbirds in the south (*e.g.* Dodman & Diagana 2003). A species list was published privately by Lamarche (1988) but is difficult to obtain and contains many generalizations of distribution rather than detailing individual records. The list of Dowsett & Dowsett-Lemaire (1993) is based on Lamarche (1988) plus other records, including unpublished ones (P.W.P. Browne pers. comm.). Borrow & Demey (2001) review the avifauna but their distribution ranges for Mauritania are generally much more restricted than the records reviewed below suggest, since they omitted many records from Lamarche (1988), regarding them as unconfirmed (R. Demey pers. comm.).

During an investigation of the migration strategies of Palaearctic migrants across the Sahara, the Swiss Ornithological Institute carried out three exploratory trips (Nov 2000, Sep 2001, Mar–Apr 2002) and three field seasons (Feb–May 2003, Aug–Nov 2003, Feb–May 2004) in Mauritania, with up to 30 people engaged in field work at a time, for a total of approximately 13 months, at multiple sites. Bird observations were recorded daily. Here, we list all observations of species rarely reported from the country or far outside the species' range as indicated by Borrow & Demey (2001). Many of the latter simply confirm information already in Lamarche (1988). We omit detailed discussion of inland records of typical coastal species, such as Glossy Ibis *Plegadis falcinellus*, Eurasian Spoonbill *Platalea leucorodia*, Black-winged Stilt *Himantopus himantopus*, Collared Pratincole *Glareola pratincola*, Curlew Sandpiper *Calidris ferruginea*, Dunlin *C. alpina*, Curlew *Numenius arquata*, Black-tailed Godwit *Limosa limosa*, Common Redshank *Tringa totanus*, Marsh Sandpiper *T. stagnatilis*, Gull-billed Tern *Gelochelidon nilotica*, Sandwich Tern *Sterna*

sandvicensis, Black Tern *Chlidonias niger* and Whiskered Tern *C. hybridus*, from Tagourâret, Guelta Metraugha, Tenlaba, Ouadâne, Gabou and Tichît (all wetlands or held water after the rains), because it is known that these migrants cross the desert regularly (Moreau 1967, Dowsett 1980). This also applies to most Palaearctic Sylviidae mist-netted outside the range indicated by Borrow & Demey (2001) but on presumed migration routes (e.g. Grasshopper Warbler *Locustella naevia* in Tichît, Aquatic Warbler *Acrocephalus paludicola* near Nouakchott). We also omit observations of African Anatidae like White-faced Whistling Duck *Dendrocygna viduata*, Egyptian Goose *Alopochen aegyptiacus*, Spur-winged Goose *Plectropterus gambensis*, Knob-billed Duck *Sarkidiornis melanotos* and Purple Swamphen *Porphyrio porphyrio* seen in small numbers outside the range indicated by Borrow & Demey (2001), such as at Maghmouda, Gabou or Lac D'Aleg, because Dodman *et al.* (1999) and Dodman & Diagana (2003) revealed that thousands of these species might occur in some of these localities. Details of these omitted observations are available from the authors.

All locations mentioned are listed in Table 1. The "plateau El Aaguer" of Lamarche (1988) is not listed in his gazetteer. It is probably the partial faunal reserve of El Aaguer between Kiffa and Ayoun el Atrous and is identical with the region of Affolé (P.W.P. Browne pers. comm.). Nomenclature of localities is from the Michelin map *Afrique Nord et Ouest* (1994) or Lamarche (1988). Bird nomenclature and taxonomic sequence follow Borrow & Demey (2001), abundance is according to Morel & Tye (1995). Observers' initials are given for most records except for common birds that were observed by many members of the team. Observers were: AH Agneta Heuman, AM André Mauley, AS Adrian Schlageter, ARM Antonio Romano Muñoz, BA Bettina Almasi, BB Bruno Bruderer, CS Chantal Spiess, DZ Daniel Zürrer, DP Dieter Peter, EB Erich Bächler, FK Fränzi Korner-Nievergelt, FL Felix Liechti, FS Florian Steiner, HS Heiko Schmaljohann, HSt Herbert Stark, IM Ivan Maggini, LF Luzius Fischer, MD Markus Deutsch, MG Matthias Griesser, MH Marc Herremans, MS Martin Suhrbek, MSc Michael Schaad, MSp Martin Spiess, MT Marco Thoma, NS Nina Seifert, OM Olivia Meinen, PJ Peter Jones, PK Pius Korner, PS Pia Schütz, RA Res Altwegg, SK Stefan Kunz, SB Stefan Bitsch, SS Sabine Schaufelberger, TR Tobias Roth, TS Thomas Stalling, VM Veronika Martignoli, VS Volker Salewski. In the list we describe our records followed by the species' status given by former authors in square brackets.

Species list

Podicipedidae

Tachybaptus ruficollis Little Grebe. Frequent, up to 12, Akjoujt, Mar and May 2004; a pair with two young, May (AM, FL, LF, VM). [Scarce winter visitor in NW, probably scarce visitor in SW, probably Afrotropical origin (Browne 1982); *T. r. capensis* breeds Aug–Feb in the south and Sahel (Lamarche 1988).]

Table 1. Gazetteer. Sources: B = Bengtsson (1997), D = Dekeyser (1954), G = Gee (1984), L = Lamarche (1988), MH = Marc Herremans GPS data, PB = P.W.P. Browne pers. comm., SOI = Swiss Ornithological Institute GPS data, WWW = World Wide Web. Coordinates for regions mentioned by Lamarche (1988) are for the approximate centre of the region.

Ablawakh, 18°30'N, 16°05'W, L	Karakoro (valley), 14°43'N, 12°3'W, L
Adrar (region), 20°30'N, 13°30'W, L	Kediet ej Jill (region), 22°38'N, 12°33'W, L
Affolé (region), 16°55'N, 10°25'W, L	Keur Massène, 16°33'N, 16°14'W, L
Aghrîjt, 18°24'N, 9°15'W, L	Kiaone (islands), 20°1'N, 16°17'W, L
Akjoujt, 19°25'N, 14°46'W, SOI	Kiffa, 16°37'N, 11°24'W, L
Aklé Awana, 18°9'N, 5°40'W, L	Lac D'Aleg, 17°9'N, 14°3'W, SOI
Akmakam, 21°53'N, 11°13'W, SOI	Lac de Mâl, 16°58'N, 13°23'W, L
Assaba (region), 16°20'N, 11°52'W, L	Lac R'kiz, 16°50'N, 15°19'W, L
Atar, 20°31'N, 13°3'W, L	Lemsid, 18°42'N, 16°7'W, L
Ayoûn el Atroûs, 16°38'N, 9°37'W, L	Maghmouda (lake), 16°24'N, 7°42'W, SOI
Banc d'Arguin, 19°43'N, 16°18'W, L	Magtâ Lahjar, 17°3'N, 13°5'W, WWW
Bir Amrâne, 22°47'N, 8°43'W, SOI	Mederdra, 16°55'N, 15°39'W, L
Bogué, 16°35'N, 14°16'W, L	Metraugha (guelta), 16°38'N, 11°24'W, SOI
Bou Mdeïd, 17°26'N, 11°21'W, L	Mohamed Lemna, 18°35'N, 8°38'W, SOI
Bou Toumtaya, 16°51'N, 15°38'W, D	Moudjeria, 17°53'N, 12°20'W, L
Bougarie (lake), 16°37'N, 11°15'W, SOI	N'Beïka, 17°58'N, 12°15'W, L
Boutilimit, 17°33'N, 14°42'W, L	Néma, 16°37'N, 7°15'W, L
Cap Blanc, 21°0'N, 17°4'W, L	Nouâdhibou, 20°54'N, 17°4'W, L
Cap Tafarit, 20°8'N, 16°16'W, L	Nouakchott, 18°5'N, 15°59'W, SOI
Cap Tegarât, 20°13'N, 16°10'W, WWW	Ouadâne, 20°54'N, 11°35'W, SOI
Cap Timirist, 19°23'N, 16°32'W, L	Ouagchogda, 19°48'N, 12°59'W, L
Char, 21°31'N, 12°51'W, PB	Oualâta, 17°18'N, 7°2'W, SOI
Chegga, 25°25'N, 5°48'W, L	PK 28, 17°43'N, 16°2'W, SOI
Chinguetti, 20°27'N, 12°22'W, L	Podor, 16°35'N, 15°2'W, G
Chott'Boul, 16°36'N, 16°26'W, L	Rosso, 16°30'N, 15°49'W, L
Diawling NP, 16°18'N, 16°24'W, SOI	Ryong, 16°35'N, 10°24'W, L
El Gawiya, 18°27'N, 10°49'W, SOI	Tagant (region), 17°31'N, 12°7'W, L
El Ghallâouïya, 21°35'N, 10°35'W, L	Tagourâret, 17°40'N, 7°29'W, WWW
F'derick, 22°41'N, 12°42'W, WWW	Tamchakett, 17°15'N, 10°40'W, L
Foum Gleïta, 16°10'N, 12°40'W, L	Tamourt n'Naaj (valley), 18°0'N, 12°10'W, L
Gabou, 18°21'N, 12°20'W, SOI	Tanoudert, 20°34'N, 11°53'W, L
Gorgol (region), 15°45'N, 13°0'W, L	Tenadi, 17°52'N, 15°8'W, SOI
Guimaka (region), 15°30'N, 12°0'W, L	Tenlaba, 20°59'N, 11°41'W, MH
Ibi (region), 20°2'N, 13°22'W, L	Tichît, 18°26'N, 9°30'W, SOI
Idini, 17°57'N, 15°28'W, SOI	Tidjikja, 18°25'N, 11°35'W, SOI
Iouïk, 19°53'N, 16°18'W, SOI	Tiouilt, 18°52'N, 16°10'W, B
Jbéliat (region), 20°50'N, 12°50'W, L	Zemmour (region), 25°5'N, 12°0'W, L
Kaedi, 16°9'N, 13°30'W, L	

Phalacrocoracidae

Phalacrocorax africanus Long-tailed Cormorant. *C.* ten, Maghmouda, 21 Sep 2001 (DP, FL, RA, VS); one, Iouïk, 29 Mar 2003. [Lac R'Kiz (Dekeyser 1954); nests Banc d'Arguin NP (Trotignon 1976, Campredon 1987); coastal areas, Senegal valley, occasional in Sahel zone: Aleg, Tamourt n'Naaj, Bou Mdeïd, Tamchakett, Maghmouda (Lamarche 1988).]

Ardeidae

Ixobrychus sturmii Dwarf Bittern. One, N'Beïka, 8 Oct 2003 (VS). [Local, Lac D'Aleg, Tamourt n'Naaj, Senegal valley (Lamarche 1988).]

Butorides striatus Green-backed Heron. One, Mare de Bougarie, 24 Sep 2003 (BB); at least three, N'Beïka, 8 Oct 2003 (FL, MS, TR, TS, VS). [Common near Senegal river (Gee 1984); local to common in Senegal valley, also humid areas in Sahel (Lamarche 1988).]

Egretta alba Great Egret. One, Ouadâne, 10 Feb and 15 Sep 2003 (HS); nine, Tenlaba, 23 Sep 2003 (MH); one, Banc d'Arguin NP, 5 Mar 2003 (HS); two, PK 28, 25 Sep (MT); 13, 8 Oct and ten, 10 Oct 2003 (MT). [Nouâdhibou (Bird 1937); Banc d'Arguin (Pététin & Trotignon 1972); Senegal River area, resident (Naurois 1969, Gee 1984); Palaearctic visitor to west (Browne 1982).]

Ciconiidae

Ciconia episcopus Woolly-necked Stork. *C.* 20, soaring, Maghmouda, 21 Sep 2001 (DP, FL, RA, VS). [Two records, Nov, Dec, Chott'Boul, Kaedi (Lamarche 1988).]

Anatidae

Tadorna tadorna Common Shelduck. Feathers found, Akmakam, Apr 2003, possibly carried by a raptor (MSc). [Sporadic at coast (Gee 1984, Lamarche 1988).]

Accipitridae

Micronisus gabar Gabar Goshawk. A pair, Oualâta, 18–20 Sep 2001 (DP, FL, RA, VS). [Senegal delta and valley, much of Sahel, breeding Assaba Oct, Aleg Feb (Lamarche 1988).]

Melierax metabates Dark Chanting Goshawk. One, PK 28, 26 Aug 2003 (DP, MD, MG, MT, PK); one, Ouadâne, four days during Mar–May 2004 (DZ, HS, MT, VS). [Common (*M. m. metabates*) Senegal River area (Gee 1984); irregular elsewhere, breeding Tagant, Jul (possibly *M. m. neumanni*) (Dekeyser 1954, Lamarche 1988).]

Accipiter badius Shikra. One, PK 28, 9 Sep 2003 (MD, MT, PK); one, lake at Bougarie, 24 Sep 2003 (BB). [Rare Nouakchott (Gee 1984); in rainy season in S Sahel, to 17°30'N (Lamarche 1988).]

A. nisus Eurasian Sparrowhawk. Male, Ouadâne, 26 Apr 2003 (HS); ten, 29 Sep to 15 Oct 2003 (EB, HS, MT); male mist-netted, Tichît, 16 Aug 2003, one seen there 20 and 23 Aug 2003 (ARM, MS, PS, VS). [Oct–Apr at Cap Timirist, Nouakchott; rarely inland, e.g. Char (Heim de Balsac 1949–51, Lamarche 1988).]

Butastur rufipennis Grasshopper Buzzard. Immature, Ouadâne, 7–8 May 2004 (HS), northernmost record. [Rains migrants to everywhere in S, rarely north of 17°N (Dekeyser 1954, Lamarche 1988).]

Buteo auguralis Red-necked Buzzard. Four, Guelta Metraugha, 22 Sep 2001 (DP, FL, RA, VS). [Occasional in Sahel, rarely north of 17° Aug–Nov (Lamarche 1988).]

Aquila rapax Tawny Eagle. One, PK 28, 4 Oct 2003 (MSp). [Uncommon Sahel, regular passage Nouakchott, breeds Senegal River area (Dekeyser 1954, Lamarche 1988).]

A. verreauxii Verreaux's Eagle. Tenlaba: one subadult female 5–6 Sep 2003, one near-adult probably male, 23 Sep 2003 (MH). On all three occasions unmistakable characteristics observed: very large, long-winged; almost straight leading edge of wing when soaring, and exceptionally wide, strongly bulging secondaries, making the wing much narrower near the tip and body than at level of outer secondaries; large white flashes over most of primaries, some barring towards outer wing and secondaries, visible from under and upper side. When soaring and gliding, primary tips mostly conspicuously uplifted. First bird had secondaries and tail with some blackish, but mostly brownish, barred feathers; body, under and upper wing-coverts were a mixture of blackish and brownish feathers; white patches on shoulder connected over back to rump. Second bird had more black-and-white plumage, but smaller patches of white on shoulders and rump; still some brownish feathers on body and under wing. New species for the country. [Previous westernmost records Hombori, Mali (15°16'N, 1°40'W) (Lamarche 1980); recently recorded Iherir, S Algeria (F. Belbachir, pers. comm.).]

A. chrysaetos Golden Eagle. An adult pair, *c.* 12 km east of Tichît, Oct 2003, seen whenever the site was visited, two huge eyries in cliffs there (MS, TR, TS, VS); an immature, *c.* 10 km south of Ouadâne, 17 Oct 2003 (SK); two adults, possibly resident pairs, at each of Tenlaba and Ouadâne, Mar–May 2004 (AM, AS, BB, FK, HS, PK). [Scarce Palaearctic migrant Sep–Mar, rare inland, no breeding records (Heim de Balsac & Mayaud 1962, Gee 1984, Lamarche 1988, Dowsett & Dowsett-Lemaire 1993); breeds NE Mali (Goar & Rutkowski 2000).]

Hieraetus fasciatus Bonelli's Eagle. One, Ouadâne, 9 May 2003 (EB), 12 Sep 2003 (EB, HS), 15 Sep 2003 (PJ). [Uncommon Palaearctic migrant at coast, some inland records (Lamarche 1988).]

Falconidae

Falco chiquera Red-necked Falcon. One, Nouakchott, 16 Oct 2003 (MH). [Common Senegal River area, single records 60 km north of Rosso, Podor, plateau El Aaguer (Gee 1984, Lamarche 1988).]

F. cherrug Saker Falcon. One, Akjoujt, 18 Mar 2003 (HS, MSc). [Rare postnuptial migrant, mainly autumn records; one record Aleg, May (Lamarche 1988).]

F. pelegrinoides Barbary Falcon. Regular Ouadâne (AH, BA, EB, HS, OM), Tenlaba (AM, AS, MH, PK), where a pair visited a cliff crevice with prey daily Apr–May 2003 (MH), and Akmakam (seven mist-netted, more observed: MSc, VM) throughout the study. Suggests resident population. [Baie de l'Etoile (Bird 1937); one near Nouakchott (Gee 1984).]

Phasianidae

Ptilopachus petrosus Stone Partridge. More than ten, including several young chicks, Guelta Metraugha, 22 Sep 2001 (DP, FL, RA, VS). [Local in stony areas, common in agricultural areas, nests Nov–Dec in N, Jan–May in S (Lamarche 1988).]

Rallidae

Crex crex Corncrake. One found dead, Ouadâne, 20 Oct 2003 (PJ), one observed there 24 Oct 2003 (NS). [Four records: Kiffa, Cap Blanc, Nouâdhibou (Lamarche 1988).]

Gallinula chloropus Common Moorhen. Common Akmakam, Feb–May 2003, including five young in late Apr (MSc; VM); 12 including three young, Gabou, 9 Oct 2003 (FL, TR, TS); frequent, up to 12 birds, Akjoujt, Mar and May 2004 (AM, FL, LF, VM). [Most records coastal, one dead Tichât (Gee 1984); unconfirmed breeding Adrar (Lamarche 1988).]

Fulica atra Eurasian Coot. Frequent, up to four, Akjoujt, Mar, May 2004 (AM, FL, LF, VM). [Rare, coastal wetlands, Lac D'Aleg, Senegal valley (Gee 1984, Lamarche 1988).]

Jacanidae

African Jacana *Actophilornis africana*. More than ten, Maghmouda, 21 Sep 2001 (DP, FL, RA, VS). [Senegal and Karakoro valleys, Lac R'Kiz, Lac de Mâl (Dekeyser 1954, Gee 1984, Lamarche 1988); Mahmouda in 2002 (Dodman & Diagana 2003).]

Charadriidae

Charadrius pecuarius Kittlitz's Plover. *C.* eight, Maghmouda, 21 Sep 2001 (DP, FL, RA, VS); one, Cap Timirist, 30 Oct 2003 (VS). [Nouakchott, probably breeding (Gee 1984); Senegal valley, Sahel wetlands, Lac D'Aleg, Maghmouda (Lamarche 1988).]

Columbidae

Columba guinea Speckled Pigeon. Regular throughout study, Nouakchott; regular, Tenadi, mid-Apr to mid-May 2003 (BB, FS, IM); frequent Idini, 15–20 Aug 2003 (TR, TS). [Senegal and Karakoro valleys, up to 18°N (Nouakchott) during rains, regular Lac D'Aleg (Browne 1981a, Gee 1984, Lamarche 1988, Robel 1999).]

Cuculidae

Oxylophus jacobinus Jacobin Cuckoo. One, Lac D'Aleg, 5 Sep 2001 (VS); two, Oualâta, 18 Sep 2001 (VS). [Senegal river to Adrar, Jun–Nov (Browne 1981a, Gee 1984, Lamarche 1988).]

Chrysococcyx caprius Didric Cuckoo. At least two calling, Lac D'Aleg, 6 Sep 2001 (DP, FL, RA, VS); daily, Oualâta, 18–20 Sep 2001 (DP, FL, RA, VS); two males calling, at least one female, Tenadi, 19 Aug 2003 (MH). [Common Senegal River area, moves north during rains, Jul–Nov (Gee 1984, Lamarche 1988).]

Strigidae

Otus senegalensis African Scops Owl. At least two calling near Bogué, 11–12 May 2004 (AM, AS, DZ, MT, PK, VM, VS). [Uncommon, Adrar, Tagant, Assaba, Affolé, Tamourt n'Naaj (Lamarche 1988, Dowsett & Dowsett-Lemaire (1993); not indicated for the country by Borrow & Demey (2001).]

Caprimulgidae

Caprimulgus eximius Golden Nightjar. Frequent, most likely one individual, Ouadâne, 30 Apr to 6 May 2003 (AH, BA, HS, OM); one feather and one exhausted bird *c.* 4 km apart on same day, Idini, 16 Oct 2003 (VS, FL); one, Nouakchott, 18 (netted) and 25 Oct 2003 (MH). [One record Nouakchott, common 50–100 km south of Nouakchott, autumn 1974 (Gee 1984); central and S Sahel (Jun–Dec) (Lamarche

1988); one record SW Western Sahara (Valverde 1957) not accepted by Thévenot *et al.* (2003).]

Apodidae

Apus caffer White-rumped Swift. One, PK 28, 21 Sep 2003 (DP, PK). [Cap Tafarit and Iouïk, May (Meininger *et al.* 1990).]

A. affinis Little Swift. Up to 50, Tidjikja, Oualâta, Guelta Mettraugha, Sep 2001 (DP, FL, RA, VS); frequent Tichît, Sep–Oct 2003, with nests (MS, VS). [*A. a. affinis* breeds Atlantic (Île Kiaone Est, Cap Tafarit) to Oualâta; *A. a. galilejensis* passage migrant (Gee 1984, Lamarche 1988).]

Meropidae

Merops albicollis White-throated Bee-eater. Up to ten near Tidjikja, 8–9 Sep 2001 (DP, FL, RA, VS); abundant Oualâta, 18–20 Sep 2001 (DP, FL, RA, VS); uncommon Tichît, Sep 2003 (ARM, MS, PS VS); several, N'Beïka, 8 Oct 2003 (FL, MS, TR, TS, VS); common Gabou, 8–10 Oct 2003 (FL, MS, TR, TS, VS). [Common in SW and Nouakchott area (Gee 1984); rains visitor everywhere to 18°N (Dekeyser 1954, Lamarche 1988).]

Coraciidae

Coracias abyssinicus Abyssinian Roller. One, Guelta Mettraugha, 22 Sep 2001 (DP, RA); an adult with an immature, N'Beïka, 8 Oct 2003 (FL, MS, TR, TS, VS). [South of 17°N except Sahel wetlands, Nouakchott (Dekeyser 1954, Lamarche 1988).]

Bucerotidae

Tockus erythrorhynchus Red-billed Hornbill. One, lake at Bougarie, 24 Sep 2003 (BB); common Gabou, 8–14 Oct 2003 (FL, MS, TR, TS, VS); one, PK 28, 11 Sep 2003; one, Nouakchott, 27 Sep 2003 (FK). [Frequent Senegal River area, moves during rains up to 17°N (Dekeyser 1954, Gee 1984, Lamarche 1988, Farnsworth 1995).]

T. nasutus African Grey Hornbill. Two, Guelta Mettraugha, 22 Sep 2001 (DP, FL, RA, VS); one, lake at Bougarie, 24 Sep 2003 (BB); N'Beïka, 8 Oct 2003 (FL, MS, TR, TS, VS). [S Sahel, moves north with rains, rarely north of 17°N except Tagant (Dekeyser 1954, Gee 1984, Lamarche 1988).]

Capitonidae

Lybius vieilloti Vieillot's Barbet. One, Tidjikja, 10 Sep 2001 (DP, FL, RA, VS); common Oualâta, 18–20 Sep 2001 (DP, FL, RA, VS); two duetting, N'Beïka, 8 Oct 2003 (MS, TR, TS, VS). [Common S Sahel, moves north with rains up to 17°N, occasional to Nouakchott (none since 1980), Bou Toumtaya Plateau El Aaguer, Tagant, Iouïk (Dekeyser 1954, Gee 1984, Lamarche 1988).]

Trachyphonus margaritatus Yellow-breasted Barbet. One, N'Beïka, 8 Oct 2003 (TR). [South of 17°30'N except Tagant, rare in west (Lamarche 1988).]

Picidae

Dendropicos goertae Grey Woodpecker. One near Kiffa, 23 Sep 2001 (DP, FL, RA, VS). Ouadâne: at least three pairs and an immature (mist-netted), Apr 2003; female with incubation patch, Apr 2004. One, Tenlaba, 17 Apr 2003 (MH); frequent Gabou, 8–14 Oct 2003 (MS, VS). [Rains or winter visitor, regular to 17°N, up to 20°N in Adrar region, Tagant (Dekeyser 1954, Gee 1984, Lamarche 1988).]

Alaudidae

Ramphocoris clotbey Thick-billed Lark. Three, c. 30 km west of Chinguetti, 25 Sep 2003 (MH). [Rare in N, single records Chegga, Nouakchott (Lamarche 1988).]

Galerida thekla Thekla Lark. Two south of Nouakchott, 2 Sep 2001 (DP, RA, VS); one, PK 28, 18 Aug 2003 (DP). Southernmost records. [Rare: Kediet ej Jill, Jbéliat, Banc d'Arguin NP (Lamarche 1988).]

Eremopteryx leucotis Chestnut-backed Sparrow Lark. At least ten, Oualâta, 20 Sep 2001; at least four, Maghmouda, 21 Sep 2001 (DP, FL, RA, VS), first records for SE Mauritania. [Uncommon rains visitor Nouakchott, common Senegal valley south of 17°N, also east of Aleg (Dekeyser 1954, Gee 1984, Lamarche 1988).]

Hirundinidae

Hirundo abyssinica Lesser Striped Swallow. Guelta Metraugha, 22 Sep 2003. First published records for the country (Salewski *et al.* 2003).

Motacillidae

Motacilla flava cinereocapilla Yellow Wagtail. One, Akmakam, 21 Feb 2003 (HS); one, Ouadâne, 11 Mar 2003 (VS); frequent, Ioufik, 5–11 Mar 2003; several, Tenadi, 5–6 Mar 2003 (FS, IM); one, Diawling NP, 26 Feb 2004 (EB, HS, MT, VS). [Uncommon, 1–2% of *M. flava* at roost sites (Lamarche 1988); ssp. *cinereocapilla* Mali to Nigeria (Borrow & Demey 2001).]

Laniidae

Lanius collurio Red-backed Shrike. One first-year mist-netted, Nouakchott, 22 Oct 2003 (MH). [Nouakchott (Gee 1984), Banc d'Arguin, Tanoudert (Lamarche 1988).]

Turdidae

Phoenicurus moussieri Moussier's Redstart. One between Tidjikja and Tichît, 12 Sep 2001. First published record for the country (Salewski *et al.* 2003).

Saxicola torquata Stonechat. Pair, of which male in breeding plumage, Diawling NP, 29 Feb 2004 (EB, HS, MT, VS). White rump indicated *S. t. moptana*, which is the first record of this subspecies from Mauritania. [Nouakchott, Nouâdhibou (Browne 1981a); classed as Palearctic migrant by Browne (1982), Dowsett & Dowsett-Lemaire (1993) and Lamarche (1988). *S. t. moptana* is resident in Senegal delta (Borrow & Demey 2001).]

Sylviidae

Phylloscopus ibericus Iberian Chiffchaff. PK 28, Ouadâne and Tenlaba. Many "Chiffchaff" mist-netted in spring and autumn were this taxon, as indicated by their moss-green mantle, yellow underwing coverts and bright yellow undertail coverts, unlike Chiffchaff *P. collybita* (Svensson 2001). First records for the country.

Prinia fluviatilis River Prinia. Common Diawling NP (EB, HS, IM, MS, MT, TR, TS, VS), a grey prinia in reeds, with longer tail and less contrasting colours than Tawny-flanked Prinia *P. subflava* (which was observed in breeding plumage on vegetated sand dunes). First record for the country.

Cisticola juncidis Zitting Cisticola. Several heard in reeds, Lac D'Aleg, 6 Sep 2001; one, Maghmouda, 22 Sep 2001 (DP, FL, RA, VS). [Senegal delta and valley (Gee 1984, Lamarche 1988), also NE of Moudjeria, Lac D'Aleg (Browne 1981a).]

Camaroptera brachyura Grey-backed Camaroptera. One, PK 28, 23–27 Oct 2003 (CS, FK, MG, MS, MT, PS, SS). [S Sahel and river valleys (Gee 1984, Lamarche 1988).]

Sylvia curruca Lesser Whitethroat. One, Ouadâne, 16 Apr 2003 (HS); one netted, Nouakchott, 14 Oct 2003 (MH; Fig. 1). [Coastal and oases, few records in the region (Lamarche 1988); main wintering grounds Chad eastward (Borrow & Demey 2001).]

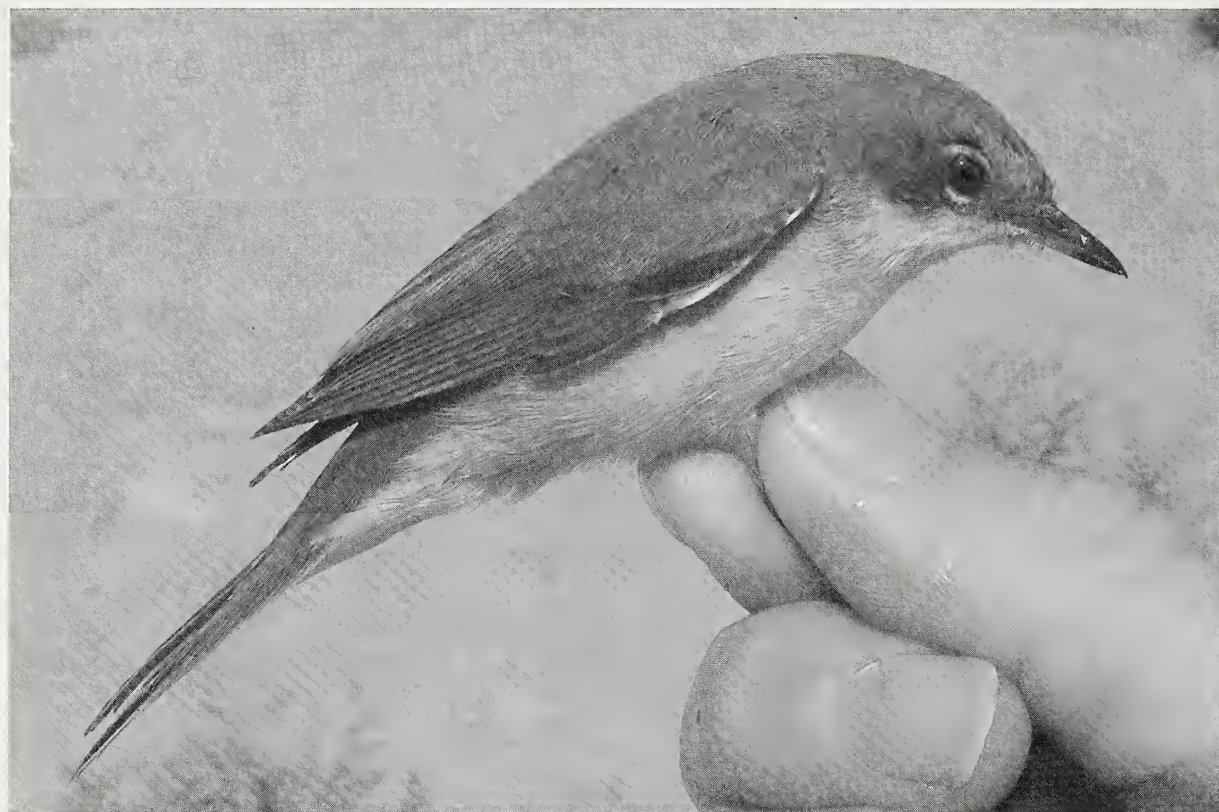


Figure 1. Lesser Whitethroat *Sylvia curruca* caught at Nouakchott (photo MH).

S. conspicillata Spectacled Warbler. Regular Ouadâne, Feb–Apr 2003 (AH, AM, BA, HS, OM, VM, VS); a breeding population discovered there, Feb 2004 (AM, FK, HS, MT, PK, VS). [Palearctic migrant on coast from 18°N to Senegal delta, also wooded wadis and oases (*e.g.* Ouadâne) inland around 17°30'N, 14–16°W (Browne 1982, Gee 1984, Lamarche 1988); winters and nests Zemmour (Heim de Balsac & Mayaud 1962).]

S. deserticola Tristram's Warbler. One, Ouadâne, 23 Oct 2003 (HS); one, Bir Amrâne, 7 Apr 2004 (VM). First records since 1980. [Nouakchott, one record (Gee 1984); Kédiet ej Jill, Chinguetti, Ouagchogda (Lamarche 1988).]

Muscicapidae

Melaenornis pallidus Pale Flycatcher. One north of Lac R'Kiz, 27 Sep 2003 (BB). [Recorded Guidimaka region (Lamarche 1988).]

Corvidae

Corvus albus Pied Crow. Three and one, Iouïk, 9–10 Mar 2003 (FS, HSt, IM, SB). Northernmost record. [North to 17°N, rains records Nouakchott (Aug), Boutilimit

(Jul) (Dekeyser 1954, Lamarche 1988) and Tidjikja (Heim de Balsac & Mayaud 1959, Gee 1984).]

Sturnidae

Lamprotornis caudatus Long-tailed Glossy Starling. Frequent, up to seven, PK 28, 18 Sep to 25 Oct 2003 (MG, HSt, MT, PK). [Common up to 60 km north of Senegal valley (Browne 1981a, Gee 1984, Lamarche 1988).]

Passeridae

Passer domesticus indicus House Sparrow. Throughout study period, abundant Nouakchott, frequent Tichît, Ouadâne, Tenlaba; recorded Akjoujt, Tidjikja, Aleg, Idini, Bogué, Kaedi. First inland records in Mauritania, but probably now in every larger settlement in the country. [Recorded Nouakchott since Dec 1982 but probably there earlier, Nouâdhibou, Méderdra, Iouïk, Cap Timirist, Ablawakh, Lemsid (Lamarche 1988); Tiouilt (Bengtsson 1997); frequent in coastal settlements north to Cap Tegarât (Robel 1999).]

Passer griseus Northern Grey-headed Sparrow. Several, Oualâta, 19–20 Sep 2001 (DP, FL, RA, VS); >50, N'Beïka, 8 Oct 2003 (FL, MS, TR, TS, VS); common Gabou, 8–14 Oct 2003 (FL, MS, TR, TS, VS). [Central and S Sahel, Senegal valley, occasional Nouakchott, (Dekeyser 1954, Gee 1984, Lamarche 1988, Farnsworth 1995); Tiguent (Robel 1999);]

Ploceidae

Euplectes afer Yellow-crowned Bishop. Several, Lac D'Aleg, 6 Sep 2001 (DP, RA); ten, Maghmouda, 21 Sep 2001 (DP, FL, RA, VS). [Common Senegal delta and valley, Sahel wetlands, breeding Lac R'kiz and Lac D'Aleg (Browne 1981a, Lamarche 1988).]

Quelea quelea Red-billed Quelea. Three south of Nouakchott, Aug 2003 (DP, MT, PK); one mist-netted, Tenlaba, 7 May 2004 (AM, AS, PK). Northernmost record. [North to Nouakchott (Dekeyser 1954, Gee 1984, Lamarche 1988).]

Estrildidae

Amandava subflava Zebra Waxbill. Flocks near Diawling NP HQ, May and Oct 2003, Feb 2004. First records in the country (Salewski 2004).

Lagonosticta senegala Red-billed Firefinch. One, N'Beïka, 8 Oct 2003 (FL, MS, TR, TS, VS). [South of 17°N (Gee 1984, Lamarche 1988).]

Emberizidae

Emberiza tahapisi Cinnamon-breasted Rock Bunting. At least two pairs, Guelta Metraugha, 22 Sep 2001 (DP, FL, RA, VS). [Moves north with rains to 17°N, sometimes further (Adrar, 20°N) (Lamarche 1988).]

Discussion

We recorded 65 bird species which are either rarely observed or new for Mauritania, or out of their known range as indicated by Borrow & Demey (2001) but many of these had already been reported from similar latitudes by Lamarche (1988). Most of

our records are thus probably not range extensions, but rather reflect lack of previous study. Our records demonstrate that Palaearctic as well as Afrotropical species are much more widespread in the desert than previously thought. Important habitats are oases and vegetated wadis in the Sahara, as mentioned by Lamarche (1988).

The Grey Woodpecker and Dark Chanting Goshawk illustrate the kind of question that may arise from species distribution observations in Mauritania. Grey Woodpecker is not known to disperse or migrate over long distances (Fry *et al.* 1988), so birds in Ouadâne may be part of a relict population, extending back before desertification. Studies of such species could give insights into the distribution of species prior to the establishment of the desert and on the minimal area required to sustain viable populations. The Dark Chanting Goshawk in Ouadâne could be a vagrant from the south or from the small remnant population in Morocco. Lamarche (1988) mentions the possible occurrence of *M. m. neumanni* in the north (breeding in Tagant). Does the region serve as an area through which gene flow between Moroccan *neumanni* and sub-Saharan *metabates* might occur or are the populations isolated from each other as a result of desertification?

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Notes on the natural history of the Ibadan Malimbe *Malimbus ibadanensis*, a threatened Nigerian endemic

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Summary

We present new observations on the natural history of the endangered Ibadan Malimbe. The song was tape recorded for the first time and a frequency spectogram is presented. Breeding was observed between May and July. Nests were constructed by one or two males and taller trees were preferred for nesting. Nests were placed in trees containing nests of Red-headed Malimbe *Malimbus rubricollis* and Fork-tailed Drongo *Dicrurus adsimilis* and were visited by other malimbés of the same and/or other species. Ibadan Malimbés were commonly found in mixed species flocks.

Résumé

Notes sur l'histoire naturelle du Malimbe d'Ibadan *Malimbus ibadanensis*, espèce menacée du Nigéria. Nous donnons de nouvelles observations sur l'histoire naturelle du Malimbe d'Ibadan qui est menacé. Le chant a été enregistré pour la première fois et l'on donne un spectre de fréquences. La reproduction a été observée entre mai et juillet. Les nids étaient construits par un ou deux mâles de préférence dans des arbres élevés. Les nids se trouvaient dans des arbres qui portaient déjà des nids du Malimbe à tête rouge *Malimbus rubricollis* et du Drongo brillant *Dicrurus adsimilis* et étaient visités par d'autres malimbés de la même espèce ou d'une autre. Les Malimbés d'Ibadan se trouvaient habituellement dans des vols de diverses espèces.

Introduction

The Ibadan Malimbe *Malimbus ibadanensis* is a poorly known species endemic to a small region of SW Nigeria and is considered to be Endangered (Birdlife International 2000). Data are limited, but a shortage of recent sight records suggests low densities and probably a recent range contraction (Johns 1996). A survey for the species during 2000–2 recorded Ibadan Malimbés at 20 forest sites in the Ibadan area and suggested

that increasing forest fragmentation might be limiting distribution (Manu *et al.* in press). This paper reports observations of the natural history of the Ibadan Malimbe during this survey, to clarify the causal link between forest fragmentation and the apparent decline, as well as providing other biological information.

Information on the natural history of the Ibadan Malimbe, Nigeria's most threatened endemic bird is limited (Fry & Keith 2004). It may best be described as a forest edge species. The original specimens were collected in an Ibadan garden (Elgood 1975). Examination of the stomach contents of three specimens revealed vegetable matter, mainly fruit fibres of oil palm, and numerous insect fragments notably tailor ants (Elgood 1958). Very few nests have been observed. Nesting has been recorded in February, May, June, September, October and December (Elgood *et al.* 1994). Nests are retort shaped (Crook 1960). Two contiguous nests being built by males were noted in an *Albizia* sp. tree (Elgood 1975). In 1988, A.P. Leventis (pers. comm.) found a nesting site in a *Parkia biglobosa* tree in a small farm where cassava *Manihot utilisima* and sweet potatoes *Ipomoea batatas* were growing in degraded forest scrub. The nests were *c.* 15 m above the ground near the tip of one of the branches and were inaccessible to humans. Malimbés were seen to strip oil palm leaves for nest construction and tendrils of some climbing plants were also utilised. Observations of breeding activity suggest incubation and fledgling periods of two weeks each, as is typical for passerines of this size (Elgood 1975). Ibadan Malimbés have been observed nesting in association with other weavers. A Yellow-mantled Weaver *Ploceus tricolor* was observed removing nesting material from an Ibadan Malimbe nest that was later abandoned (A.P. Leventis pers. comm.). Ibadan Malimbés have also been recorded nesting with Yellow-mantled Weavers on a *Ceiba pentandra* (C. Williams pers. comm.), but this nest was also abandoned.

Most early sightings of Ibadan Malimbés were in association with Red-headed Malimbés *M. rubricollis* (Elgood 1958). In 1987, however, an adult male was seen feeding a juvenile male together with one other adult, in a mixed species party with Red-headed Malimbés, Red-vented Malimbés *M. scutatus*, Blue-billed Malimbés *M. nitens* and several other species, on the edge of a secondary woodland near Ibadan (Ash 1991).

We describe the call, nesting behaviour and habitat, and mixed species associations of the Ibadan Malimbe.

Methods

Bird surveys of 52 forest patches within the historical range of Ibadan Malimbe were carried out between January 2000 and March 2002 (Manu *et al.* in press). Line transects (Bibby *et al.* 2000) were conducted during the early morning (4 h, starting soon after dawn) by walking slowly along predetermined routes (existing forest trails) and recording all bird species. Ibadan Malimbe activity, the identity of any associated birds, height of the bird above ground level when first seen and height of the canopy were recorded.

Multiple visits were made to forest patches in search of nest sites. Nests were identified as Ibadan Malimbe nests if they were solitary, with long spouts and in trees other than palms (Crook 1960). Two-hour observations were conducted at nests, to determine if they were active. The one active nest found was observed for 32 h (mean observation period 2.4 ± 0.5 (SE) h over 14 days), during which the activities of Ibadan Malimbés and other species were recorded. For each tree containing an Ibadan Malimbe nest, we recorded the species, height and circumference at breast height (CBH) of all trees within a 10 x 10 m quadrat centred on the nest tree. These measurements were compared with those from a randomly located 10 x 10 m plot in the same forest patch.

Results

Calls

On 27 Jun 2001, a male and female Ibadan Malimbe were heard calling from a perch 15 m high at a nest site in Moniya ($7^{\circ}33.188'N$, $3^{\circ}55.826'E$). The call of the female was quieter than that of the male. The song of the male had a frequency range of 2000–7500 kHz, and involved a repeated phrase that consisted of multiple syllables, most of which are frequency modulated (Fig. 1). The song is repeated non-stop for about 1 min. Tapes were made of the calls of both sexes, and deposited in the British Museum Sound Archive.

Both male and female called frequently during the nest-building period. The male often displayed to the female by raising his breast and nape feathers, flapping his wings while calling, and holding his wings open.

Nesting

Seven nests were found, in five separate trees, of which one was active. A pair attended this nest on 2 June 2001. Two weeks later they abandoned it and started to construct a new nest in the same tree. On average they spent 2.2 ± 0.6 (SE) h each morning ($n = 14$ days) working on the nest and calling nearby. The nest was mainly built by one male with assistance from a second male on two occasions. The pair flew away for periods of *c.* 30 min, when they could often still be heard and were presumed to be foraging. They were generally absent from the nest from mid-day until late afternoon. During the evenings of 2 Jun (16h32–17h32), 3 Jun (17h14–18h45), 5 Jun (17h00–18h20) and 27 Jun (16h30–17h30) the pair returned to the nest, called around it, foraged and then flew away, usually in company of a pair of Yellow-mantled Weavers. The new nest was half built when it was also abandoned. The malimbés were last observed at the nest on 4 Jul. Within the same period Ibadan Malimbe nests were sighted in four other forest patches within 50 km of one another. In one site, two nests were found in one tree. Although Ibadan Malimbés were seen around the nest trees in these four sites, no activity was observed around the nests.

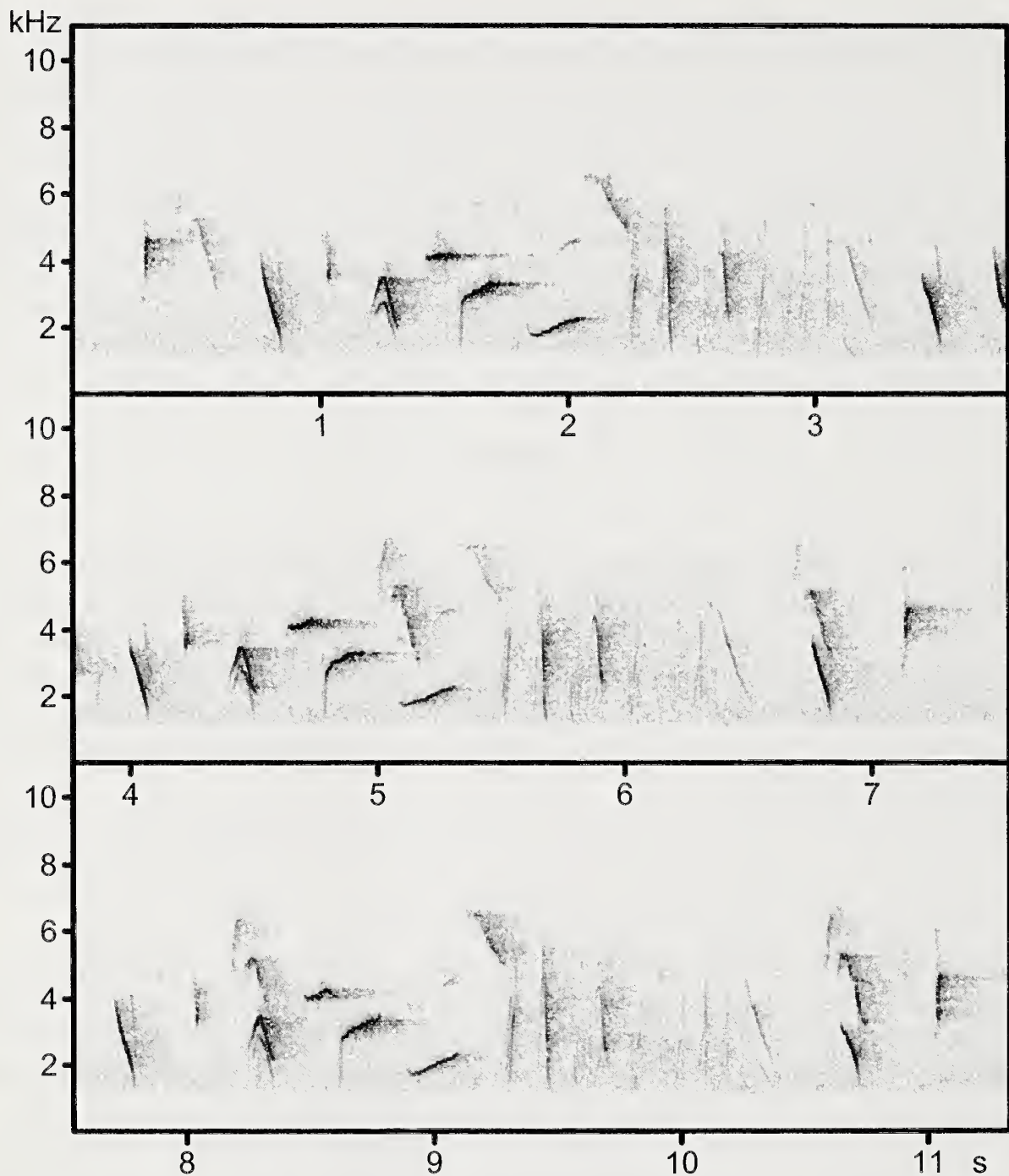


Figure 1. Frequency spectograms for Ibadan Malimbe, recorded at Moniya nest site, 27 Jun 2001 from 6h39–7h19 at Moniya. The song is repeated three times, with each repetition on a separate line.

All the nests, each fixed firmly on a small twig, were of a similar shape to a Red-vented Malimbe nest, with a well-pronounced spout. The spout was shorter (15–20 cm) than that of Red-vented Malimbe, inverted and bent over the nest chamber. Nest materials included stems and tendrils of climbing plants. Four of the nest trees were *Ceiba pentandra*, measuring 18–22 m high and with CBH 117–250 cm, while the other was a *Celtis zenkeri* 22 m high with

CBH 133 cm. One site (Moniya) was dominated by Oil Palm *Elaeis guineensis*, while the others were dominated by *Celtis zenkeri*, *Strombosia grandifolia*, *Cola gigantea*, and *Albizia zygia* that are typical of primary forest. Some of these trees had their main branches broken probably from windfall. The vegetation around the sites was not significantly different from that in the immediate nest areas, although statistical power was limited by sample size. Nests were placed 15–20 m high in the trees. Although nests were placed in taller trees than the average within the vicinity, this difference was not significant, and the CBH in the vicinity of the nest did not differ from the average in random locations (Wilcoxon matched pairs tests: tree height $z = -1.60$, $P = 0.11$, $n = 5$; CBH $z = -0.54$, $P = 0.59$, $n = 5$).

Association with other birds at the nest site

Two of the five Ibadan Malimbe nest trees also contained Red-headed Malimbe nests, one 3 m above the Ibadan Malimbe nest and one 3 m below. The Red-headed Malimbe nests were not active. Fork-tailed Drongos were also nesting in two of the five Ibadan Malimbe nest trees; their nests were usually at the end of small branches away from the main crown and lower than those of the Malimbés. Red-vented Malimbés, Yellow-mantled Weavers and Red-headed Malimbés were observed around the Ibadan Malimbe nesting area at Moniya, while Crested Malimbe *M. malimbicus* was observed once at the same site. On one occasion, one Red-headed Malimbe spent 2 min. apparently constructing a nest that was being built by Ibadan Malimbés. The bird remained in the nest tree for a further 3 min. before leaving.

On three occasions at the Moniya nest site, Ibadan Malimbés attempting to enter their nests were chased away by drongos that were incubating eggs in the same tree. The malimbés flew around, calling continuously. Twelve days later the Ibadan Malimbés were working on a new nest in the same tree, the old nest having been abandoned. The two nests disappeared during August. The branch on which they were placed was intact. In September the nest in Arikoko ($7^{\circ}17.888'N$, $4^{\circ}15.886'E$) also disappeared.

Behaviour in bird parties

Ibadan Malimbés were encountered 33 times on transects in 19 forest patches and once flying over a site. Most of them were in mixed species flocks, most frequently with Red-headed Malimbés (48% of encounters), Yellow mantled weavers (42%) and drongos (14%) (Table 2). In almost all encounters, Ibadan Malimbés were quietly searching leaves, flowers, dead leaf clusters, pod clusters or other dry fruits for insects and larvae. The other species in the party were relatively noisy. The Ibadan Malimbés foraged 6–25 m above the ground.

Discussion

All seven nests were high up in mature native trees, characteristic of mature unexploited forest (Richards 1939). The anthropogenic loss of such forest might be limiting the

availability of nesting sites for Ibadan Malimbés and forcing them to nest closer to other malimbés, weavers and drongos, thereby increasing the likelihood of competition for nest sites, nest materials or food. However, previous observations also suggest that Ibadan Malimbés associate with other Malimbés while nesting (Elgood 1975): two contiguous nests were built by a male with three other unoccupied nests adjacent, two of these being of weavers. Nevertheless, drongos defend their nesting areas aggressively and may have caused the abandonment of at least one Ibadan Malimbe nest in this study. Red-headed Malimbés were observed removing nest material from Yellow-mantled Weavers and vice versa, and Yellow-mantled weavers have been observed removing nest material from Ibadan Malimbe nests (A.P. Leventis pers. comm.). Ibadan Malimbe nests that disappeared during this study may have been pulled down by either the Yellow-mantled weavers or the Red-headed Malimbés that were nesting nearby.

Table 2. Birds recorded moving through the forest in the same flock with Ibadan Malimbe (N = 33 observations); numbers are number of occasions.

Green Turaco <i>Tauraco persa</i>	1
African Striped Cuckoo <i>Oxylophus levillantii</i>	2
Emerald Cuckoo <i>Chrysococcyx cupreus</i>	1
Yellowbill <i>Ceuthmochares aereus</i>	1
Broad-billed Roller <i>Eurystomus glaucurus</i>	1
White-crested Hornbill <i>Tropicranus albocristatus</i>	1
Naked-faced Barbet <i>Gymnobucco calvus</i>	1
Hairy-breasted Barbet <i>Tricholaema hirsutu</i>	2
Spotted Honeyguide <i>Indicator maculatus</i>	1
Red-shouldered Cuckoo-shrike <i>Campephaga phoenicea</i>	2
Little Grey Greenbul <i>Andropadus gracilis</i>	1
Western Bearded Bulbul <i>Criniger barbatus</i>	1
Red-tailed Greenbul <i>C. calurus</i>	1
Common Bulbul <i>Pycnonotus barbatus</i>	1
Forest Flycatcher <i>Fraseria ocreata</i>	1
Red-bellied Paradise Flycatcher <i>Terpsiphone rufiventer</i>	1
African Paradise Flycatcher <i>T. viridis</i>	1
Collared Sunbird <i>Hedydipna collaris</i>	1
Sabine's Puffback Shrike <i>Dryoscopus sabini</i>	1
Red-billed Helmet-Shrike <i>Prionops caniceps</i>	4
Fork-tailed Drongo <i>Dicrurus adsimilis</i>	11
Western Black-headed Oriole <i>Oriolus brachyrhynchus</i>	1
Black-winged Oriole <i>O. nigripennis</i>	4
Yellow-mantled Weaver <i>Ploceus tricolor</i>	14
Red-vented Malimbe <i>Malimbus scutatus</i>	5
Blue-billed Malimbe <i>M. nitens</i>	2
Crested Malimbe <i>M. malimbicus</i>	5
Red-headed Malimbe <i>M. rubricollis</i>	16
Grey-crowned Negrofinch <i>Nigrita canicapilla</i>	2

Early reports that Ibadan Malimbés associate only with Red-headed Malimbés (Elgood 1958) have been disproved (Ash 1991, this study). Increased association might be due to fragmentation and habitat loss. Some of the species found in association with Ibadan Malimbe, including Emerald Cuckoo, Broad-billed Roller, Green Turaco, Naked-faced Barbet and Spotted Honeyguide, are not usually found in mixed flocks. Alternatively, these associations with other species may be typical and long-running but just never recorded before.

Our observations suggest that Ibadan Malimbe may be suffering from nesting competition by other malimbés, weavers or drongos. Habitat loss and degradation may be forcing forest birds to compete for smaller patches of mature forest. Further observations are necessary to confirm this hypothesis.

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Short Notes — Notes Courtes

Development of Yellow-whiskered Bulbul *Andropadus latirostris* nestlings

On 9 Jan 2003, two chicks of Yellow-whiskered Bulbul *Andropadus latirostris* were discovered in a nest on a 30° slope at 938 m altitude in Mukowa primary forest, Irangi area, Congo Democratic Republic (1°53'12''S, 28°26'58''E). The forest is closed, with dense upper and middle canopies but moderate understorey. An adult was mist-netted near the nest and photographed, confirming the identification. *A. latirostris* was already known in the area (Kizungu 2001). Previous studies (Brosset 1981a, 1981b, 1982, Brosset & Erard 1986, Keith *et al.* 1992) provide no information on growth and development of its nestlings. Here we describe weight gain and plumage development of the two nestlings.

The nest was a cup with the outside built of leaves of a *Uapaca* tree, and the inside of blackish lichen filaments, probably an *Usnea* species. Its base was 34 cm above the ground and its size matched measurements in Keith *et al.* (1992). The offspring appeared to be about four days old, with yellowish gape and only a few dusky bluish wing and back feathers. Each weighed 6 g. On 14 Jan, the back was fully feathered and the primaries well developed, and these feathers had become dull greenish. The head feathers were about 0.5 cm long and feathers had appeared in the midline of the belly. Both chicks sat in the nest with their bills pointed outward and eyes closed, but when touched they opened eyes and bill, and moved their wings. Each weighed *c.* 13 g. On 16 Jan, feathers had appeared everywhere except under the wing, and the chicks could move and fly around and near the nest. They thus began to fly around 12 d old, as indicated by Brosset & Erard (1986). They weighed *c.* 15 g. On 17 Jan, the upper mandible had become blackish at the tip and the feathers of head and belly were completely developed.

On most of our visits, one parent, probably the female (Brosset & Erard 1986, Keith *et al.* 1992), gave agitated vocalizations in the mid-canopy and undergrowth nearby, often while carrying food. According to Brosset & Erard (1986) and Keith *et al.* (1992) in most circumstances only the female cares for the nestlings and fledglings.

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Does the Didric Cuckoo *Chrysococcyx caprius* parasitize Cricket Warbler *Spiloptila clamans* in Nigeria?

Wilson & Sallinen (2003) have claimed the first records of Didric Cuckoo *Chrysococcyx caprius* parasitizing Cricket Warbler *Spiloptila clamans*. As they remarked, Ploceidae are the main hosts of this cuckoo, although some other families have been claimed, including a few Sylviidae. The present records are so unusual as to warrant more convincing evidence than that presented by the authors.

Wilson & Sallinen (2003) based their claim on identification of juvenile cuckoos being fed by Cricket Warblers and the relative rarity of Klaas's Cuckoo *C. klaas* in the region, but nowhere do they mention the two unique and obvious features of juvenile Didric Cuckoos, the coral red bill and reddish-brown head. Instead, they considered them Didric on the amount of white in the tail and the eye-stripe (characters of limited value for separating young Didric from Klaas's Cuckoo).

Of 373 certain host records for Didric Cuckoo in Zambia (R.J. Dowsett, D.R. Aspinwall & F. Dowsett-Lemaire unpubl.) all but ten relate to 12 species of Ploceidae. The exception is the bunting *Emberiza flaviventris* which is a host in parts of northern Zambia. Similarly 37 host records from Malawi (F. Dowsett-Lemaire & R.J. Dowsett unpubl.) relate solely to seven species of Ploceidae. Another country with many breeding data is Zimbabwe, where Irwin (1981) accepted without question only records from Ploceidae. For Klaas's Cuckoo in Zambia 46 host records relate to 12 species that are primarily insectivorous (warblers Sylviidae, flycatchers Muscicapidae, Platysteiridae and Monarchidae, sunbirds Nectariniidae and Yellow-throated Petronia *Petronia superciliaris*) (R.J. Dowsett, D.R. Aspinwall & F. Dowsett-Lemaire unpubl.) and in Malawi there are 16 hosts recorded, most in the same families (F. Dowsett-Lemaire & R.J. Dowsett unpubl.).

These basic differences in host choice between these two cuckoos were stressed by Payne & Payne (1967). The claims for certain insectivorous passerines being hosts of Didric Cuckoo, mentioned by Fry *et al.* (1988), have come mainly from South Africa (Rowan 1983). Some have been documented convincingly, but in others there is the possibility that the birds tempted to feed a juvenile cuckoo were not the actual hosts, which may be the case with some unsatisfactory sunbird *Nectarinia* spp. records from Zambia (cf. Colebrook-Robjent 1984).

The rarity of warblers being hosts to Didric Cuckoo means that close attention must be paid to the claims from Nigeria. In the absence of diagnostic identification characters, I consider that the possibility that these records involved Klaas's Cuckoos rather than Didric has not been eliminated.

I thank John Colebrook-Robjent for sharing his considerable knowledge of parasitic cuckoos in Zambia.

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La Cigogne noire *Ciconia nigra* au Mali

Le 18 janvier 2000, lors de comptages aériens réalisés dans le delta intérieur du Niger, au Mali, une bande de huit Cigognes noires *Ciconia nigra* a été observée en vol. Elle se situait à 14°16'N, 4°47'W, au sud de Ténenkou, soit environ 80 km à l'ouest de Mopti. L'identification de l'espèce est certaine, l'absence de croupion blanc notamment excluant la Cigogne d'Abdim *C. abdimii*.

L'espèce n'est pas signalée au Mali par Malzy (1962), Duhart & Descamps (1963) ou Wymenga *et al.* (2002). Une seule observation, au Lac Korientze dans le

delta intérieur du Niger à la fin des années 1970, est mentionnée par Lamarche (1980). De Bie & Morgan (1989) la signalent comme “rare en hiver” dans la réserve de biosphère de la Boucle du Baoulé, dans l’ouest du pays, sans donner de précision. Dans les ouvrages plus généraux (Brown *et al.* 1982, Hancock *et al.* 1992, Borrow & Demey 2002) les cartes de répartition, quasiment identiques, laissent supposer qu’elle fréquente ce pays, sans précision. Notre donnée s’inscrit dans un contexte de multiplication des observations ouest-africaines (Nikolaus 2000, Salewski *et al.* 2000, Walsh 2002, Dodman & Diagana 2003, Ottosson *et al.* 2003), consécutive à l’accroissement des populations nicheuses en Europe (Snow & Perrins 1998). Elle est nettement plus au nord que les rares autres observations ouest-africaines, hors delta du Sénégal, qui se rapportent à 1–4 oiseaux (Walsh 1991, Salewski *et al.* 2000, Ottosson *et al.* 2003), et il s’agit donc du groupe le plus important pour l’Afrique de l’ouest.

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A new record of Grey-necked Picathartes *Picathartes oreas* in Cameroon

The family *Picathartidae* has only two species, both endemic to the rainforests of tropical west and central Africa. White-necked Picathartes *Picathartes gymnocephalus* is confined to Guinea, Sierra Leone, Liberia, Ivory Coast and Ghana. Grey-necked Picathartes *P. oreas* is found in Gabon, Equatorial Guinea including Bioko island, S and W Cameroon and SE Nigeria (Fry *et al.* 2000). The birds construct their mud nests in caves or on overhanging rocks within closed-canopy primary forest (Thompson & Fotso 1995) and therefore often have a patchy local distribution. Grey-necked Picathartes is classified as Vulnerable (Birdlife International 2004). In spite of its large range, the population is highly fragmented, considered small (less than 10,000 mature individuals), and possibly in overall decline (Birdlife International 2004).

In Cameroon, some of the largest breeding colonies of Grey-necked Picathartes are in the Dja Faunal Reserve, with at least 50 nests known, and much potential habitat not yet surveyed (BirdLife International 2004). Other populations are known from the following Important Bird Areas: Bakossi Mountains, Banyang Mbo Wildlife Sanctuary, Boumba-Bek IBA, Campo Ma'an National Park (old records from localities outside the park), Korup National Park, Mbam Minkom-Kala, Mt Manengouba, Mt Nlonako, Mt Rata and Rumpi Hills Forest Reserve, Yabassi, Mt Kupe (Bowden & Andrews 1994, Fishpool & Evans 2004). Recently, the species has been discovered near Boumba river in SE Cameroon (Dowsett-Lemaire & Dowsett 1998), in Nsong (Anon. 2000) and in Mesa and Kala forests in Youndé region (Thompson & Fotso 2000). However, many of these populations are small or survive only in poor quality habitat (Thompson & Fotso 1995).

From 11 to 15 January 2004, we visited Bakingili village (4°3'N, 9°3'E), in the SW foothills of Mt Cameroon. During two short trips to the lowland rainforest interior (13 and 14 January 2004), we found a new locality for Grey-necked Picathartes, *c.* 1 km north-west of the village, at an altitude of *c.* 100 m. The nearest known population, discovered in 1983 near Bonenza (4°5'N, 9°6'E), was at an altitude of 700 m (Tye 1987).

We spent about 30 min. (13 Jan, first three authors) and 3 h (14 Jan, last author), at the site. One bird (or maybe two individuals) was seen during the morning for 10 min. both days, in a dry stony riverbed with steep rocky cliffs. It was hopping on the ground and in lower undergrowth, searching for food. Although we did not find a nest, we consider that this new locality is suitable for nesting of this species, which is reputed to be sedentary, rarely venturing more than a few hundred m from the breeding site during the year (Thompson & Fotso 1995). Further, Tye (1987) found the species nesting on the SW slopes of Mt Cameroon during the dry season (late December and January). There are numerous dry riverbeds weaving through the forest from the W slopes of Mt Cameroon, and we suggest that numerous individuals of this specialised species could occupy these slopes, which offer large areas of suitable habitat and nest sites.

The locality was about 500 m from the forest edge, where oil-palm plantations replaced the forest. The forest edges are exploited by humans and destroyed by selective logging of larger trees (pers. obs.). Although Grey-necked Picathartes may have greater tolerance for degraded habitats than previously believed (Thompson & Fotso 2000), the progressive wood cutting and increasing human disturbance in the area may threaten the persistence of the species at this locality.

We thank the Grant Agency of the Czech Republic (GACR 31-H034) for partial financial support of our visit to Cameroon.

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Little Rush Warbler *Bradypterus baboecala* new to Plateau State, Nigeria

On a field trip on 2 Oct 2004 to Panyam Fish Farm (9°25'N, 9°12'E), 70 km SSE of Jos, on the Jos Plateau in central Nigeria, a Little Rush Warbler *Bradypterus baboecala* was discovered, constituting a species new to Plateau State (Elgood *et al.* 1994, Urban *et al.* 1997, M. Hopkins pers. comm.). The site consists of a series of dikes containing fish ponds in a farmland landscape, the ponds being bordered of varying amounts of *Typha*, *Phragmites* and *Cyperus* reeds. At 7h30 the bird was heard singing while hidden in the reeds in one of the ponds. Since the song was unknown to the observers, recordings of songs and calls (Chappuis 2000) of species potentially present were played, resulting in responses from Greater Swamp Warbler *Acrocephalus rufescens* and Croaking Cisticola *Cisticola natalensis*. After a brief view of a medium-sized dark warbler, the song of Little Rush Warbler was played. It was identical to that of the bird singing in the reeds, which also responded to the playback, approaching to within 1 m. The song was distinctive: a loud series of identical, dry, single notes, accelerating and stopping abruptly. Wing-clapping was also heard, as in display flight (Urban *et al.* 1997).

The bird was difficult to see, often moving low in the vegetation, but it was seen singing and moving a few times. The upperparts and flanks were dark chestnut brown, rather than olive-brown as described by Urban *et al.* (1997) and Borrow & Demey (2001), and tinged rufous on rump and upper tail coverts. The tail was dark, graduated, and quite long. The dark brown head bore a pale supercilium. The throat, breast and belly were whitish, with darker streaks creating a band on the breast. The bill was blackish, the eyes dark brown and the legs pinkish. The bird was restless and perched in a near-horizontal position.

Little Rush Warbler is a widespread but fragmented African endemic, with the largest populations in southern Africa. In W Africa it is known as a rare and local resident in small, isolated patches. *B. b. chadensis* occurs around Lake Chad in NE Nigeria and Chad, where it breeds Apr–May (Urban *et al.* 1997, Ottosson *et al.* 2001), while *B. b. centralis* occurs in small areas in N, S central and SE Nigeria (Elgood *et al.* 1994) between 300 and 450 km from Panyam, and also on the border of W Cameroon, where it breeds Jun–Aug (Serle 1981), and along the lower Sanaga river in Cameroon. The species also occurs in S Congo, where it has not yet been determined to subspecies (Borrow & Demey 2001). Recently, a Little Rush Warbler (with

streaked breast) was found north of Lomé in Togo (Selfe 2003), and there is a single, unconfirmed record of a bird singing in N Ivory Coast (Thiollay 1985).

The bird at Panyam probably belonged to *B. b. centralis*, based on the breast streaking, which is lacking in *B. b. chadensis*, and on the known ranges of the spp. in Nigeria. The species may be overlooked in W Africa owing to its secretive behaviour (Elgood *et al.* 1994, Borrow & Demey 2001, Selfe 2003).

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News & Letters — Nouvelles & Lettres

Biology of the Congo Peafowl *Afropavo congensis*: project supported by W.A.O.S. Research Grant

The Congo Peafowl *Afropavo congensis* is the only pheasant native to Africa. It is endemic to the Democratic Republic of Congo and listed as Vulnerable on the IUCN red list. Its global population (2500–10000 individuals) is inferred to be declining from hunting and habitat loss.

The objective of this study is to gather data on the biology and ecology of the Congo Peafowl in the Salonga National Park and the Opienge forest, to assess its habitat requirements and identify current threats. Transect surveys and playback, with calls of as many individuals as possible recorded, will be used to identify individuals and define habitat use. Food remains and droppings will be collected and stomach contents analysed whenever a dead bird is found (*e.g.* as bush meat). We also hope to locate nests, when observations will be made on breeding behaviour. Questionnaires to Park Guards, their family members and the local population will be used to identify threats to the bird, and to strengthen its conservation strategy. Preliminary surveys in the Kisangani region from May 2003 showed that hunting pressure on the species is high. Consequently, the first signs of its presence in an area may be found in local markets (bush meat), in villages or in the forest (bone remains or feathers).

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Society Notices — Informations de la Société

Should we hold elections to W.A.O.S. Council?

At the last Council Meeting, in June 2004, it was decided to take up the question of elections to W.A.O.S. Council. Such elections have been held only once, in 1981 (*Malimbus* 3: 116). At that time, the intention was to hold elections every three years but this was not followed up. Instead new Council members have been co-opted by existing Council members as vacancies have occurred. Elections would increase the participation of the membership in running their Society and ensure better accountability of Council, but require considerable organisation and effort. Therefore, before embarking on the step of calling elections, Council wishes to consult the membership on whether you feel we need to do so or not.

There are currently eight Council posts, which fall into two groups and which may be termed administrative and technical. The administrative posts are President, Vice-President, Secretary, Meetings Secretary, Member of Council (representing a W African official language region otherwise under-represented on Council). The technical posts are Treasurer, Editor and Webmaster, which require some specialist skill in each case.

We therefore ask all members to answer the following questions:

1. Should we hold elections to Council now? (Yes/No?)
2. Should all Council posts be subject to election, or only the administrative posts. (Administrative only/All?)
3. Should we hold elections at regular intervals? (Yes/No?)
4. Should elections be held by mail or at general meetings? (Mail/Meetings?)

Please send your answers by email or ordinary mail, to the Secretary, Roger Wilkinson (Zoological Gardens, Chester CH2 1LH, U.K. <r.wilkinson@chesterzoo.co.uk>) as soon as possible and in any case by 1 July 2005.

W.A.O.S. Council

Faut-il avoir des élections au Conseil de S.O.O.A.?

Lors de la dernière Réunion du Conseil, en juin 2004, on avait décidé de discuter de la question des élections au Conseil de S.O.O.A. On avait recouru à de telles élections qu'une fois, en 1981 (*Malimbus* 3: 116). On avait alors l'intention de faire ces élections tous les trois ans mais il n'y eut pas de suite. Au lieu de cela, les nouveaux membres du Conseil ont été cooptés par les membres du Conseil en exercice à mesure qu'il y avait vacance de poste. Des élections augmenteraient la participation des adhérents à la gestion de leur Société et assureraient une meilleure responsabilité envers le Conseil, mais exigeraient une organisation et un effort considérables. C'est pourquoi, avant

d'entreprendre des élections, le Conseil désirerait avoir l'avis des adhérents sur ce sujet.

Il y a huit postes au Conseil, qui se répartissent en deux groupes et qu'on peut appeler "administratifs" ou "techniques". Les postes administratifs sont le Président, le Vice-Président, le Secrétaire, le Secrétaire aux Réunions, un Membre du Conseil (pour représenter une langue officielle de la région autrement sous-représentée au Conseil). Les postes techniques sont le Trésorier, le Rédacteur et le Webmestre, qui exigent une compétence particulière.

Nous demandons donc aux adhérents de répondre aux questions suivantes:

1. Devons-nous recourir à des élections au Conseil maintenant? (Oui/Non?)
2. Tous les postes du Conseil doivent-ils être élus, ou seulement les postes administratifs. (Administratifs seulement/Tous?)
3. Devons-nous avoir des élections à intervalles réguliers? (Oui/Non?)
4. Les élections doivent-elles se faire par courrier ou aux assemblées générales? (Courrier/Assemblées).

Veuillez envoyer votre réponse par courriel ou par courrier ordinaire au Secrétaire, Roger Wilkinson (Zoological Gardens, Chester CH2 1LH, U.K. <r.wilkinson@chesterzoo.co.uk>) dès que possible et en tout cas avant le 1 juillet 2005.

Conseil de S.O.O.A.

New Treasurer/Membership Secretary needed for W.A.O.S.

After 40 years of service, Bob Sharland has indicated that he wishes to resign in due course from his current W.A.O.S. Council post of Treasurer and Membership Secretary. Bob is willing to carry on until a suitable replacement is found, but we wish to begin the search now. If any member is interested in taking on this voluntary work, or knows someone who is, then please inform the Secretary, Roger Wilkinson (Zoological Gardens, Chester CH2 1LH, U.K. <r.wilkinson@chesterzoo.co.uk>).

The current duties of Treasurer and Membership Secretary are as follows:

Membership

1. Maintain the W.A.O.S. membership list up to date; receive and process membership enquiries and subscriptions.
2. Prepare membership and address change summaries for publication in each issue of *Malimbus*.
3. Revise fully the membership list for publication as a supplement to *Malimbus*, approximately every three years.

Accounts

4. Maintain the Society's bank accounts and make payments to creditors.
5. Produce an annual Revenue Account and Balance Sheet (see p. 52 of this issue) in January each year, for publication in the following *Malimbus*.

Malimbus distribution

6. Receive *Malimbus* issues from the printer and dispatch them to members.

7. Cut offprints from 10 copies of each issue and dispatch them to authors.
8. Maintain the stock of back numbers and receive and process requests for their purchase.

Council responsibilities

9. Undertake other responsibilities as a member of Council, including participating in planning Council and Society activities, reviewing W.A.O.S. Research Grant applications and attending Council meetings.

W.A.O.S. Council

W.A.O.S. membership changes

New members

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Deletions

HAMBLETT, Mrs

VAN GASTEL, A.J.G.

Name and address changes and corrections

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Library, MUSEUM AND INSTITUTE OF ZOOLOGY, Polish Academy of Science, Wilczawa
St 64, 00-679 Warszawa, **Poland**

FIELD MUSEUM OF NATURAL HISTORY, Library Subs, 1400 Lake Shore Drive, Chicago
IL 60605-2498, **U.S.A.**

E. MAYR LIBRARY [formerly Library of the Museum of Comparative Zoology], Zoo
Museum, Harvard University, 26 Oxford Rd, Cambridge, MA 02138, **U.S.A.**

R.E. Sharland

West African Ornithological Society

Revenue Account for the year ended 31 December 2004

Income		<u>2003</u>
Subscriptions and donations	£1968	£2080
Sales of back numbers	83	50
Interest	<u>103</u>	<u>79</u>
	<u>£2154</u>	<u>£2209</u>
Expenditure		
Malimbus production and distribution	£1195	£1844
WAOS Research Grants	1013	0
Council expenses	<u>81</u>	<u>225</u>
	2289	2069
Surplus for year	<u>-135</u>	<u>140</u>
	<u>£2154</u>	<u>£2209</u>

Balance Sheet as at 31 December 2004

Assets			
Bank and building society balances	<u>£7207</u>	<u>8182</u>	
	7207		8182
Liabilities			
Creditors	0	840	
Subscriptions in advance	<u>225</u>	<u>225</u>	
	<u>225</u>		<u>1065</u>
	<u>£6982</u>		<u>£7117</u>
Accumulated funds			
Balance at 1 January	£7117		£6977
Surplus for year	<u>-135</u>		<u>140</u>
	<u>£6982</u>		<u>£7117</u>

Certain transactions in Euro (subscriptions received and one Research Grant paid) during 2004 have not yet been included in these Accounts.

R.E. Sharland, Treasurer

Certified that I have verified the Society's bank balances.

G.D. Field

Instructions to Authors

Malimbus publishes Papers, Short Notes, Reviews, News & Letters, and illustrative material covering the field of West African ornithology.

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Contributions are accepted in English or French; editorial assistance will be made available to authors whose first language is not one of these. Submission by email (attached file) is preferred. For submissions on paper, two copies are required, typed on one side of the paper, with double spacing and wide margins. Consult the editor for further details, e.g. acceptable software.

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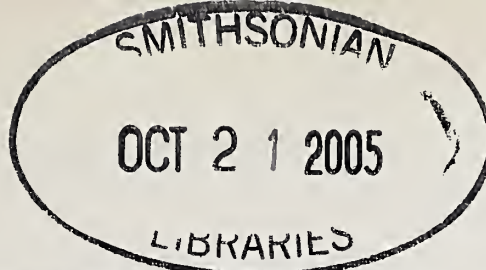
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La Société tire son origine de la "Nigerian Ornithologists' Society", fondée en 1964. Son but est de promouvoir l'ornithologie ouest-africaine, principalement au moyen de sa revue *Malimbus* (anciennement *Bulletin of the Nigerian Ornithologists' Society*).

Les demandes d'adhésion sont les bienvenues. Les cotisations annuelles sont de £10 (€17) pour les Membres Ordinaires et de £25 (€42.50) pour les Sociétés (les cotisations peuvent être payées en £ sterling au Trésorier ou en Euro au Président). Les Membres Ordinaires reçoivent *Malimbus* par courrier ordinaire et les Sociétés par courrier aérien, gratuitement. Un supplément est exigé des Membres Ordinaires pour le courrier aérien (demander au Trésorier le tarif).

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Bourses de Recherches de la S.O.O.A.: Les conditions à remplir pour les candidatures se trouvent dans *Malimbus* 25: 72–75 et sur le site web, ou peuvent être obtenues auprès du Secrétaire du Conseil (adresse ci-dessus).



Significant records and annotated site lists from bird surveys in the Gamba Complex, Gabon

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Summary

The Gamba Complex, a group of protected areas that is one of Gabon's most important areas for bird conservation, has received little ornithological study. We surveyed four sites within the Complex, including the Gamba area (158 spp. recorded), the Rabi and Toucan-Calao oilfields (204), Loango National Park (203), and SW Moukalaba-Doudou NP (177). Significant records included range extensions within Gabon for *Otus icterorhynchus*, *Glaucidium tephronotum*, *Smithornis capensis*, *Zoothera camaronensis*, *Bathmocercus rufus*, *Batis minima* and *Ploceus pelzelni*, and the first published specimen record from Gabon for *Glaucidium tephronotum*. We also document other rare or threatened species from the Complex, and provide annotated species lists for the sites based on data from our surveys.

Résumé

Importantes observations et listes de sites annotées d'après des observations d'oiseaux dans le Complexe de Gamba, Gabon. Le Complexe de Gamba, groupe de régions protégées qui est l'une des plus importantes du Gabon pour la conservation des oiseaux, a été très peu étudiée sous ce rapport. Nous avons exploré quatre sites du Complexe, y compris la région de Gamba (158 espèces recensées), les champs pétrolifères de Rabi et de Toucan-Calao (204), le Parc National de Loango (203), et le SO du PN de Moukalaba-Doudou (177). Les observations importantes comprennent des extensions de zones à l'intérieur du Gabon pour *Otus icterorhynchus*, *Glaucidium tephronotum*, *Smithornis capensis*, *Zoothera camaronensis*, *Bathmocercus rufus*, *Batis minima* et *Ploceus pelzelni*, ainsi que le premier spécimen du Gabon de *Glaucidium tephronotum*. Nous apportons aussi des précisions sur d'autres espèces rares ou menacées du Complexe, et fournissons des listes d'espèces annotées pour les sites d'après nos observations.

Introduction

Although the group of protected areas known as the Gamba Complex (Fig. 1) is one of the most important sites for bird conservation in Gabon (Christy 2001), little has been published on its avifauna. A few specimens were collected at Setté Cama by du Chaillu in the mid-19th century (Malbrant & Maclatchy 1949). Sargeant (1993) compiled a bird list for the Gamba area based on five years' residence there, as well as lists for a few other localities within the complex based on brief visits. Schepers & Marteiijn (1993) surveyed waterbirds along the length of Gabon's coast, and included some incidental observations of land birds from the Gamba area. Christy (2001) provided summary information for the Complex on selected species of conservation concern, but without details on the source or the exact localities of specific records.



Figure 1. Gabon, showing localities mentioned in the text.

The closest sites from which extensive collections have been made are Fernan Vaz, on the coast about 150 km northwest of Gamba, Mayumba (Mayoumba), on the coast about 110 km to the southeast, and Mt Tondou and Mouila, respectively 100 and 150 km inland to the northeast (Malbrant & Maclatchy 1949, Berlioz 1953, 1954, Rand *et al.* 1959).

The Gamba area is one of the most important sites for oil production in Gabon. Shell Gabon began petroleum development at Gamba in 1967, and at the Rabi oil field about 85 km to the north in 1987. Development has entailed the construction of oil, gas and water wells, pipelines, roads, residential areas, and other infrastructure in an area that was previously little populated. However, the more remote parts of the complex remain little affected by human activity.

The complex originally consisted of seven protected areas: the Réserves de Faune (Faunal Reserves) of Petit Loango, Monts Doudou, Ouanga Plain, and Moukalaba, and the Domaines de Chasse (Hunting Areas) of Setté Cama, Iguéla, and Ngové-Ndongo, totaling approximately 1,130,000 ha. With the prohibition of big-game hunting in 1981, the hunting areas effectively became faunal reserves (Christy 2001). In 2002 the status of some of these protected areas was revised, and Loango and Moukalaba-Doudou National Parks were established.

Important Bird Areas (IBAs), as defined by BirdLife International, are areas that have been determined to be the most important for the conservation of birds at the global level. Their designation is based on the distribution of endangered, endemic, biome-restricted, and congregatory species. An assessment of IBAs for Africa has recently been completed (Fishpool & Evans 2001), and the Gamba Complex qualifies as one of seven IBAs in Gabon (Christy 2001).

In 2000, the Smithsonian Institution Monitoring and Assessment of Biodiversity programme received support from the Shell Foundation and Shell Gabon to conduct a large-scale survey of biodiversity within the Gamba Complex, including plants, insects, fish, amphibians, reptiles, birds, and mammals. The sites surveyed included areas that had been subjected to oil development as well as more remote areas. The ornithological surveys for the project were carried out by the authors and by P. Christy, who participated in the surveys at Rabi. We report here on the more significant bird records obtained by these surveys, and provide annotated species lists for the sites. Additional details of these surveys, including ecology, mist-netting results, and possible impacts of hunting, roads and logging, appear in Angehr *et al.* (2005).

Study Areas

A general description of the Gamba Complex can be found in Christy (2001). Average annual rainfall at Rabi was 2302 mm during the period 1989–2001. The rainy season extends from October to May, with a short but intense dry season from June to

September. During the rainy season there were two peaks in precipitation, the larger in November (mean 395 mm) and the smaller in April (301 mm). The rainy season month with the lowest precipitation was February (226 mm). During the most intense part of the dry season little rain fell, with averages of 2 mm for July and 7 mm for August.

We worked at four main sites within the Complex (Fig. 2), all in Ogooué-Maritime province: the Gamba oil field and nearby areas; the Rabi oil field and the nearby Toucan-Calao oil field; a site in Petit Loango NP; and a site in the lowlands of SW Moukalaba-Doudou NP.

Gamba

The Gamba area, between the Atlantic coast and the Ndogo Lagoon, includes the towns of Gamba, Yenzi, and Vembo and an extensive complex of oil and gas wells, pipelines, and roads in the Gamba, Ivinga, and associated oilfields (Gamba Oil Terminal = 2°46'50''S, 10°1'22''E). Coastal habitats include sandy beaches, coastal scrub and mangroves. Inland, upland and swamp forests are interspersed with long narrow strips of grassland. At this site we were mainly interested in comparing bird communities in fragmented forests with those where forest was more intact, so we did not extensively survey coastal or aquatic habitats, grasslands, or agricultural or residential areas. We worked mainly in fragmented forest near the Gamba-26 and Gamba-30 oil wells, and in more continuous forest between Totou Lake and Gamba Lagoon and along the Mayonami Road about 8 km east of Yenzi. We carried out surveys from 3 Jul to 2 Aug 2001 (Angehr) and 14–22 Nov 2002 (Njie). We also made incidental observations around Gamba while in transit to other sites at other times.

Rabi and Toucan-Calao.

These sites are close together, and were both surveyed from Ossenghe Camp (1°56'11''S, 9°52'51''E). The Rabi area consists of slightly undulating terrain with upland forest on the ridges and seasonally or permanently flooded forest in lower areas. The Rembo Rabi, a forested river, flows through the centre of the area. The Rabi Oilfield consists of a complex of roads, oil wells, pipelines and other infrastructure about 13 km N–S by 5 km E–W. Natural grassland was originally absent or scarce in the area, and existing areas of grass, bare soil, and scrub are mainly due to human modification of the original forest environment. In addition, road and well construction has altered the flow of surface water in some areas, drowning trees and creating more extensive areas of open water than were previously present.

Oil has recently been discovered near Toucan and Calao to the north of the Rabi field. In 2001 a new 12-km road, following the course of a former logging road, was constructed from the north end of the Rabi field to the Toucan well site. In 2002 the road was extended an additional 6 km to the planned Calao well site. Habitats in the Toucan-Calao area are similar to those at Rabi, and include upland and seasonally and permanently flooded forest. However, during our studies the area mostly lacked the grass, scrub, bare ground, and open water habitats that occur at Rabi due to development.



Figure 2. The Gamba area, showing localities mentioned in the text.

Selective logging took place in the Rabi area until oil development began about 15 years ago, and in the Toucan-Calao area more recently. Logged forest is evident in several areas at Rabi and along the Toucan-Calao Road, and we included such areas in our surveys. More extensive open habitat and recently logged forest can be found north of the Rabi area, where there are large forestry concessions and several small villages which practice traditional agriculture, but we did not survey these areas.

We worked at Rabi mainly from 18 Feb to 15 Mar 2002 (Angehr, Schmidt, Christy) and along the Toucan-Calao road mainly from 27 May to 20 Jun 2002 (Angehr, Schmidt, Gebhard), although we made some observations in each area during both survey periods. We also visited Lake Divangui, about 12 km east of Rabi, on 9 Mar 2002 (Angehr, Schmidt, Christy).

Loango National Park.

Our base camp (2°20'34''S, 9°35'46''E) was located near the coast *c.* 12 km north of the outlet of Ndogo Lagoon, and about 7.5 km south of Petit Loango. The littoral zone consists of sandy beach with often heavy surf. The vegetation immediately along the coast includes grassy meadows, windswept scrub, mangroves, and open palm groves. Just inland from this coastal zone are several small narrow savannas that run parallel to the coastline. Primary forest, including both upland and seasonally flooded forest, extends inland from the savannas, and reaches the coast in some areas. Temporary brackish lagoons occur along the coast where streams have become dammed by shifting beach sands. These lagoons may drain suddenly when rain-swollen streams burst through a sand dam. Some selective logging and construction of seismic lines for oil exploration took place in the past, but the area is now essentially undisturbed. From the base camp, we walked trails inland for *c.* 3 km and surveyed the coast from the Ndogo Lagoon to the mouth of a large river 5 km north of our camp, *c.* 17 km in all. We worked at this site 23 Sep to 16 Oct (Schmidt) and 23 Oct to 13 Nov 2002 (Angehr, Njie). Angehr made a brief visit to the area just north of the mouth of Ndogo Lagoon on 20 Apr 2003.

Moukalaba-Doudou National Park.

Our base camp (2°35'13''S, 10°14'3''E) was located near the E end of Ndogo Lagoon about 30 km northeast of Gamba, in primary upland forest *c.* 1.3 km from the lagoon shore. The lagoon is fringed by permanently and seasonally flooded forest. Low hills to the north of the camp rise to about 200 m. The site is remote from habitation. At the time of our visit, the late rainy season, bird activity was much greater in wetter areas than in upland sites, so most of our survey work was conducted in the swampy areas west and south of our camp. We walked trails to *c.* 3 km from the base camp. We surveyed from 25 Mar to 22 Apr 2003 (Angehr, Schmidt, Njie). On 21–22 Apr 2003 we visited the lower part of the Rembo Ndogo, about 12 km west of our base camp. This river has areas of papyrus and palm swamp near its mouth,

and upstream is mainly bordered with permanently flooded swamp forest as far as we surveyed. We also made observations on Ndogo Lagoon between our base camp and the river.

Methods

We used a combination of auditory and visual surveys and mist-netting, attempting to visit all major habitats at each site. We walked trails and roads through forest, along coastal areas, or through savanna from dawn to about mid-day, and usually again from 16h00 to near dusk. We surveyed nocturnal species by spot-lighting at night along roads and trails and by playing tape-recorded calls and listening for response. For mist-netting we used 12 m long by 2.6 m high nets, with a 36-mm mesh. We accumulated 11,799 net-hours at all sites combined.

We documented species occurrence by collection of voucher specimens (principally by mist-netting, but also by hand by spot-lighting at night, plus a few fortuitous captures in traps set by mammalogists), by photographs, and by recording vocalizations. All specimens have been deposited in either the Centre de l'Etude et Conservation de la Biodiversité at Vembo, near Gamba, or in the National Museum of Natural History (USNM), Smithsonian Institution, Washington DC, U.S.A. For identifications we used primarily Borrow & Demey (2001) and Mackworth-Praed & Grant (1970, 1973), supplemented by Rand *et al.* (1959), Serle & Morel (1977), Christy & Clarke (1994), and Kemp & Kemp (1998), and for vocalizations Chappuis (2000). Nomenclature follows Borrow & Demey (2001).

Annotated site lists, including relative abundance are based on the results of our surveys. We provide details of the more significant records, including species not previously recorded from the Gamba Complex, and those which are rare or have restricted ranges in Gabon. We also describe the status of species of conservation concern according to BirdLife International (2000, 2003), including those listed as Data Deficient or Near Threatened.

We do not include species listed by Sargeant (1993) and by Christy (2001) as occurring in the Gamba Complex, which were not found by us. Sargeant's list for Gamba includes a substantially wider area than we surveyed, extending along the coast north to Setté Cama and south to the Nyanga River, and inland to Vera and Bouda. Sargeant provides briefer lists for Rabi and the eastern side of the Moukalaba Faunal Reserve (now mostly incorporated into Moukalaba-Doudou NP), which contains savanna, scrub, and cultivation, habitats not present in the area we surveyed. Christy surveyed several parts of the Gamba Complex not included in our study, from Setté Cama to the savannas of the Moukalaba Fauna Reserve (P. Christy *in litt.*). A list summarizing all published records of birds from the Gamba Complex, including those appearing in Sargeant (1993), Schepers & Marteiijn (1993), and Christy (2001), is included in Angehr *et al.* (2005).

Results

We recorded a total of 317 species for all sites combined, with 158 at Gamba, 204 at Rabi-Toucan, 203 at Loango NP and 177 at Moukalaba-Doudou NP (Table 1).

Table 1. Birds recorded in the Gamba Complex (G Gamba; R-T Rabi-Toucan; LNP Loango NP; MDNP Moukalaba-Doudou NP). Abundance codes: A = Abundant, 11–100 seen or heard in suitable habitat each day; C = Common, 1–10 seen or heard in suitable habitat each day; F = Frequent, often seen but not every day; U = Uncommon, only a few records during the survey period, or restricted to only one or a few sites in the study area; R = Rare, one or two records during the survey period; X = seen or heard at the site, but abundance not evaluated because we did not regularly visit appropriate habitat. Documentation: s = specimen collected; r = tape-recorded; p = photographed (only for species for which no specimen collected). ^D = at Lake Divangui (Rabi-Toucan) only; ^N = on Ndogo Lagoon or at Rembo Ndogo (Moukalaba-Doudou) only; ¹ = reported by survey participants other than the authors. * indicates a species for which additional notes are given after the Table.

	G	R-T	LNP	MDNP
Podicipedidae				
<i>Tachybaptus ruficollis</i> Little Grebe		R		
Phalacrocoracidae				
<i>Phalacrocorax africanus</i> Long-tailed Cormorant		Rp		X ^N
Anhingidae				
<i>Anhinga rufa</i> African Darter	X	R	C	X ^N
Pelicanidae				
<i>Pelecanus rufescens</i> Pink-backed Pelican			U	
Ardeidae				
<i>Ixobrychus sturmii</i> Dwarf Bittern*		R		
<i>Tigriornis leucolophus</i> White-crested Tiger-Heron*	X			R ¹
<i>Gorsachius leuconotus</i> White-backed Night Heron		U		R
<i>Nycticorax nycticorax</i> Black-crowned Night Heron		R ¹		
<i>Ardeola ralloides</i> Squacco Heron		R		
<i>Bubulcus ibis</i> Cattle Egret	C		R	
<i>Butorides striatus</i> Green-backed Heron		Us	R	X ^N
<i>Egretta garzetta</i> Little Egret	X		F	
<i>E. intermedia</i> Intermediate Egret	X			
<i>E. alba</i> Great Egret	X	Up	R	X ^N
<i>Ardea purpurea</i> Purple Heron	X			
<i>A. cinerea</i> Grey Heron	X		R	
<i>A. melanocephala</i> Black-headed Heron			R	
<i>A. goliath</i> Goliath Heron			U	X ^N

	G	R-T	LNP	MDNP
Scopidae				
<i>Scopus umbretta</i> Hamerkop		Fr	C	R
Ciconiidae				
<i>Mycteria ibis</i> Yellow-billed Stork			R	
<i>Ciconia abdimii</i> Abdim's Stork*		R		
<i>C. episcopus</i> Woolly-necked Stork	X	U	C	
<i>C. ciconia</i> White Stork*			R	
Threskiornithidae				
<i>Bostrychia hagedash</i> Hadada Ibis	C	Fr	Cr	Ur
<i>B. olivacea</i> Olive Ibis*		Fr		Ur
<i>B. rara</i> Spot-breasted Ibis		U		R
Anatidae				
<i>Dendrocygna viduata</i> White-faced Whistling Duck				X ^{N,1}
<i>Pteronetta hartlaubii</i> Hartlaub's Duck*		Fpr	R	R
<i>Nettapus auritus</i> African Pygmy Goose		R		
Pandionidae				
<i>Pandion haliaetus</i> Osprey	X		F	X ^N
Accipitridae				
<i>Aviceda cuculoides</i> African Cuckoo Hawk		R		R
<i>Pernis apivorus</i> European Honey Buzzard	R		R	
<i>Macheiramphus alcinus</i> Bat Hawk	R	R	Rr	R
<i>Milvus migrans</i> Black Kite			R	
<i>Haliaeetus vocifer</i> African Fish Eagle	R	U	R	Rr
<i>Gypohierax angolensis</i> Palm-nut Vulture	C	U	C	X ^N
<i>Dryotriorchis spectabilis</i> Congo Serpent Eagle		Rr	Ur	Rr
<i>Polyboroides typus</i> African Harrier Hawk	U	U	U	X ^N
<i>Circus aeruginosus</i> Western Marsh Harrier	R			
<i>Accipiter tachiro</i> African Goshawk	U	Fsr	R	R
<i>A. castanilius</i> Chestnut-flanked Sparrowhawk	R		R	Rs
<i>A. erythropus</i> Red-thighed Sparrowhawk	U	Rr		R
<i>A. melanoleucus</i> Black Sparrowhawk	U	R	Rr	
<i>Urotriorchis macrourus</i> Long-tailed Hawk			Rr	Rr
<i>Kaupifalco monogrammicus</i> Lizard Buzzard*			R ¹	
<i>Buteo buteo</i> Common Buzzard	R		R	
<i>B. auguralis</i> Red-necked Buzzard	R		R	R
<i>Spizaetus africanus</i> Cassin's Hawk Eagle		R		Rr
<i>Stephanoaetus coronatus</i> Crowned Eagle		Fr	Rr	Rr
Phasianidae				
<i>Francolinus lathamii</i> Latham's Forest Francolin			U	F
<i>F. squamatus</i> Scaly Francolin		R		

	G	R-T	LNP	MDNP
Numididae				
<i>Agelastes niger</i> Black Guineafowl		U ^{sr}	U	Fr
<i>Guttera plumifera</i> Plumed Guineafowl		R ¹		
Rallidae				
<i>Himantornis haematopus</i> Nkulengu Rail				R
<i>Canirallus oculus</i> Grey-throated Rail		R ¹		
<i>Sarothrura pulchra</i> White-spotted Flufftail		Cr		Cr
<i>Amaurornis flavirostris</i> Black Crake		Rr		
Heliornithidae				
<i>Podica senegalensis</i> African Finfoot		U	U	U
Jacanidae				
<i>Actophilornis africana</i> African Jacana	X	R		X ^N
Burhinidae				
<i>Burhinus vermiculatus</i> Water Thick-knee	F	U	C	
Glareolidae				
<i>Glareola cinerea</i> Grey Pratincole			U	
Charadriidae				
<i>Charadrius hiaticula</i> Common Ringed Plover			R	
<i>C. pecuarius</i> Kittlitz's Plover	C			
<i>C. forbesi</i> Forbes's Plover	C	R		
<i>C. marginatus</i> White-fronted Plover			C	
<i>Pluvialis squatarola</i> Grey Plover			R	
<i>Vanellus albiceps</i> White-headed Lapwing			R	
<i>V. lugubris</i> Lesser Black-winged Lapwing	C			
Scolopacidae				
<i>Calidris alba</i> Sanderling			C	
<i>C. minuta</i> Little Stint			U	
<i>Limosa lapponica</i> Bar-tailed Godwit			R	
<i>Tringa nebularia</i> Common Greenshank			F	
<i>T. glareola</i> Wood Sandpiper			R	
<i>Actitis hypoleucos</i> Common Sandpiper	X		C	
<i>Arenaria interpres</i> Ruddy Turnstone			R	
Laridae				
<i>Larus fuscus</i> Lesser Black-backed Gull			R	
Sternidae				
<i>Sterna caspia</i> Caspian Tern			R	
<i>S. maxima</i> Royal Tern			C	
<i>S. sandvicensis</i> Sandwich Tern			U	
<i>S. hirundo</i> Common Tern			C	
<i>S. paradisaea</i> Arctic Tern*			R	
<i>S. balaenarum</i> Damara Tern*			U	

	G	R-T	LNP	MDNP
<i>Chlidonias niger</i> Black Tern			U	
Rynchopidae				
<i>Rynchops flavirostris</i> African Skimmer*			U	
Columbidae				
<i>Treron calva</i> African Green Pigeon	Cr	C	C	C
<i>Turtur brehmeri</i> Blue-headed Wood Dove	Cpr	Csr	Cr	Fs
<i>T. tympanistris</i> Tambourine Dove	Cp	Fs	Fsr	Rs
<i>T. afer</i> Blue-spotted Wood Dove	Rs	Us	R	
<i>T. chalcospilos</i> Emerald-spotted Wood Dove*	U		Csr	
<i>Columba iriditorques</i> Western Bronze-naped Pigeon		Ur		
<i>C. uncinata</i> Afep Pigeon		Fr	R	Fr
<i>C. livia</i> Rock Dove	C			
<i>Streptopelia semitorquata</i> Red-eyed Dove	C		Ar	
Psittacidae				
<i>Psittacus erithacus</i> Grey Parrot	C	Ar	Ar	Cr
<i>Poicephalus gularis</i> Red-fronted Parrot		R		Ur
Musophagidae				
<i>Corythaeola cristata</i> Great Blue Turaco	U	Cr	Rr	Fr
<i>Tauraco persa</i> Green Turaco	R			
<i>T. macrorhynchus</i> Yellow-billed Turaco	Cr	Cr	C	Cr
Cuculidae				
<i>Oxylophus jacobinus</i> Jacobin Cuckoo			R	
<i>Cuculus solitarius</i> Red-chested Cuckoo	C	Fr	Cr	
<i>C. clamosus</i> Black Cuckoo	R	R	R	Fr
<i>Chrysococcyx cupreus</i> African Emerald Cuckoo	C	R	Cr	Rr
<i>C. flavigularis</i> Yellow-throated Cuckoo*		Rr		Rr
<i>C. klaas</i> Klaas's Cuckoo		U	Cr	Rr
<i>C. caprius</i> Didric Cuckoo	R		C	
<i>Ceuthmochares aereus</i> Yellowbill	C	Cr	Fr	C
<i>Centropus anselli</i> Gabon Coucal	Cs	Fr	Rr	F
<i>C. senegalensis</i> Senegal Coucal		Rr		
<i>C. monachus</i> Blue-headed Coucal		R		
Strigidae				
<i>Otus icterorhynchus</i> Sandy Scops Owl*				Ur
<i>Bubo poensis</i> Fraser's Eagle Owl				U
<i>B. leucostictus</i> Akun Eagle Owl		Rp		
<i>Scotopelia peli</i> Pel's Fishing Owl				R ¹
<i>Glaucidium tephronotum</i> Red-chested Owlet*		Rs		Rr
<i>G. sjostedti</i> Chestnut-backed Owlet		Rs		U
<i>Strix woodfordii</i> African Wood Owl		Ur		R
<i>Asio capensis</i> Marsh Owl*	R			

	G	R-T	LNP	MDNP
Caprimulgidae				
<i>Caprimulgus batesi</i> Bates's Nightjar		Cs	U	
<i>C. natalensis</i> Swamp Nightjar			U	
<i>C. climacurus</i> Long-tailed Nightjar	X		U	
<i>C. fossii</i> Square-tailed Nightjar	X		C	
<i>C. europaeus</i> European Nightjar		Us		
Apodidae				
<i>Rhaphidura sabini</i> Sabine's Spinetail		F		X ^N
<i>Telacanthura melanopygia</i> Black Spinetail*		R	R	
<i>Neafrapus cassini</i> Cassin's Spinetail	R	F	R	U
<i>Cypsiurus parvus</i> African Palm Swift	C		A	
<i>Apus apus</i> Common Swift	F	F	R	U
<i>A. affinis</i> Little Swift	C	R		
Trogonidae				
<i>Apaloderma narina</i> Narina's Trogon				Fr
<i>A. aequatoriale</i> Bare-cheeked Trogon		Rr		Fr
Alcedinidae				
<i>Halcyon badia</i> Chocolate-backed Kingfisher	Cr	Fsr	Csr	Cr
<i>H. malimbica</i> Blue-breasted Kingfisher	Cp	Csr	Csr	Cr
<i>H. senegalensis</i> Woodland Kingfisher	C	Rr	Cr	
<i>Ceyx lecontei</i> African Dwarf Kingfisher	R	Rs		Us
<i>C. pictus</i> African Pygmy Kingfisher	R	Rs	Us	
<i>Alcedo leucogaster</i> White-bellied Kingfisher	Cp	Cs	Cs	Cs
<i>A. cristata</i> Malachite Kingfisher	X	R	C	X ^N
<i>A. quadribrachys</i> Shining-blue Kingfisher	Us	Rs	C	Us
<i>Megaceryle maxima</i> Giant Kingfisher	X	Rr	F	X ^N
<i>Ceryle rudis</i> Pied Kingfisher	X		R	X ^N
Meropidae				
<i>Merops breweri</i> Black-headed Bee-eater	U		Us	
<i>M. gularis</i> Black Bee-eater		Fr		X ^N
<i>M. variegates</i> Blue-breasted Bee-eater	U		As	
<i>M. albicollis</i> White-throated Bee-eater		R		
<i>M. malimbicus</i> Rosy Bee-eater	C	Fr	As	
Coraciidae				
<i>Eurystomus gularis</i> Blue-throated Roller	U	Ur		Fr
<i>E. glaucurus</i> Broad-billed Roller		Rr		X ^N
Bucerotidae				
<i>Tropicranus albocristatus</i> White-crested Hornbill	Cr	Fr	Cr	U
<i>Tockus hartlaubi</i> Black Dwarf Hornbill		Rr		
<i>T. camurus</i> Red-billed Dwarf Hornbill	Cr	Csr	Ar	Cr
<i>T. fasciatus</i> African Pied Hornbill	C	Cr	Ar	Fr

	G	R-T	LNP	MDNP
<i>Bycanistes fistulator</i> Piping Hornbill	C	Cr	Ar	X ^N
<i>B. albotibialis</i> White-thighed Hornbill		Fr	U	
<i>Ceratogymna atrata</i> Black-casqued Hornbill	C	Cr	Ar	F
Capitonidae				
<i>Gymnobucco bonapartei</i> Grey-throated Barbet*				R
<i>G. peli</i> Bristle-nosed Barbet		F	R	Cr
<i>G. calvus</i> Naked-faced Barbet	F	Cr	F	Ur
<i>Pogoniulus scolopaceus</i> Speckled Tinkerbird	C	Cr	F	Fr
<i>P. atroflavus</i> Red-rumped Tinkerbird	Cr	Cr	Cr	Cs
<i>P. subsulphureus</i> Yellow-throated Tinkerbird	Cr	Vsr	Csr	Cr
<i>Buccanodon duchailloi</i> Yellow-spotted Barbet	F	Fr	Ur	Cr
<i>Tricholaema hirsuta</i> Hairy-breasted Barbet	Cr	Cr	C	Cr
<i>Trachylaemus purpuratus</i> Yellow-billed Barbet			U	R
Indicatoridae				
<i>Prodotiscus insignis</i> Cassin's Honeybird		R	R	R
<i>Melichneutes robustus</i> Lyre-tailed Honeyguide				R
<i>Indicator maculatus</i> Spotted Honeyguide	Rp	Rs	Us	Fs
<i>I. conirostris</i> Thick-billed Honeyguide		R		
<i>I. exilis</i> Least Honeyguide	F	Rr	Rsr	Fr
Picidae				
<i>Campethera cailliautii</i> Green-backed Woodpecker	F	Fr	R	F
<i>C. nivosa</i> Buff-spotted Woodpecker	Rp	Rsr		Fs
<i>C. caroli</i> Brown-eared Woodpecker		Rr	Us	Fs
<i>Dendropicos gabonensis</i> Gabon Woodpecker		Cr		R
<i>D. xantholophus</i> Golden-crowned Woodpecker		F		R
Eurylaimidae				
<i>Smithornis rufolateralis</i> Rufous-sided Broadbill		Rr		Fr
<i>S. capensis</i> African Broadbill*				Rr
Hirundinidae				
<i>Pseudocheilidon eurystomina</i> African River Martin*	C		U	
<i>Psalidoprocne nitens</i> Square-tailed Sawwing				U
<i>Riparia cincta</i> Banded Martin	R		R	
<i>Pseudhirundo griseopyga</i> Grey-rumped Swallow	As		As	
<i>Hirundo semirufa</i> Rufous-chested Swallow	R	Fr		
<i>H. abyssinica</i> Lesser Striped Swallow	Cs		R	
<i>H. nigrita</i> White-throated Blue Swallow	X			X ^N
<i>H. rustica</i> Barn Swallow	C	R	U	
Motacillidae				
<i>Anthus pallidiventris</i> Long-legged Pipit	A	C	A	
Campephagidae				
<i>Campephaga quiscalina</i> Purple-throated Cuckoo-shrike	Rr			

	G	R-T	LNP	MDNP
<i>Coracina azurea</i> Blue Cuckoo-shrike	U	Cr		Cr
Pycnonotidae				
<i>Andropadus virens</i> Little Greenbul	Apr	Asr	Cr	Csr
<i>A. gracilis</i> Little Grey Greenbul	F	Fr	Fr	Fr
<i>A. ansorgei</i> Ansorge's Greenbul	R	R	Rr	Ur
<i>A. curvirostris</i> Cameroon Sombre Greenbul	R	Cr		Us
<i>A. gracilirostris</i> Slender-billed Greenbul	Cr	Cr	Fr	Fr
<i>A. latirostris</i> Yellow-whiskered Greenbul	Ap	Asr	Csr	Cs
<i>Calyptocichla serina</i> Golden Greenbul	F	Fr	R	F
<i>Baeopogon indicator</i> Honeyguide Greenbul	F	Fr	Rr	
<i>B. clamans</i> Sjöstedt's Honeyguide Greenbul	R	Rr		R
<i>Ixonotus guttatus</i> Spotted Greenbul	F	Cr	Ur	F
<i>Chlorocichla simplex</i> Simple Leaflove			R	
<i>Thescelocichla leucopleura</i> Swamp Palm Greenbul	X			R
<i>Phyllastrephus icterinus</i> Icterine Greenbul	Cpr	Fsr	Fsr	Asr
<i>Bleda syndactyla</i> Red-tailed Bristlebill	Cp	Fsr	Usr	Cs
<i>B. notata</i> Lesser Bristlebill	Cpr	Csr	Fsr	Cs
<i>Criniger chloronotus</i> Eastern Bearded Greenbul	R	Usr	Csr	Csr
<i>C. calurus</i> Red-tailed Greenbul	Up	Usr	Ur	Csr
<i>C. ndussumensis</i> White-bearded Greenbul		R ^D r		
<i>Pycnonotus barbatus</i> Common Bulbul	A	R	Asr	
<i>Nicator chloris</i> Western Nicator	C	Csr	Cr	Csr
Turdidae				
<i>Stiphornis erythrothorax</i> Forest Robin	Cr	Usr	Ur	Csr
<i>Cossypha natalensis</i> Red-capped Robin Chat			Fsr	
<i>C. niveicapilla</i> Snowy-crowned Robin Chat			Fsr	
<i>Alethe diademata</i> Fire-crested Alethe	Cpr	Csr	Cr	Csr
<i>A. poliocephala</i> Brown-chested Alethe	Up	Usr	Usr	Fs
<i>Neocossyphus rufus</i> Red-tailed Ant Thrush	Fp	Usr	Us	Rs
<i>N. poensis</i> White-tailed Ant Thrush		Csr	Usr	Fs
<i>Stizorhina fraseri</i> Rufous Flycatcher Thrush	Cpr	Csr	Csr	Csr
<i>Cichladusa ruficauda</i> Rufous-tailed Palm Thrush*	R		Fs	
<i>Zoothera camaronensis</i> Black-eared Ground Thrush*				Usr
<i>Turdus pelios</i> African Thrush	C			
Sylviidae				
<i>Bathmocercus rufus</i> Black-faced Rufous Warbler*				Rr
<i>Cisticola anonymus</i> Chattering Cisticola		Cr		
<i>C. galactotes</i> Winding Cisticola				X ^N r
<i>C. brunnescens</i> Pectoral-patch Cisticola	U			
<i>Prinia bairdii</i> Banded Prinia		Rr		

	G	R-T	LNP	MDNP
<i>Apalis flavida</i> Yellow-breasted Apalis			Cr	
<i>A. rufogularis</i> Buff-throated Apalis		Cr		Cr
<i>Camaroptera brachyura</i> Grey-backed Camaroptera		R	Asr	
<i>C. superciliaris</i> Yellow-browed Camaroptera		Ur	Rr	
<i>Macrosphenus flavicans</i> Yellow Longbill		Fr	Ur	R
<i>M. concolor</i> Grey Longbill	F	Cr	Ur	Cr
<i>Eremomela badiceps</i> Rufous-crowned Eremomela		Rr		R
<i>Sylvietta virens</i> Green Crombec	C	Ur	Csr	Rr
<i>S. denti</i> Lemon-bellied Crombec		Rr		Fr
<i>Phylloscopus trochilus</i> Willow Warbler			U	
<i>P. sibilatrix</i> Wood Warbler			R	
<i>Sylvia borin</i> Garden Warbler			U	
<i>Hyliota violacea</i> Violet-backed Hyliota		Rr		R
<i>Hylia prasina</i> Green Hylia	Fp	Csr	Ur	Csr
Muscicapidae				
<i>Fraseria ocreata</i> Fraser's Forest Flycatcher		Ur	F	U
<i>F. cinerascens</i> White-browed Forest Flycatcher		Us	Usr	Us
<i>Muscicapa striata</i> Spotted Flycatcher	R		F	
<i>M. cassini</i> Cassin's Flycatcher		F		X ^N
<i>M. olivascens</i> Olivaceous Flycatcher				Rs
<i>M. sethsmithi</i> Yellow-footed Flycatcher		R		U
<i>M. infuscata</i> Sooty Flycatcher		C	R	R
<i>Myioparus griseigularis</i> Grey-throated Flycatcher		Ur		U
<i>M. plumbeus</i> Lead-coloured Flycatcher		Rr	Fr	
Monarchidae				
<i>Erythrocerus mcallii</i> Chestnut-capped Flycatcher		Fr		R
<i>Elminia nigromitrata</i> Dusky Crested Flycatcher		Rsr		Fs
<i>Trochocercus nitens</i> Blue-headed Crested Flycatcher		Rr	Fr	U
<i>Terpsiphone viridis</i> African Paradise Flycatcher		Rs	Fs	
<i>T. rufiventer</i> Red-bellied Paradise Flycatcher	F	Usr	Csr	Cs
Platysteiridae				
<i>Megabyas flammulatus</i> Shrike Flycatcher		Rr		R
<i>Dyaphorophya castanea</i> Chestnut Wattle-eye	Cp	Csr	Fs	Csr
<i>D. tonsa</i> White-spotted Wattle-eye	C	Fsr	Fr	C
<i>D. concreta</i> Yellow-bellied Wattle-eye		Ur	Rr	
<i>Platysteira cyanea</i> Common Wattle-eye			Asr	
<i>Batis minima</i> Verreaux's Batis*		Rr		Ur
Timaliidae				
<i>Illadopsis rufipennis</i> Pale-breasted Illadopsis	Ur	Rs		Csr
<i>I. fulvescens</i> Brown Illadopsis	C	Ur	Ur	Cr

	G	R-T	LNP	MDNP
<i>I. cleaveri</i> Blackcap Illadopsis	Fr	Rr		Csr
Remizidae				
<i>Anthoscopus flavifrons</i> Forest Penduline Tit		U		R
Nectariniidae				
<i>Anthreptes aurantium</i> Violet-tailed Sunbird			Fs	X ^N
<i>A. rectirostris</i> Green Sunbird	F	F		R
<i>A. seimundi</i> Little Green Sunbird		Csr		U
<i>Deleornis fraseri</i> Fraser's Sunbird	Up	Usr	R	Cs
<i>Anabathmis reichenbachii</i> Reichenbach's Sunbird	F	Fsr	Cs	
<i>Cyanomitra verticalis</i> Green-headed Sunbird	F		Cs	
<i>C. cyanolaema</i> Blue-throated Brown Sunbird	C	Csr	Fsr	Cr
<i>C. obscura</i> Western Olive Sunbird	Apr	Asr	Cr	Cs
<i>Chalcomitra rubescens</i> Green-throated Sunbird		Fr		Us
<i>C. fuliginosa</i> Carmelite Sunbird	C		Asr	
<i>Hedydipna collaris</i> Collared Sunbird	C	Csr	Fsr	Cr
<i>Cinnyris chloropygius</i> Olive-bellied Sunbird	F	Fsr	Us	
<i>C. minullus</i> Tiny Sunbird		Ur		
<i>C. johannae</i> Johanna's Sunbird	R	Fr	R	R
<i>C. superbus</i> Superb Sunbird	R		R	
<i>C. cupreus</i> Copper Sunbird	U			
Laniidae				
<i>Lanius minor</i> Lesser Grey Shrike			R	
<i>L. collurio</i> Red-backed Shrike			R	
Malaconotidae				
<i>Dryoscopus sabinus</i> Sabine's Puffback	C	Fr	Cr	Fr
<i>Laniarius leucorhynchus</i> Sooty Boubou	U	Usr		Rr
<i>L. bicolor</i> Swamp Boubou			Fr	
Prionopidae				
<i>Prionops rufiventris</i> Rufous-bellied Helmetshrike	U	Fr	Rr	Rr
Oriolidae				
<i>Oriolus nigripennis</i> Black-winged Oriole		R ^D r		
<i>O. brachyrhynchus</i> Western Black-headed Oriole	R	U	Ur	Csr
<i>O. oriolus</i> Eurasian Golden Oriole	R		R	
Dicruridae				
<i>Dicrurus atripennis</i> Shining Drongo	R	Usr	Cr	Asr
<i>D. modestus</i> Velvet-mantled Drongo		Fr	Rs	Fr
Corvidae				
<i>Corvus albus</i> Pied Crow	C			
Sturnidae				
<i>Poeoptera lugubris</i> Narrow-tailed Starling		Ur		
<i>Onychognathus fulgidus</i> Forest Chestnut-winged Starling		Rr		

	G	R-T	LNP	MDNP
<i>Lamprotornis purpureiceps</i> Purple-headed Glossy Starling	C	Cr	Csr	U
<i>L. splendidus</i> Splendid Glossy Starling	Cr	Fr	C	
Buphagidae				
<i>Buphagus africanus</i> Yellow-billed Oxpecker			U	
Ploceidae				
<i>Ploceus pelzelni</i> Slender-billed Weaver*			R	
<i>P. nigricollis</i> Black-necked Weaver			As	
<i>P. nigerrimus</i> Vieillot's Black Weaver			As	
<i>P. cucullatus</i> Village Weaver	Cs		A	X ^N
<i>P. tricolor</i> Yellow-mantled Weaver		R	R	R
<i>P. albinucha</i> Maxwell's Black Weaver*		R		
<i>Malimbus nitens</i> Blue-billed Malimbe		Fsr	Usr	Cs
<i>M. cassini</i> Cassin's Malimbe		Ur		U
<i>M. rubricollis</i> Red-headed Malimbe		Ur	R	F
<i>M. erythrogaster</i> Red-bellied Malimbe		R		F
Estrildidae				
<i>Parmoptila woodhousei</i> Red-headed Antpecker				Fs
<i>Nigrita canicapilla</i> Grey-crowned Negrofinch	U	Fr	R	Ur
<i>N. luteifrons</i> Pale-fronted Negrofinch	R	U		Ur
<i>N. bicolor</i> Chestnut-breasted Negrofinch		Fsr		Us
<i>N. fusconota</i> White-breasted Negrofinch		Ur		Rr
<i>Pyrenestes ostrinus</i> Black-bellied Seedcracker	X	Fsr		
<i>Spermophaga haematina</i> Western Bluebill	Up	Fs.r	Us	Rs
<i>Estrilda melpoda</i> Orange-cheeked Waxbill	F			
<i>E. astrild</i> Common Waxbill			F	
<i>Ortygospiza gabonensis</i> Black-chinned Quailfinch	R			
<i>Lonchura cucullata</i> Bronze Mannikin	F	R	F	
<i>L. bicolor</i> Black-and-white Mannikin		Ur		
Viduidae				
<i>Vidua macroura</i> Pin-tailed Whydah	F		U	
Emberizidae				
<i>Emberiza tahapisi</i> Cinnamon-breasted Rock Bunting			R	

Ixobrychus sturmii Dwarf Bittern. One in a marshy area next to Rabi-33 well site, 10 Mar 2002 (P. Christy). [Few records from Gabon, where probably only a migrant. Not recorded for Gamba area by Sargeant (1993), but he saw one on E side of Moukalaba-Doudou NP northwest of Tchibanga, 21 Apr 1992.]

Tigriornis leucolophus White-crested Tiger-Heron. One flushed from day roost near Totou-6 well site near Gamba, 10 Jul 2001 (GA). One heard at night in swamp east of camp at Moukalaba-Doudou, 27 Mar 2003 (M. Burger pers. comm.). [Rare in

Gamba area (Sargeant 1993), with records from Maambi River, 19 Oct 1991 and Colas, 22 Nov 1992. Data Deficient (BirdLife International 2000, 2003).]

***Ciconia abdimii* Abdim's Stork.** One with a group of Woolly-necked Storks *C. episcopus* in trees near Gathering Station A, Rabi, 10 and 15 Mar 2002 (GA, BS, P. Christy). [Common migrant in N and E Gabon but very scarce in W, and rare in Gamba area (Sargeant 1993).]

***Ciconia ciconia* White Stork.** Two soaring over and foraging on the ground in savanna near Loango base camp, 27 Oct 2002 (GA). [Sargeant (1993) reported one at Bibonga near Gamba, 9 Apr 1989. Few records from Gabon (Borrow & Demey 2001).]

***Bostrychia olivacea* Olive Ibis.** Regularly seen and heard, usually in small flocks in flight near dawn and dusk near its favoured swamp forest habitat, at Rabi, Feb–Mar 2002, (GA, P. Christy). Heard several times in or near swamp forest near Moukalaba-Doudou base camp, Mar–Apr 2003 (GA, FN), but appeared to be much less common than at Rabi. The flight call was two-noted, with a strong emphasis on the first syllable, somewhat deeper and less raucous than *B. hagedash*, and much deeper than *B. rara*. [Rare near Gamba; several heard and seen on the Echira-Rabi road and at Rabi, Dec 1992 (Sargeant 1993).]

***Pteronetta hartlaubii* Hartlaub's Duck.** Regular on or flying near small ponds surrounded by forest at Rabi, Feb–Mar 2002 (GA, BS, P. Christy). One flew calling over Loango camp at dusk, 3 Nov 2002 (GA, FN). Two swimming in flooded forest bordering Ndogo Lagoon at Moukalaba-Doudou, 2 Apr 2003 (GA, FN). [Occasional in the Gamba area (Sargeant 1993). Near Threatened (Birdlife International 2000).]

***Kaupifalco monogrammicus* Lizard Buzzard.** One seen, first in the small savanna near camp and later on several occasions along the coast south of camp at Loango NP, Oct 2002 (J. Brown, pers. comm.) [Common in large clearings and around villages in the Makokou region (Brosset & Erard 1986), but not found in such situations in the Gamba area; unrecorded by Sargeant (1993).]

***Sterna paradisaea* Arctic Tern.** An adult, still partly in breeding plumage, seen at close range on the beach at Loango, 31 Oct and 3–4 Nov 2003 (GA, FN). [Not recorded for Gamba area by Sargeant (1993).]

***Sterna balaenarum* Damara Tern.** About 10 on the beach with Common and Black Terns north of Loango base camp, 3–4 Nov 2003 (GA, FN). Several were still in breeding plumage with complete black caps, while the rest, with white foreheads, were in non-breeding plumage. [Occasional at Gamba, max. 61 at Nyanga, 28 Aug 1988 (Sargeant 1993). Near Threatened (BirdLife International 2000).]

***Rynchops flavirostris* African Skimmer.** A flock of 5–6 at the mouth of the river 5 km north of Loango base camp, 4 and 7 Nov 2002 (GA, FN). Individuals also occasionally at the mouth of the Ndogo Lagoon (J. Brown, pers. comm.). [Common in the Gamba area (Nyanga only; Sargeant 1993). Gelder *et al.* (1993) estimated 900–1000 along the Gabon coast between mid-Jan and mid-Mar 1992. Near Threatened (BirdLife International 2000).]

***Turtur chalcospilos* Emerald-spotted Wood-Dove.** Three males collected at Loango, Oct 2002 (USNM 627691, 630913, and 630921; BS). Two had enlarged testes (11 x 7 mm and 13 x 6 mm), one did not (5 x 3.5 mm). Occasionally seen and heard in coastal vegetation at Loango, tape-recorded 6 Nov 2002 (GA, FN). Singles near Gamba on the Mayonami Road, 20 and 21 Nov 2002 (FN). [In small numbers along the coast from Port-Gentil south (Sargeant 1993).]

***Chrysococcyx flavigularis* Yellow-throated Cuckoo.** A male seen and tape-recorded near the Rabi-59 oil well, 25 Feb 2002 (GA, P. Christy). Observed at the same site two days later (P. Christy). One tape-recorded near Moukalaba-Doudou camp, 7 Apr 2002, and one heard about 400 m west of camp, 19 Apr 2003 (GA, Njie). [Not reported for the Gamba area by Sargeant (1993), but listed by Christy (2001) for the Gamba Complex. Otherwise known from Gabon from the M'Passa area, (Brosset and Erard 1986); Lopé NP (Christy and Clarke 1994); and Minkébé NP (Christy 2001).]

***Otus icterorhynchus* Sandy Scops Owl.** Individuals calling near Moukalaba-Doudou camp, 8, 10–12 and 19 April 2003; one tape-recorded (GA, FN). [Only two localities in Gabon: Lopé NP (Christy & Clarke 1994); one at Bibonga, 13 Oct 1991 and one at Tondou, Gamba area, 12 Apr 1992 (Sargeant 1993).]

***Glaucidium tephronotum* Red-chested Owlet.** One collected (USNM 616808, unsexed) near the Marianga River (1°49'30''S, 9°52'50''E) along the Toucan Road, 11 Jun 2002 (BS): first published specimen record from Gabon. Another calling near Moukalaba-Doudou camp at night, 5 Apr 2003 (FN). We compared our specimen with examples of the nominate subspecies (western W Africa), *medje* (Congo basin), and *elgonense* (E Africa) at USNM and at the American Museum of Natural History, New York. Unfortunately, neither collection possesses *pycrafti* (Cameroon), so definite conclusions must be tentative, but our specimen has the back dark chocolate, as in *pycrafti*, and differs from the other three, which have greyer backs. The underparts are heavily spotted with black, unlike the nominate but like *pycrafti*, *medje*, and *elgonense*. The wing (chord 99.2 mm) is at the lower end of the range for any subspecies (nominate 99–100 mm, *pycrafti* 104–109 mm, *medje* 113–127 mm, *elgonense* c. 127 mm; König *et al.* 1999). [Previously reported for Gabon from Lopé NP (Christy & Clarke 1994); requiring confirmation from the Gamba area (Sargeant 1993).]

***Asio capensis* Marsh Owl.** One flushed from grass in a small savanna northeast of Gamba on 5 Jul 2001 (GA). [The only published records from Gabon are a nesting pair near Gamba, recorded five times between 5 Feb and 5 Dec 1992, and one at Lékoni, 27 Sep 1992 (Sargeant 1993).]

***Telacanthura melanopygia* Black Spinetail.** One flying with several Cassin's and Sabine's Spinetails near Gathering Station C, Rabi oil field, 27 Feb 2002 (GA, BS, P. Christy); one flying over Didjombi camp at Rabi near dusk, 3 Jun 2002 (GA); one with a flock of Cassin's Spinetails over a river mouth south of Loango camp, 13 Nov 2002 (GA, FN). [Uncommon in Makokou area (Brosset & Erard 1986), where thought to breed (Heim de Balsac & Brosset 1964). Single records from Makokou, 7

Oct 1992, and Rabi (five feeding over gas flares, 6–8 Jun 1992), and six records near Gamba, Sep 1989 to Dec 1992 (Sargeant (1993). Listed for Lopé NP (Christy 2001).]

***Gymnobucco bonapartei* Grey-throated Barbet.** One near Moukalaba-Doudou camp, 1 Apr 2003 (FN). [Not reported for Gamba area by Sargeant (1993).]

***Smithornis capensis* African Broadbill.** One with diagnostic heavily streaked chest and lacking any rufous on the sides was observed near the Moukalaba-Doudou camp, 26 Mar 2003 (GA). Another seen well at *c.* 100 m elevation north of camp on 6 Apr 2003 by FN, who has knows all three *Smithornis* spp., and its vocalizations (but not the wing rattle) tape-recorded by GA. [Not listed for Gamba area by Sargeant (1993).]

***Pseudochelidon eurystomina* African River Martin.** Occasional at Loango. About 20 flying near camp, 27 Sep 2002 (W. Branch *in litt.*). About 20 flying near a Rosy Bee-eater colony north of camp near dusk, 7 Oct 2002 (BS, W. Branch). Two singles flying on the coast north of Loango camp, 4 Nov 2002 (GA, FN). Seen almost daily near Gamba, 15–22 Nov 2002 (FN). [Common at Gamba mid-Sep to mid-Nov (extreme dates 14 Jul and 7 Dec), where thousands nest in grassy plains (Sargeant 1993). Sargeant also observed two birds at Rabi, 13 Dec 1992. Data Deficient (BirdLife International 2000).]

***Cichladusa ruficauda* Rufous-tailed Palm Thrush.** Not uncommon at Loango in palm groves along the coast. An adult with a brood patch collected (USNM 630833) near camp, 4 Oct 2002 (BS) is the first published specimen record with locality data from Gabon. Recorded at Loango NP, 31 Oct and 1, 4, 5, 9–12 Nov 2002 (GA, FN). One in Vembo housing area near Gamba, 25 Mar 2003 (GA). [The only published specimen from Gabon is the type, locality “Gabon” (Hartlaub 1857). Previously reported in the Gamba area between Setté Cama (where it is most common) and Matsegui Lagoon (Sargeant 1993).]

***Zoothera camaronensis* Black-eared Ground Thrush.** Not uncommon but very inconspicuous at Moukalaba-Doudou. Three adults (USNM 631553, 631528, 631680), 31 Mar, 5 and 18 Apr, and a juvenile male (USNM 631551), 5 Apr 2003 collected (BS). Single adults seen hopping quietly on the ground or perched in low undergrowth in forest in or near swampy areas Apr 2003 (GA, FN). Not particularly shy, sometimes hopping along the road or trail in front of us for some time. One gave thin high-pitched call, tape-recorded. All records within 1 km of camp. [Previously recorded from Gabon at M’Passa (Brosset & Erard 1977, 1986), Lopé NP (Christy & Clarke 1994), and Minkébé NP (Christy 2001).]

***Bathmocercus rufus* Black-faced Rufous Warbler.** One heard near Moukalaba-Doudou camp, 12 Apr 2003 (FN), and one tape-recorded at the edge of the Ndogo Lagoon near camp, 22 Apr 2003 (GA, FN). [Known from NE and central Gabon and near Port-Gentil (Borrow & Demey 2001). Not reported from the Gamba area by Sargeant (1993).]

***Batis minima* Verreaux’s Batis.** One seen and tape-recorded on the road to Lake Divangui east of Rabi, 9 Mar 2002 (GA, P. Christy). Individuals heard calling near Moukalaba-Doudou camp every day from 8–12 Apr, and tape-recorded on 15 and 17

Apr 2003 (GA, FN). Territorial song, consisting of a long series of thin notes on the same pitch, is similar to some vocalizations of ssp. *occulta* of Bioko Batis *B. poensis*, but lacks the introductory buzz or trill typical of the latter (Urban *et al.* 1997). The Rabi recording, which closely resembles the example of *B. minima* presented in Chappuis (2000), has been identified as *B. minima* by C. Chappuis (*in litt.*), R. Demey (*in litt.*), and P. Christy (pers. comm.). The recordings from Moukalaba-Doudou are too faint to be certainly identified but appear to be the same (C. Chappuis *in litt.*). Although these two species appear to copy one another where their ranges meet (Urban *et al.* 1997), all of the birds we recorded were calling in isolation and not counter-singing with another individual. [Reported in Gabon from M'Bigou in the Monts Du Chaillu (Rand *et al.* 1959), Makokou area (Brosset & Erard 1986), Woleu N'Tem province (Erard & Colston 1988), on the coast between Libreville and Cocobeach (Urban *et al.* 1997), and Minkébé NP (Christy 2001). Near Threatened (BirdLife International 2000).]

***Ploceus pelzelni* Slender-billed Weaver.** Several at a small nesting colony in scrubby vegetation on the N side of the mouth of the Ndogo Lagoon, 23 and 27 Oct 2002 (GA). [Reported in Gabon from Port-Gentil, Fernan Vaz, and Lambaréné (Rand *et al.* 1959, Sargeant 1993).]

***P. albinucha* Maxwell's Black Weaver.** Several in the crown of an emergent tree near Rabi, 12 Mar 2002 (P. Christy). [Previously reported "occasional" in the Gamba area (Tondou, Mossomala, Pont Brulé, Bouda) and from Moukalaba Forest Reserve (Sargeant 1993), and in N Gabon from the Abanga River (Chapin 1954) and Minkébé NP (Christy 2001). The records from S Gabon appear to represent an isolated population.]

Discussion

Our site lists show some interesting relationships to the suite of habitats present at each one. Site lists depend on the duration and intensity of surveys, the season they were conducted, the total area covered, the habitat diversity of the site, and other factors (Remsen 1994). These factors therefore must be taken into account in comparing species lists from individual sites. The relatively low number of species we recorded at Gamba (158), for example, was largely due to the fact that our primary survey there was conducted in the dry season, when vocal activity was minimal and northern migrants absent. It also focused mainly on forested areas, so that we recorded relatively few species of aquatic, savanna, or disturbed habitats.

Although we recorded similar species totals at Rabi-Toucan (204) and Loango (203), the composition of the lists was quite different. Rabi-Toucan was dominated by forest species, with few species of aquatic, savanna, or disturbed habitats. Loango had many fewer forest species, but more aquatic, coastal, and savanna species as well as many northern migrants. The lower total at Moukalaba-Doudou (177) can be

attributed to its lower habitat diversity, since it lacked the non-forest habitats present at Rabi-Toucan and Loango.

At Rabi-Toucan, many species of open and disturbed habitats were absent, even though such habitats were present and these species occurred not far away. Possibly these anthropogenic habitats have been created too recently to have been colonized yet, or they may be too small to support populations of most of these species.

Several game species, including Black Guinea fowl, Great Blue Turaco, and the larger hornbills, were common at several of our sites, and some were present even near Gamba, the largest community in the area. This suggests that hunting has not had a major impact on most game species in the area of our surveys.

With a total list of more than 470 species (Christy 2001 and additional species from this report), the Gamba Complex contains high avian diversity, and much of it has been little affected by human activities. Creation of the new national parks of Loango and Moukalaba-Doudou has been a promising step in ensuring its preservation for the future.

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The avifauna of the dry evergreen forests of Mali

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Summary

Mali is crossed from north to south by three phytochoria or biomes: Saharo-Sindian, Sahel and Sudanian. Despite the fact that rain forest was never known to occur in the country, several dozen species of rain forest birds (many of them normally endemic to the Guineo-Congolian forest region) have been reported from localities in the south and west. This was investigated by exploring evergreen or semi-evergreen forest localities in the country. Visits in the dry season (Feb 2002) and at the start of the rains (May–Jun 2004) showed that there are no remnants of rain forest in the country and that most patches of dry evergreen forest are typical Sudanian gallery forest. The avifauna is also typically Sudanian and directly comparable to that documented from similar habitat in neighbouring countries. The few exceptions are birds of the Guineo-Congolian/Sudanian transition zone, which were discovered in some galleries in the far south near the Ivory Coast border. There is no historical botanical or ornithological evidence that putative changes in the vegetation and avifauna of SW Mali in the last 30 years could account for these findings. Past and present botanical and ornithological evidence from these surveys and from neighbouring countries in the same vegetation zone, suggests that 68 species of Guineo-Congolian and other rain forest-associated species, claimed to occur in Mali based on single-observer sight records and without the support of extant specimens, must be deleted from the avifauna of Mali.

Résumé

Le Mali est traversé, du nord au sud, par trois régions floristiques: le Sahara, le Sahel et la région soudanienne. Malgré l'absence de forêt ombrophile, plusieurs dizaines d'espèces d'oiseaux de la forêt ombrophile primaire ou secondaire ont apparemment été trouvées dans le sud et l'ouest du pays, beaucoup étant en principe endémiques à la région guinéo-congolaise. Nous avons tenté d'élucider ce problème en visitant la plupart des forêts sèches sempervirentes ou semi-sempervirentes du pays, en saison sèche (février

2002) et au début de la saison des pluies (mai-juin 2004). En tout, une vingtaine de localités de forêt sèche (se présentant le plus souvent sous forme de forêt-galerie) ont été visitées. Nos résultats montrent qu'il n'existe en effet pas de forêt ombrophile au Mali, que les forêts sèches riveraines abritent les espèces caractéristiques du même type de milieu ailleurs en Afrique occidentale et que les espèces de forêt ombrophile guinéo-congolaise y font défaut. Les rares exceptions concernent quelques espèces de la zone de transition guinéo-congolaise/soudanienne découvertes dans les plus belles galeries de l'extrême sud, près de la frontière avec la Côte d'Ivoire. Les études floristiques antérieures (au Mali et dans les pays voisins) ainsi que les enquêtes ornithologiques dans les forêts sèches des autres pays d'Afrique occidentale dans les années 1960-1970 excluent complètement l'argument selon lequel le milieu et l'avifaune auraient pu changer de manière radicale en 30 ans. Nous déduisons de ceci et de nos récentes investigations que 68 espèces de forêt ombrophile ou lisière forestière rapportées par un seul observateur, sans le support de spécimens, doivent être rejetées de l'avifaune du pays.

Introduction

Mali is a large (1,240,190 km²) landlocked country, crossed by three phytochoria or biomes, from north to south: Saharo-Sindian, Sahel and Sudanian (White 1983, Fig. 1). The Sudanian appears as "Sudan-Guinea" in Fishpool & Evans (2001). Most of the ornithological research in Mali has taken place in the Niger Delta in the Sahel, an important wintering area for Palearctic waterbirds, with three Ramsar sites and nine of the 17 Important Bird Areas of the country (Robertson *in* Fishpool & Evans 2001). The wooded savannas of the south of the country are far less well known; few ornithologists have explored them, with the exception of Lamarche (1980–1), whose annotated list of the avifauna of Mali was based largely on his own observations in the 1970s. This list includes a surprisingly high number of primary or secondary rain forest species, many of them Guineo-Congolian endemics, despite the fact that rain forest is not present in the country. Some of these forest bird species were apparently collected by Lamarche, but specimens were never deposited in a museum overseas and they are not to be found in Mali. Lamarche (*in litt.* 2002) claims they were left at the Ecole Normale Supérieure de Bamako, but this school holds no such collections and they could not be found among the University collections either (L. Granjon *in litt.*). Fishpool & Evans (2001) omitted all mention of forest species of the Guineo-Congolian biome in the chapter on Mali, due to serious doubts based on field experience of the area (L.D.C. Fishpool pers. comm.). Reservations about some of these records were expressed by Dowsett (1993), but Lamarche's publications have generally been taken seriously in the recent literature. The distribution maps in

Borrow & Demey (2001) often show a striking gap between the “normal” distribution of forest species and the two or three mentions in SW Mali. The northern limit of the Guineo-Congolian region is indeed far south of the border between Ivory Coast and Mali, and the northern limit of the Guineo-Congolian/Sudanian transition zone just about reaches the border between the two countries (White 1983 p. 38; Fig. 1).



Fig. 1. Map of phytochoria based on White (1983). Mali is crossed (from north to south) by the Saharo-Sindian (XVII), Sahel (XVI) and Sudanian regions (III); the Guineo-Congolian/Sudanian transition zone (XI) reaches the border with Ivory Coast.

In early 2002, in the middle of the dry season, we visited several areas of wooded savanna and dry forest (usually in the form of gallery forest) in the southwest of the country, including the Plateau Mandingue in the region of Haut-Bafing south to the Guinea border, and the region south of Bougouni, near Madina Diassa, close to the Ivory Coast border. We found only two strictly Guineo-Congolian endemic birds in the extreme south (Madina Diassa), one of them (Brown Sunbird *Anthreptes gabonicus*) a species of mangrove and riverine forest, the other (Simple Greenbul *Chlorocichla simplex*) a bulbul of secondary growth. Neither of these was previously reported in Mali, and we found several more species new for the country (not reported by Lamarche), some of them locally common (Dowsett-Lemaire & Dowsett 2002, Dowsett & Dowsett-Lemaire 2005). We were unable to confirm any of the stenotopic forest species claimed by Lamarche, e.g. *Criniger*, *Bleda*, *Andropadus*, *Illadopsis*, *Phyllanthus*, *Malimbus*, *Nigrita*, forest *Nectarinia* spp., Northern Red-billed Helmet Shrike *Prionops caniceps*.

Lamarche (1980–1, *in litt.* 2002), however, argued that most of his observations of forest birds took place in the rainy season, especially in May–June, and in November (just after the end of the rains). Lamarche (*in litt.*) assumes that these species must be able to migrate several hundred kilometres into the Sudanian region with the arrival of the pluvial front. This behaviour has rarely been observed elsewhere in west-central Africa, e.g. Snowy-headed Robin Chat *Cossypha niveicapilla* and the forest-edge Fanti Saw-wing *Psalidoprocne obscura* (Elgood *et al.* 1973). Most specialized forest birds are highly sedentary (Brosset & Erard 1986, Dowsett-Lemaire 1997).

Lamarche's claims have important consequences for the conservation of forest species in W Africa. The Upper Guinea rain forests were severely reduced in the 20th century, and some of the species reported for Mali by Lamarche (Yellow-casqued Hornbill *Ceratogymna elata*, Yellow-bearded Greenbul *Criniger olivaceus*) are Globally Threatened (BirdLife International 2000). The presence of these species is considered doubtful by Fishpool & Evans (2001), and this controversy deserves scrutiny.

Lamarche's claims have had such an impact that it seemed essential to verify them with a better-timed visit, at the beginning of the rains in May–June. In 2004, we revisited the best gallery forests we saw in 2002 (especially on the Baoulé-sud near Madina Diassa, and in the Haut-Bafing area), and explored other sites mentioned by Lamarche (1980–1), such as the dry forest patches dominated by *Gilletiodendron glandulosum* in the Manantali-Kita region, the gallery forests on the Baoulé (previously in the Parc National de la Boucle du Baoulé, now in part degazetted), the gallery or swamp forests in the Kangaba region (Haut-Niger), the Sikasso region in the far south, and the more north-easterly gallery on the Bani river, close to the Sahel region. The Boucle du Baoulé was also studied by Bie & Morgan (1989), who included some surprising records of rain forest species.

A gazetteer is given in Table 1, and Fig. 2 shows the study area. There are two Baoulé rivers in Mali. To avoid confusion, the southern one (originating in Ivory Coast) is termed here “Baoulé-sud”. The other takes its source on the Mandingue Plateau and forms the Boucle du Baoulé: the northern sector that we visited, between the confluence with the Badinko and the Bakoy is called here “Baoulé-nord”.

Table 1. Gazetteer of localities in Mali

	N	W
Bafing-Makana	12°33'	10°15'
Bagoé river bridge (Bagoé crossing)	11°28'	6°35'
Banifing river (Kouoro Bridge)	12°1'	5°42'
Baoulé river, near Négala	12°56'	8°38'
Baoulé–Badinko confluence	13°42'	9°35'
Baoulé–Bakoy confluence	13°32'	9°54'
Baoulé-sud river, near Madina Diassa	10°48'	7°40'
Bindougou, Bafing/Balé confl.	12°16'	10°20'
Deguéla river, near Kangaba	12°2'	8°23'
Famansa Plateau, Mandingue	12°14'	8°46'
Farako forest (near Sikasso)	11°14'	5°26'
Fié river, near Séléfougou	11°42'	8°29'
Kalana	10°47'	8°12'
Kénémanda stream, near Siby	12°34'	8°11'
Kéniéba, Falémé river	12°50'	11°14'
Kollé forest, near Bankoumana	12°11'	8°12'
Kouoro Bridge (Banifing river)	12°1'	5°42'
Nalla (Ouassoulou Balé river)	10°46'	8°5'
Ntjila, Baoulé-sud river (near Bougouni)	11°18'	7°34'
N'turaya river, near Sanfinian	12°31'	9°56'
Pont-Bani (Bani river)	13°13'	5°54'
Sagabari	12°35'	9°48'
Sanfinian	12°31'	9°56'
Sémé, near Kita	13°5'	9°32'
Soukoutali, Bafing river	12°29'	10°17'
Tambalé, Mandingue Plateau	12°33'	8°53'
Tombané, Mandingue Plateau	12°16'	8°46'
Woroni Chutes, near Loulouni	10°47'	5°34'
Yanfolila	11°11'	8°9'
Yorobougoula	10°55'	8°0'

Most bird observations took place in the early morning and late evening, from camp sites usually on the edge of forest. In 2004 the rainy season started in April in the far south (Bougouni–Sikasso) and late May or early June further north (Baoulé, Sagabari, Haut-Niger and Bani river); all sites visited had received at least one big storm. We started with a visit to the wetter south. Bird song activity was high everywhere. Temperatures were in the upper 30s °C, but lower in the far south (especially Sikasso).

Given the controversy, we outline our previous relevant field experience. This was acquired through years of full-time research in central Africa (mainly Congo-

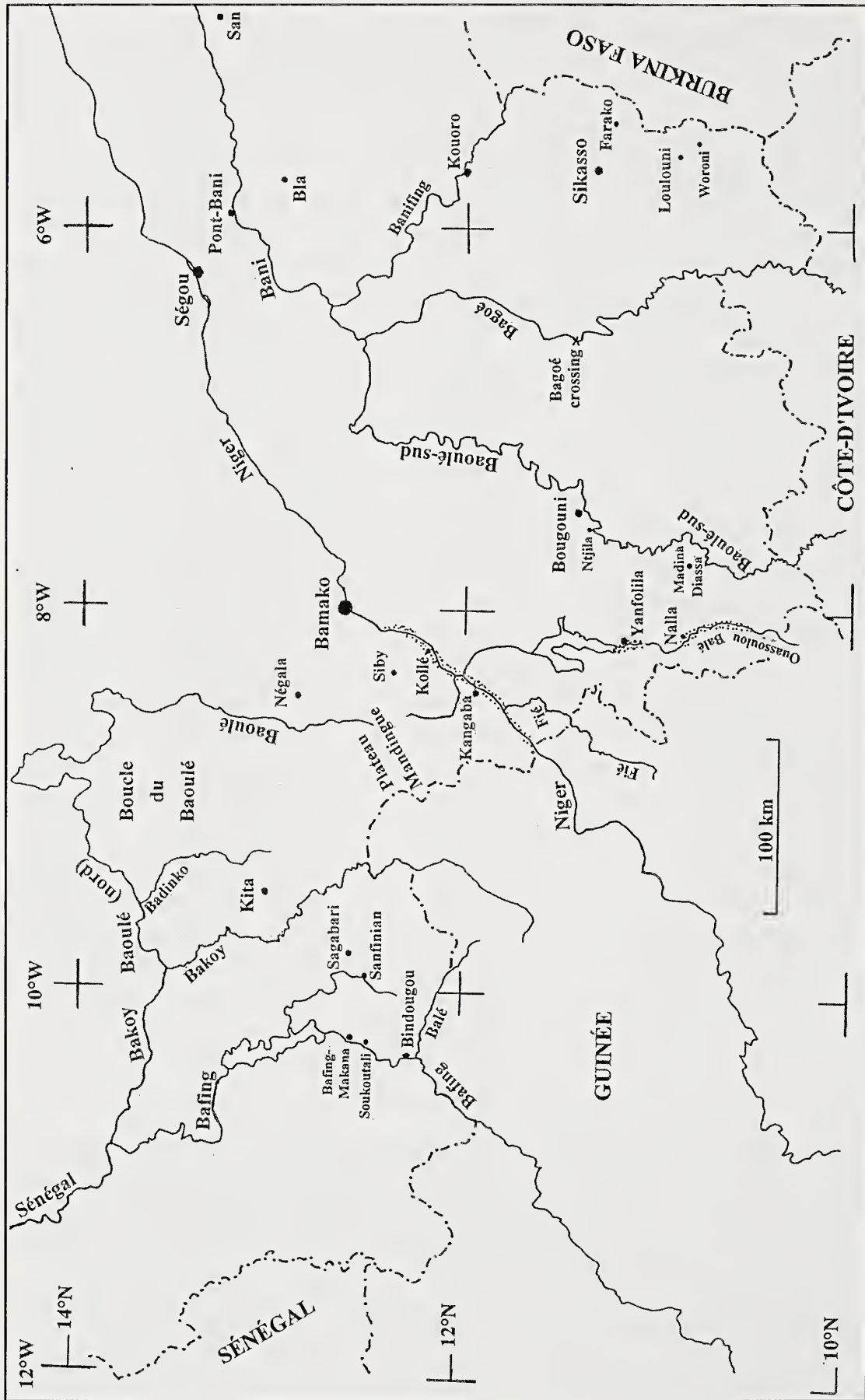


Figure 2. Map of the study area in Mali.

Brazzaville and Cameroon) and even longer in the woodlands and drier evergreen forests of Africa, mainly in the Zambebian region (which shares many species with the Sudanian region). Our experience of W African savanna ecosystems includes extensive visits to Nigeria, Senegal, Ghana and N Cameroon.

Nomenclature follows Dowsett & Forbes-Watson (1993) except for African Green Pigeon *Treron calvus* (Urban *et al.* 1986) and *Spermestes* in place of *Lonchura* (Payne & Sorenson 2003). The suffixes of some species names have changed following David & Gosselin (2002a,b). Some woody plants were identified using Arbonnier (2000); others were confirmed by P. Birnbaum (CIRAD, Bamako).

Itinerary

2002

25 Jan to 1 Feb: Bamako (including Botanic Gardens).

4–8 Feb: Plateau Mandingue (Tambalé and Tombané, Famansa Plateau).

10–15 Feb: Haut-Bafing (Soukoutali on the Bafing and Bindougou on the Guinea border, Balé/Bafing confluence), road from Kita through Bafing-Makana and back via Sanfinian and Sagabari.

19–21 Feb: Baoulé-sud at Ntjila (Bougouni) and near Madina Diassa.

21–22 Feb: crossing Ouassoulou Balé at Nalla to Yanfolila floodplain.

24 Feb to 5 Mar: in the Niger Delta near Batamani (Mopti) and in the Dogon country, outside the area of dry evergreen forest.

2004

22–24 May: Baoulé-sud near Madina Diassa.

24–25 May: Ouassoulou Balé gallery near Nalla.

26–28 May: region of Sikasso, camping in Farako forest and visiting the riparian forest at Chutes de Woroni (Loulouni) and the Bagoé gallery crossed by the main road (Bougouni-Sikasso).

29 May: small gallery forest at a spring (Kénémanda) near Siby, 20 km from Bamako.

30 May to 1 Jun: Sémé, at the foot of the big rocky hill north-west of Kita, to explore dry *Gilletiodendron glandulosum* forest in rocky gullies.

1–3 Jun: N'turaya river at Sanfinian (south of Sagabari), best gallery found in the Haut-Bafing in 2002.

4–6 Jun: Baoulé at the Badinko confluence (ex Parc National du Baoulé).

5–6 Jun: Baoulé/Bakoy confluence.

7–8 Jun: Baoulé road crossing (near Négala).

9–10 Jun: Déguéla river, the best gallery forest found near Kangaba.

10–11 Jun: swamp forest near Kollé, Bankoumana (Haut-Niger floodplain).

12–13 Jun: gallery forest on the Bani river at "Pont-Bani".

14–19 Jun: tour of the Sahel from Douentza to Gao.

19–20 Jun: Banifing river, Kouoro bridge.

20–21: Farako forest near Sikasso.

21–22 Jun: Fié river, the longest gallery in the Haut-Niger (south of Kangaba).

Site descriptions

Sites are presented roughly in order from west to east (Fig. 2). In most places the gallery forest was largely intact, although some large *Khaya senegalensis* trees had been taken here and there, and occasionally small gardens had cleared riparian forest all the way to the stream. Gallery forest is still extensive; population density in southern Mali is generally low away from Bamako and a few other big towns. Shifting cultivation affects mainly woodland away from galleries, and this is usually followed by regeneration.

Haut-Bafing

The Bafing river flows permanently. The wide Bafing river at Soukoutali was lined by no more than thin strips of evergreen gallery forest often just 1–3 trees wide, as at Bafing-Makana. Important species are *Cola laurifolia*, *Cynometra vogelii*, *Erythrophleum suaveolens*, *Garcinia livingstonei*, *Pterocarpus santalinoides*, *Syzygium guineense* and *Ficus ingens*. A small patch of forest on an island (c. 1 ha) was dominated by *Parinari congensis* (20–25 m tall). Our second camp near Bindougou, at the confluence of the Balé and Bafing rivers (alt. 237 m) was on the border with Guinea. The gallery forest on the Bafing there is similar to that at Soukoutali, in addition there is also dry deciduous forest at the confluence, with *Acacia sieberiana*, *Anogeissus leiocarpus*, *Ficus sur*, *F. sycomorus*, *Piliostigma thonningii*, *Vitellaria paradoxa*, the odd large *Khaya senegalensis* and *Parkia biglobosa*. A sacred forest at nearby Bindougou (1–2 ha) is dominated by large *Khaya senegalensis*, with *Adansonia digitata*, *Diospyros mespiliformis*, *Ficus sycomorus* and many lianes (e.g. *Saba senegalensis*). We crossed several galleries near Sagabari and selected the best-developed (Sanfinian) for our 2004 visit. This is on the permanent N'turaya river (a tributary of the Bafing), still fast-flowing in places in early June. The gallery on each side was often 20–25 m tall but rarely more than 20–30 m wide, with *Berlinia grandiflora*, *Ceiba pentandra*, *Cola laurifolia*, *Daniellia oliveri*, *Ficus trichopoda*, *Ficus* sp. (photographed on p. 407 in Arbonnier 2000, but not *F. ovata*), *Garcinia livingstonei*, *Khaya senegalensis*, *Nauclea latifolia* and *Parkia biglobosa*. The palm *Raphia sudanica* is fairly common (as elsewhere in the Bafing), and there is much wild bamboo *Oxytenanthera abyssinica*. Lianes include *Saba senegalensis*, *Paullinia pinnata*.

Dry evergreen *Gilletiodendron glandulosum* forest near Kita (Sémé)

Gilletiodendron is dominant in dry gullies among rocks, forming tongues of forest often no more than 10–20 m wide, locally up to 50 m (where visited). The canopy is

usually 15–20 m high, with little understorey among the rocks (mainly the lianescent *Hippocratea africana*). Other tree species include *Albizia zygia*, *Gyrocarpus americanus*, *Vitex doniana*, *Syzygium guineense*, *Ficus glumosa* and *F. ingens*. The main canopy liane is *Saba senegalensis*. This forest type is also well developed on rocky hills in the Manantali region, especially in the recently created PN du Bafing where small populations of Chimpanzee *Pan troglodytes* survive.

Boucle du Baoulé

At the level of the Badinko confluence the Baoulé-nord is a large, sandy river holding little water in the dry season (few isolated pools). The water table in the riverbed, however, is only 1–2 m below the surface. Small trees (e.g. *Guiera senegalensis*, *Ziziphus spina-christi*) grow on the sandbanks, and the river is lined by broad galleries of *Borassus* palms, 20–25 m tall and up to 100 m wide. The next most important large tree is the deciduous *Anogeissus leiocarpus*, with a few (mainly evergreen) *Celtis integrifolia* and *Diospyros mespiliformis*. The understorey is dominated by *Cordia myxa* and deciduous thickets of *Acacia ataxacantha* and *Combretum*, with also *Grewia* sp. and *Bauhinia rufescens*, and on their outside edge *Cassia sieberiana*. The main liane is *Saba senegalensis*. At the Baoulé/Bakoy confluence the vegetation is similar but more degraded by cattle and people; the Bakoy holds more water than the Baoulé and there are pools several hundred metres long in that area. West of Négala the riverbed contained some large pools but the river was not flowing. There are small clumps of evergreen riparian thicket with *Diospyros mespiliformis* and *Pterocarpus santalinoides* (also some *Berlinia grandiflora*, *Dialium guineense*, *Nauclea latifolia*, *Piliostigma thonningii*). Otherwise the dominant tall trees (20–25 m) are *Anogeissus leiocarpus* (in fresh foliage in June), above and on the edge of *Acacia ataxacantha*–*Combretum* thickets. *Mitragyna inermis* (deciduous) grows on the outer edge and near small seasonal tributaries.

Mandingue Plateau (or Monts Mandingues)

The Mandingue is a rocky plateau extending from near Bamako to the Guinea border. At 600–700 m altitude, it is slightly cooler than the surrounding plain. Riparian vegetation at Tambalé and Tombané consists of small strips of (usually) single trees along temporary streams (with some permanent pools). *Raphia sudanica* and *Oxytenanthera abyssinica* bamboo are frequent; common trees are *Berlinia grandiflora*, *Khaya senegalensis*, *Parkia biglobosa*, with the odd *Erythrophleum suaveolens* and stilt-rooted *Uapaca togoensis*. A small forest in a rocky gully (with a spring) on the Famansa Plateau near Tombané had mainly *Carapa procera* and *Khaya senegalensis*. Near Siby (= Sibi) a small patch of gallery forest has developed on a permanent spring among rocks (Kénémanda stream). There are similar small patches in the area, including at Siby waterfalls (P. Birnbaum pers. comm.). Large trees are mainly *Berlinia grandiflora* and

Carapa procera; also *Bridelia micrantha*, *Cola cordifolia*, *Erythrophleum suaveolens*, *Ficus glumosa*, *Mimusops* sp., *Manilkara multinervis*, *Syzygium guineense*, some *Raphia* and one *Elaeis guineensis*. There is almost no shrub understorey among rocks, but quite a few lianes (including *Acridocarpus chevalieri*, *Combretum velutinum*, *Tetracera alnifolia*, much *Saba senegalensis*).

From Haut-Niger to Ivory Coast border

The Haut-Niger floodplain (southwest of Bamako) holds a type of evergreen swamp forest that was not encountered elsewhere in Mali. Near Bankoumana, between the village of Kollé and the Niger, there are several long patches of *Parinari-Myrianthus* swamp forest on permanent deep pools of clear water (apparently an old arm of the Niger river). These must get flooded by the Niger in the late rainy season. *Parinari congensis* forms a tall (25 m), closed canopy, in tongues of forest several hundred metres long and 30–100 m wide. *Myrianthus serratus* (on stilt-roots) dominates the understorey. Trees on the edge of pools are mostly *Syzygium guineense*, with *Cola laurifolia*, *Cynometra vogelii*, *Garcinia livingstonei*, *Mitragyna inermis* and *Morelia senegalensis*. Nearer Kangaba, the “best” gallery on the N side of the Niger is that on the Déguéla river, a small stream flowing permanently from the Mandingue into the Niger. The dominant tree in the thin galleries on each side (usually not joining) is *Dialium guineense*, 15–20 m tall; also noted were *Carapa procera*, *Cola laurifolia*, *Cynometra vogelii*, *Daniellia oliveri*, *Ficus sur*, *Garcinia livingstonei*, *Khaya senegalensis*, *Manilkara multinervis*, *Nauclea latifolia*, *Parkia biglobosa*, *Vitellaria paradoxa* and *Syzygium guineense*. *Mitragyna* occurs on the outside edge and in small clumps in adjacent savanna.

The best gallery south of Kangaba is on the Fié river (which flows from Guinea into the Niger) as it is 35–40 km long within Mali and is accessible from the village of Séléfougou. There is dense gallery forest on both fairly steep banks, the width (10–30 m) being determined by the gradient, as the outside edge is sharply defined by the regular burning of the adjacent floodplain grassland. The dominant tree is *Pterocarpus santalinoides*, with *Cynometra vogelii*, *Eugenia nigerina*, *Garcinia livingstonei*, *Morelia senegalensis* and *Vitex* sp. *Syzygium guineense* is common on the water's edge.

The long gallery on the Ouassoulou Balé south of Yanfolila is very similar, as the edges are also sharply defined by the burning of the adjacent floodplain. The forest galleries (usually not joining) are limited to the steep banks: *Syzygium guineense* is dominant at the water's edge and *Khaya senegalensis* on the outside edge. Locally, *Khaya* regenerates and extends into the grassland, but most young trees get burned. Also noted: *Cynometra vogelii*, *Eugenia nigerina*, *Garcinia livingstonei*, *Pterocarpus santalinoides*.

The gallery on the Baoulé-sud, south of Bougouni, is also extensive, as the area is little populated. The *Simulium* blackfly (carrier of river blindness) has discouraged settlements but the parasite is in the process of being eradicated in the region. Near

Bougouni (Ntjila) the gallery consists of interrupted strips on sandy soils, with much *Mimosa pigra* bush near the water. *Cynometra vogelii* and *Pterocarpus santalinoides* are dominant, with *Cola laurifolia*, *Daniellia oliveri*, *Garcinia livingstonei* and *Parkia biglobosa*. In the Madina Diassa area further south, the gallery is much denser and up to 300 m wide. This is the widest gallery seen anywhere in S Mali. Some *Erythrophleum suaveolens* on the outer edge are at least 30 m tall. *Syzygium guineense* is dominant on the water's edge, and *Cola laurifolia* and *Cynometra vogelii* in the flooded section (also an unidentified tree 12–15 m tall). The small creeping bush *Mostuea brunonis* is common in deep shade. The commonest liane as usual is *Saba senegalensis*.

The south-eastern region around Sikasso

The gallery forest on the Bagoé was examined briefly near the bridge crossing west of Sikasso. The Bagoé is a wide permanent sandy river, with *Mimosa pigra* common on beaches. Elevated banks have some dense evergreen thickets, often *c.* 15 m tall. The patch visited was 20–50 m wide, with mainly *Cola laurifolia*, *Diospyros mespiliformis*, *Garcinia livingstonei*, *Pterocarpus santalinoides* and *Syzygium guineense*.

The Farako gallery forest is *c.* 30 km southeast of Sikasso; there is a patch of evergreen forest at the “Chute de Farako”, but the main gallery is on a tributary of the falls and is several km long. This gallery is reached by taking the track signposted to Sényéna, for *c.* 1 km, which turns around a small plantation of *Eucalyptus* before approaching the gallery. This is the tallest gallery seen anywhere in Mali, and unlike others it has a closed canopy over a small, clear stream. The canopy (25–30 m tall) is dominated by *Carapa procera* and the forest varies in width from 10–20 m to at least 100 m. The outside edge merges into tall Sudanian *Isobertinia* woodland, with many large *Khaya senegalensis* in the transition zone. *Berlinia grandiflora*, the palm *Elaeis guineensis* and stilt-rooted *Uapaca togoensis* are also particularly common, with *Breonadia salicina* on the edge of waterfalls and *Syzygium guineense* in clearings near water generally. Also noted: *Cola cordifolia*, *Ficus ingens*, *F. sur*, *Manilkara multinervis*, *Vitex doniana* and *Voacanga africana* (in the understory). *Pandanus* sp. is very common in gaps on the edge of water and there are thickets of *Alchornea cordifolia* in clearings. The understory is fairly open where the forest is liable to flooding (a spiny Araceae, *Anchomanes* sp., is the main plant in this area); thickets and liane tangles are limited to tree falls and edges. Lianes include *Saba senegalensis*, *Tetracera alnifolia* and *Paullinia*.

The Woroni waterfalls (south of Loulouni) are at least 20 m tall and 50 m wide, but there is less forest. The riparian evergreen forest is floristically similar to that of Farako, with also *Gardenia imperialis* on the edge of water. Secondary growth on the edges has *Alchornea cordifolia*, *Harungana madagascariensis* and *Trema orientalis*. *Psychotria* cf. *psychotrioides* (also noted at Farako) is particularly common in the understory near the falls.

The Banifing river was examined at the Kouoro bridge between Sikasso and Koutiala. The Banifing is a tributary of the Baoulé-sud, like the Bagoé, and is fairly

wide with dense gallery on both banks, mostly 12–15(–20) m tall, but not very wide (usually < 40 m). Common trees are *Cola laurifolia*, *Cynometra vogelii*, *Syzygium guineense*, with *Daniellia oliveri*, *Diospyros mespiliformis*, *Eugenia nigerina*, *Garcinia livingstonei*, *Morelia senegalensis*, *Pterocarpus santalinoides*, some 30-m tall *Khaya senegalensis* (some felled), *Cassia sieberiana*, and *Mitragyna inermis* and *Nauclea latifolia* on the outer edges. *Parkia biglobosa* is the tallest tree in adjacent woodland.

The Bani river

North of the confluence with the Bagoé and Banifing, the Baoulé-sud becomes the Bani (Fig. 2) and flows into the Niger at the latitude of Mopti. We camped near Pont-Bani where the wide sandy river flows permanently between large sand beaches (bare or with *Mimosa pigra*). The evergreen gallery just north of the bridge is so dense that we could reach the edge of the water only by following a cattle track. Evergreen riparian thickets are 10–12 m tall and consist mostly of *Cynometra vogelii*, *Diospyros mespiliformis*, *Garcinia livingstonei*, *Pterocarpus santalinoides* and *Syzygium guineense*. They are only 20–60 m wide, merging without transition into dense deciduous *Acacia-Combretum* thickets and thicket clumps, with *Cassia sieberiana*, *Guiera senegalensis*, *Lannea* sp., *Mitragyna*, *Piliostigma reticulatum*, *Pterocarpus lucens*, *Terminalia* sp., *Ximenia americana* and *Ziziphus* spp.

The avifauna of dry evergreen forest

We list all the forest-associated bird species encountered in dry evergreen or semi-evergreen (gallery) forest. Obligate forest species (not met in other habitats in Mali) are indicated by (F). The detailed distribution of all forest-obligate and near-obligate species is summarized by forest in Table 2.

Table 2. Selected forest or forest-edge bird species recorded in southern Mali.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
<i>Gorsachius leuconotus</i>							+		+								+
<i>Bostrychia hagedash</i>	+	+					+		+	+		+					
<i>Gypohierax angolensis</i>	+	+	+														
<i>Circaetus cinerascens</i>	+			+						+		+					
<i>Podica senegalensis</i>	+		+				+		+		+	+					+
<i>Streptopelia hypopyrrha</i>	+	+	+	+		+						+					
<i>Turtur afer</i>												+					
<i>Tauraco persa</i>																+	
<i>Musophaga violacea</i>	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
<i>Cuculus solitarius</i>										+		+		+			
<i>Chrysococcyx klaas</i>		+	+	+	+			+		+	+	+					
<i>Scotopelia peli</i>	+											+					

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
<i>Apaloderma narina</i>		+	+		+							+		+			
<i>Alcedo quadibrachys</i>			+			+			+	+		+					
<i>Alcedo leucogaster</i>														+			
<i>Ceyx pictus</i>		+	+	+	+		+	+	+			+	+			+	+
<i>Halcyon malimbica</i>	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
<i>Pogoniulus bilineatus</i>															+		
<i>Indicator minor</i>	+		+											+			
<i>Campethera abingoni</i>						+				+	+	+	+				
<i>Campethera nivosa</i>												+					
<i>Dendropicos fuscescens</i>	+	+	+	+		+		+			+	+					
<i>Psalidoprocne obscura</i>			+		+				+	+		+		+	+		
<i>Chlorocichla simplex</i>												+					
<i>Chlorocichla flavicollis</i>	+	+	+			+	+	+	+	+	+		+	+	+	+	+
<i>Pyrrhurus scandens</i>												+					
<i>Cossypha niveicapilla</i>			+	+	+			+				+	+	+	+	+	+
<i>Cossypha albicapilla</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<i>Apalis flavida</i>		+	+		+		+	+	+	+	+	+	+	+		+	
<i>Hypergerus atriceps</i>	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+
<i>Muscicapa aquatica</i>	+	+	+				+		+	+	+	+	+			+	
<i>Platysteira cyanea</i>	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
<i>Elminia longicauda</i>		+	+		+	+		+	+	+	+	+	+	+			
<i>Turdoides reinwardtii</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+
<i>Anthreptes gabonicus</i>												+					
<i>Anthreptes collaris</i>						+				+		+					
<i>Nectarinia verticalis</i>			+									+		+	+		
<i>Nectarinia venusta</i>			+			+		+	+		+	+					
<i>Laniarius aethiopicus</i>												+		+			
<i>Malaconotus sulfureopectus</i>	+	+	+	+	+			+	+		+	+			+	+	+
<i>Dicrurus ludwigii</i>	+	+				+	+			+		+		+	+	+	
<i>Ploceus nigricollis</i>	+	+	+		+	+		+	+	+	+	+	+	+	+	+	+
<i>Nesocharis capistrata</i>												+		+			
<i>Euschistospiza dybowskii</i>						+											
<i>Lagonosticta rufopicta</i>	+	+	+	+		+		+	+	+		+		+			
<i>Lagonosticta rubricata</i>			+	+													
<i>Lagonosticta rara</i>	+	+	+			+						+					

Key to sites. 1= Soukoutali (Bafing); 2= Bindougou; 3= Sanfinian; 4= Baoulé-nord (Badinko and Bakoy confluence); 5= Baoulé (Négala); 6= Mandingue; 7= Kollé (Bankoumana); 8= Kangaba (Déguéla river); 9= Fié river; 10= Ouassoulou Balé (Nalla); 11= Ntjila (Bougouni); 12= Baoulé-sud (Madina Diassa); 13= Bagoé crossing; 14= Farako; 15= Woroni; 16= Banifing (Kouoro); 17= Pont-Bani. Some localities (Bagoé, Woroni) were visited only at midday; others (Soukoutali, Bindougou, Mandingue, Ntjila) only in February 2002 when rainy season visitors were lacking. The dry evergreen *Gilletiodendron* forest near Kita is omitted, as only two forest species were found there (*Musophaga violacea*, *Turdoides reinwardtii*)

Ardeidae

Nycticorax nycticorax Black-crowned Night Heron. Found in some galleries of the south, to Baoulé-nord, but extends into Delta.

Gorsachius leuconotus White-backed Night Heron (F). Two full-grown immatures seen well by day in dense vegetation in swamp forest at Kollé, and characteristic low growl heard at dawn); an immature seen on the Banifing; “growl” heard at dawn and dusk on the Fié. This essentially piscivorous species is usually confined to dense riparian vegetation bordering permanent water. The distribution given by Lamarche (1980–1), with localities confined to the dry Sahel, therefore seems odd.

Butorides striata Green-backed Heron. Present at all localities of gallery forest visited, edge of rivers and large pools; can extend into wooded floodplain.

Scopidae

Scopus umbretta Hamerkop. Widespread on wooded rivers and pools; several nests located in gallery forest; also seen in more open situations and into the Sahel.

Threskiornithidae

Bostrychia hagedash Hadada (F). Confined to dense riparian forest in the southwest, in small numbers; curiously not found near Sikasso.

Accipitridae

Haliaetus vocifer African Fish Eagle. Confined to the Bafing river (several pairs).

Gypohierax angolensis Palm-nut Vulture (F). A species whose distribution in Africa usually matches that of its favourite food, nuts of *Elaeis* and *Raphia*. Seen only in the region of Haut-Bafing, in Feb and June, where *Raphia sudanica* is common. The Oil Palm *Elaeis guineensis* is common only near Sikasso, but the bird was not seen there.

Circaetus cinerascens Western Banded Snake Eagle (F). Associated with well developed gallery forest in the west (from Baoulé-sud to the Bafing and Baoulé-nord). Recorded in both seasons but more easily located in May–Jun when giving its noisy aerial display.

Kaupifalco monogrammicus Lizard Buzzard. Widespread in gallery forest but also in woodland, throughout the southwest, extending marginally into the Sahel.

Hieraaetus spilogaster African Hawk Eagle. Present on the edge of gallery forest at Sanfinian and near Kangaba, extends into woodland.

H. ayresii Ayres’s Hawk Eagle. Present in gallery forest and woodland at Soukoutali.

Lophaetus occipitalis Long-crested Eagle. In gallery forest and woodland at Soukoutali and Bindougou.

Falconidae

Falco ardosiaceus Grey Kestrel. Widespread in woodland and gallery forest in the west from Baoulé-sud to Baoulé-nord.

Phasianidae

Francolinus bicalcaratus Double-spurred Francolin. Throughout wooded grassland, woodland and old cultivation but commonly feeds or roosts inside gallery forest; extends locally into the Sahel (Gourma).

Ptilopachus petrosus Stone Partridge. Widespread on rocky hills (with scrub), in deciduous thickets and woodland; also common in gallery forests, even in the absence of rocks.

Numididae

Numida meleagris Helmeted Guineafowl. Almost exterminated through hunting, but survives in gallery forest near Madina Diassa and in the Bafing region. Also (locally) in woodland, even in the Sahel (Gourma).

Rallidae

Amaurornis flavirostra Black Crake. Regularly found on the edge of rivers or large pools in gallery forest, walking in deep shade on banks and over logs, locally even in the absence of water (on the Baoulé-nord a pair was singing in a patch of riparian thicket on the edge of dry sand, soon to be filled by rain water). Extends into marsh vegetation where available.

Heliornithidae

Podica senegalensis African Finfoot (F). Confined to permanent water (flowing or in large clear pools) with low, overhanging vegetation. Found at seven localities and likely to be more widespread.

Columbidae

Columba guinea Speckled Pigeon. Occasionally near wooded rivers, usually breeds on bridges or dams, one exception being the Baoulé-nord (in *Borassus*). Also seen on large cliffs and in fields.

Streptopelia hypopyrrha Adamawa Turtle Dove (F). Widespread in gallery forest in the southwest to the Baoulé-nord. Particularly conspicuous at the Badinko and Bakoy confluences with the Baoulé, where several birds came to drink in pools in late afternoon. Seen and heard singing in Feb and May–Jun. First discovered in Mali in 2002 (Dowsett & Dowsett-Lemaire 2005).

S. semitorquata Red-eyed Dove (mainly F). Practically confined to riparian vegetation and common in all localities of gallery forest in the southwest; also in degraded riparian bush at Bamako.

Turtur abyssinicus Black-billed Wood Dove. Very common in woodland and all localities of gallery forest; extends locally into Sahel woodland.

T. afer Blue-spotted Wood Dove (F). Confirmed at only one site, in the far south near Madina Diassa. Could be expected at one or two other southerly locations (e.g. Farako), but the comment by Lamarche (1980–1) that it is “fort commune” and “monte au Sahel en saison des pluies, jusqu’à 17°N” probably results from mis-identification.

Treron waalia Bruce’s Green Pigeon. Small numbers at figs and other fruit in gallery forest and adjacent woodland in southwest, extending locally into the Sahel (rocky gullies with figs).

T. calvus African Green Pigeon. Small numbers at figs and other fruit in gallery forest and adjacent woodland; of more southerly distribution than last, north only to the Mandingue Plateau.

Psittacidae

Poicephalus senegalus Senegal Parrot. Common in woodland and gallery forest in the southwest, locally into the Sahel (e.g. Dogon).

Psittacula krameri Rose-ringed Parakeet. Common in woodland and gallery forest in the southwest, numerous in *Borassus* forest on the Baoulé-nord. More commonly in the Sahel than last.

Musophagidae

Tauraco persa Guinea Turaco (F). Two birds heard and one seen very clearly in tall, closed canopy gallery forest at Farako, 28 May.

Musophaga violacea Violet Turaco (mainly F). Common in rich woodland, thicket clumps and gallery forest in the southwest. Absent from the Sahel.

Crinifer piscator Western Grey Plantain-eater. Very common in woodland and gallery forest in the southwest, but also in dry thickets, orchards and gardens, and extends into the Sahel.

Cuculidae

Clamator levaillantii Striped Cuckoo. Very common and noisy in May–Jun at all localities of gallery forest and woodland north to Baoulé-nord and Pont-Bani: a perfect overlap with the distribution of its putative hosts, *Turdoides plebejus* and *T. reinwardtii*. One seen watching a party of *T. reinwardtii* in the Bagoé gallery.

Pachycoccyx audeberti Thick-billed Cuckoo. Heard in tall woodland near Madina Diassa (and imitated by *Cossypha albicapilla* in nearby gallery forest) and in Farako gallery, May 2004. New for Mali (Dowsett & Dowsett-Lemaire 2005).

Cuculus solitarius Red-chested Cuckoo (F). This rainy season visitor is confined to the best galleries of the far south, although it can also be found in adjacent 25-m tall woodland (Madina Diassa). Noisy males (with females giving solicitation call) at Farako in May, less noisy in June after an interlude in the rains. Lamarche (1980–1) had only one record, Jun, collected on the Senegal border, which suggests he did not know its song.

C. clamosus Black Cuckoo. Associated with gallery forest and adjacent woodland in three localities (Farako, Kollé, Sanfinian), May–Jun.

Chrysococcyx klaas Klaas's Cuckoo (F). Confined to riparian situations in Mali, but probably resident (heard in the Bafing region and on the Baoulé-sud in Feb). Locally common in the southwest, from Baoulé-sud and Ouassoulou Balé to Boucle du Baoulé; curiously unrecorded from the Sikasso–Banifing region.

C. caprius Didric Cuckoo. Marginally on the edge of gallery forest, more often in low riparian bush and adjacent woodland, locally in southwest in May–Jun, extending into the Sahel (Douentza area).

Centropus senegalensis Senegal Coucal. Common in gallery forest, also in other habitats and extending into the Sahel.

Strigidae

Bubo lacteus Giant Eagle Owl. Most records from gallery forest (seen and heard: near Madina Diassa, Kangaba, Sanfinian, Baoulé near Négala); but also in dry woodland and deciduous forest on rocks (Kita).

Scotopelia peli Pel's Fishing Owl (F). Located at only two sites, on the Bafing (primary feathers found) and on the Baoulé-sud (adult heard singing in Feb and immature calling in May). A piscivorous owl that requires well developed riparian

forest for resting and nesting. Not recorded by Lamarche (1980–1) but recorded by de Bie & Morgan (1989) from the Boucle du Baoulé.

Glaucidium perlatum Pearl-spotted Owlet. Occasionally in gallery forest (e.g. immature calling on the Déguéla, 10 Jun), but normally in dry open woodlands and gardens throughout the southwest.

Caprimulgidae

Caprimulgus pectoralis (nigriscapularis) Fiery-necked Nightjar. Heard on the edge of riparian woodland at Tambalé on the Mandingue, Feb; several calling around gallery forest on the Baoulé-sud (near Madina Diassa), Feb; silent in May but several seen on the Baoulé-sud. New for Mali (Dowsett & Dowsett-Lemaire 2005).

Trogonidae

Apaloderma narina Narina Trogon (F). First discovered in 2002, now recorded from five gallery forest localities, all with tall canopy. At Farako, near Madina Diassa and at Sanfinian the gallery is essentially evergreen; at the Balé/Bafing confluence and on the Baoulé west of Négala (where *Anogeissus* is the main large tree) the vegetation is at least partly deciduous. Could be expected to occur at Kollé also. Silent in Feb, singing regularly May–Jun (Dowsett & Dowsett-Lemaire 2005).

Alcedinidae

Alcedo quadibrachys Shining Blue Kingfisher (F). Widespread on large forest streams in the far southwest, north to the Mandingue and Sanfinian.

A. leucogaster White-bellied Kingfisher (F). Found at the only site corresponding to its requirements (small forest streams under closed canopy), in the Farako forest. This must be the northern limit of its range. Lamarche (1980–1) claimed it from further north, and from the wrong habitat (“Haut Niger, dans les plaines alluviales inondées”). We believe these records were misidentified.

Ceyx pictus Pygmy Kingfisher (mainly F). Uncommon Feb 2002, when singles seen in sacred *Khaya* forest at Bindougou (Bafing) and inside forest near Madina Diassa. More common May–Jun when clearly augmented by migrants. Mainly in gallery forest, also in thickets and riparian woodland, rocky gullies with deciduous forest (Kita). Throughout the southwest, north to Baoulé-nord and Pont-Bani, but unrecorded around Sikasso. Two occupied nest holes (young being fed) in steep banks, 20 and 22 Jun.

Halcyon leucocephala Chestnut-bellied Kingfisher. Typically on the edge of gallery forest, throughout the southwest (May–Jun); one in woodland 21 Feb (Yorobougoula).

H. malimbica Blue-breasted Kingfisher (F). Quite common and noisy, but restricted to galleries that are essentially evergreen (e.g. present on the Bani but absent from Baoulé-nord). Known from at least 18 localities. Lamarche (1980–1) saw it only once.

H. senegalensis Senegal Kingfisher. Typically at the ecotone between gallery forest and woodland. Absent in dry season 2002, present May–Jun 2004, locally from Madina Diassa to Baoulé-nord and Pont-Bani.

Megaceryle maxima Giant Kingfisher. Widespread on permanent rivers, large clear pools or springs with well wooded banks (thus usually associated with gallery forest), from Baoulé-sud to Bafing and north to Pont-Bani.

Meropidae

Merops pusillus Little Bee-eater. Typically in small thickets, grass or *Mimosa pigra* bush near water. Local in southwest to Baoulé-nord and Pont-Bani.

M. bulocki Red-throated Bee-eater. Widespread on the edge of rivers, often feeding from the edge of gallery forest and breeding in sandbanks, but feeds also in adjacent woodland.

Coraciidae

Eurystomus glaucurus Broad-billed Roller. No records in dry season; influx of migrants in the rains when they occupy gallery forest and adjacent woodland. Fairly widespread from extreme south (particularly common on Baoulé-sud) to Boucle du Baoulé and east to Pont-Bani.

Bucerotidae

Tockus erythrorhynchus Red-billed Hornbill. Widespread in Sudanian and Sahel woodland, sometimes very conspicuous in gallery forest (e.g. Banifing, Baoulé-nord).

T. nasutus African Grey Hornbill. Woodland and gallery forest throughout, from the far south to Pont-Bani and locally into the Sahel (some movements north in Jun).

Lybiidae

Pogoniulus chrysoconus Yellow-fronted Tinkerbird. Widespread woodland species, also quite common in all gallery forest localities, including the Farako gallery near Sikasso; north to Pont-Bani but not recorded on Baoulé-nord.

P. bilineatus Yellow-rumped Tinkerbird (F). Typical song (distinct series of 4–6 notes) heard in the small riparian forest at Woroni on 27 May. New for Mali (Dowsett & Dowsett-Lemaire 2005).

Lybius dubius Bearded Barbet. Often found in tall woodland but most regularly in gallery forest, including the dry *Gilletiodendron* forest and other types on rocky hills. Widespread (12 localities) from the far south (Farako-Woroni; Ouassoulou Balé) north to the Bafing, Kita and the Dogon Plateau.

Indicatoridae

Indicator indicator Greater Honeyguide. Mostly a woodland species but occasionally seen on the edge of gallery forest; widespread in southwest to the Dogon.

I. minor Lesser Honeyguide (F). Four records, all in evergreen gallery forest, including one singing at Farako in May.

Picidae

Campethera abingoni Golden-tailed Woodpecker (F). In W Africa supposedly excluded from Sudanian woodland by Fine-spotted Woodpecker *C. punctuligera*, and strictly confined to evergreen gallery forest. Located by nasal “kwweeeeah” call in the far southwest (common all along the Baoulé-sud, Ouassoulou Balé, Bagoé crossing); more local on the Mandingue (Tambalé). Distribution given by Lamarche (1980–1: “Sahel, zones boisées....Au sud, zones un peu rocailleuses ou rocheuses”) appears incorrect; the only woodpecker found in such habitat is *Mesopicos goertae*.

C. nivosa Buff-spotted Woodpecker (F). Only in the far south, in the wider part of the gallery on the Baoulé-sud near Madina Diassa. A pair on 23 May calling to each other with characteristic low purr. This is likely to be the northern limit of the species. The

distribution given by Lamarche (1980–1) from much further north, including the Sahel in S Mauritania (Lamarche 1988), is considered erroneous.

Dendropicos fuscescens Cardinal Woodpecker (F). Very local in Mali, and confined apparently to gallery forest. Recorded only from a few localities in the southwest, from Baoulé-sud to Baoulé-nord.

Mesopicos goertae Grey Woodpecker. Usually the most numerous woodpecker in gallery forest, throughout, also into other, drier habitats, including Sudanian woodland, dry forest on rocks, even locally *Acacia* groves in the Sahel.

Hirundinidae

Psalidoprocne obscura Fanti Saw-wing (mainly F). Forest edges and clearings (extending a little into adjacent woodland). A rains migrant: absent in Feb, small numbers regularly encountered in S Mali in May–Jun, north to the Bafing (Sanfinian) and the Baoulé west of Négala.

Campephagidae

Campephaga phoenicea Red-shouldered Cuckoo-shrike. Very uncommon in the dry season (a female at Soukoutali, 11 Feb), but influx of migrants in early rains, when widespread and common in gallery forest and adjacent tall, rich woodland from the far southwest through to Haut-Niger, the Bafing and the Baoulé near Négala, and to the Banifing (Kouoro); not noted at Farako.

Pycnonotidae

Chlorocichla simplex Simple Greenbul (F). Only one record, at the northern limit of the species's range: one singing in thicket on the edge of the Baoulé-sud (near Madina Diassa), 21 Feb. Not found again 1 h later (with tape playback) nor in 2004. Almost certainly a wanderer from northern Ivory Coast (Dowsett & Dowsett-Lemaire 2005).

C. flavicollis Yellow-throated Leaflove (F). Widespread in gallery forest in the southwest, even in thin, broken strips (as on the Mandingue). Throughout the south, north to Haut-Bafing and Banifing. Not recorded from Boucle du Baoulé (gallery forest probably too dry and deciduous) nor from Pont-Bani. Birds at Farako (where very common) and elsewhere did not respond to tapes of *C. f. soror* but only to their own song, of a shorter, more contracted form. Often took small fruit, e.g. figs and *Manilkara multinervis*.

Pyrrhurus scandens Leaflove (F). Only in the far south: on the Baoulé-sud near Madina Diassa (heard once, seen by M. Crickmore). But no reaction to tape playback the next day, and possibly not resident.

Pycnonotus barbatus Common Bulbul. Very common in any wooded habitat (including dry evergreen forest) and gardens.

Turdidae

Turdus pelios West African Thrush. Common in gallery forest (all localities north to Pont-Bani and Baoulé-nord), but also in woodland and gardens.

Cossypha niveicapilla Snowy-headed Robin Chat (mainly F). Absent in dry season, locally common in rains, in gallery forest but also adjacent deciduous thickets (as on

Baoulé-nord and Pont-Bani). Outnumbered by *C. albicapilla* in the evergreen galleries of the far south. In some places where the evergreen gallery is sharply defined and bordered with floodplain grassland or open wooded grassland, not located at all (e.g. Fié river), but on the Bani river where riparian (evergreen) thickets merge into dense deciduous thickets, it is far more numerous than *C. albicapilla*, and is the only *Cossypha* occupying the deciduous vegetation. Also found in thickets in Bamako Botanic Gardens.

C. albicapilla White-crowned Robin Chat (F). Common in all localities with evergreen or partially evergreen gallery forest, north to Baoulé-nord and Banifing, uncommon at Pont-Bani. Absent from dry *Gillettiodendron* forest in “Cirque de Kita”. At Bamako Botanic Gardens along stream. Songs contain clear imitations of *Pachycoccyx audeberti* (near Madina Diassa) and *Cuculus clamosus* (at Sanfinian). Appears sedentary (observed in similar numbers in 2002). In Borrow & Demey (2001) *C. niveicapilla* is indicated as a “resident” and *C. albicapilla* as undergoing seasonal movements, but this was an unintentional reversal of status (R. Demey pers. comm.).

Sylviidae

Hippolais pallida Olivaceous Warbler. Several birds seen on the lower edge of gallery forest on the Bafing and Baoulé-sud, Feb; one in riparian bush edge of pool at the Baoulé/Badinko confluence on 4 Jun. In a variety of habitats in the Sahel.

Cisticola lateralis Whistling Cisticola. In several localities in the southwest: common on the outside edge of gallery forest and in tall woodland from Baoulé-sud through to Madina Diassa; edge of gallery on the Ouassoulou Balé (Nalla), Fié river, Kollé; several on the Baoulé west of Négala, feeding in perennial grass but also in riparian thicket edge of gallery, still in winter dress on 7 Jun. Very noisy in May–Jun and possibly overlooked in Feb. Only one previous record for Mali (a specimen mentioned by Lamarche 1980–1; apparently no longer in existence).

Apalis flavida Yellow-breasted Apalis (F). First found in Mali on the Baoulé-sud near Bougouni by Salewski (1998) and Spierenburg (2000). One of the most characteristic and common species of gallery forest, confined to evergreen types, from the far south to Baoulé and Banifing. Known from > 12 localities including Yanfolila. Absent from the Baoulé-nord at the latitude of Badinko, and local on the Baoulé west of Négala (where confined to evergreen thicket with *Pterocarpus santalinoides*). Not found at Pont-Bani but could be expected there.

Camaroptera brachyura Bleating Bush Warbler. Very common in the understorey of all types of gallery forest and riparian thicket, but also encountered in drier situations, including in the Sahel.

Hypergerus atriceps Oriole-Warbler (F). Common in dense evergreen gallery forest in the southwest, and in patches in rocky clefts (as on the Famansa Plateau). Throughout, from the far south to Pont-Bani; not found in largely deciduous gallery on the Baoulé-nord, nor west of Négala. Also recorded by C. Carter (*in litt.*) near Loulouni (next to Woroni, Fig. 2). Thus known from over 16 localities including Yanfolila. Lamarche (1980–1) recorded it from only two sites (Yanfolila and near Sikasso).

Muscicapidae

Melaenornis edolioides Western Black Flycatcher. Characteristic of gallery forest, singing in the canopy and feeding on the edges, and found in adjacent tall woodland. Throughout the southwest, north to the Baoulé-nord at Badinko.

Muscicapa aquatica Swamp Flycatcher (F). Absent from Farako gallery (virtually no open water, which it requires for feeding), but usually common elsewhere, from the far south to at least the Bafing region (Sanfinian). Not found on the Boucle du Baoulé (largely dry in early Jun). Feeding fledglings at Sanfinian, 2 Jun, and Fié, 22 Jun.

Myioparus plumbeus Lead-coloured Flycatcher. A species of the ecotone, often at forest edges and in liane tangles near Madina Diassa, on the Ouassoulou Balé (Nalla) and the Baoulé west of Négala.

Platysteiridae

Batis senegalensis Senegal Batis. Usually in Sudanian woodland but occasionally feeding in the top of gallery forest (as on the Baoulé).

Platysteira cyanea Common Wattle-eye (F). Confined to evergreen gallery forest. Common throughout the south, even in the small patch near Siby, north to Pont-Bani, and to the Baoulé west of Négala. Not on the Baoulé-nord (largely deciduous). Female begging from male, Fié, 22 Jun.

Monarchidae

Elminia longicauda Blue Flycatcher (F). Quite common in understorey usually in deep shade of evergreen forest, in the southwest, from the Baoulé-sud to the Bafing and north to the Baoulé west of Négala; at Sanfinian even in small thickets in adjacent woodland. Rarer in southeast (few at Farako, found on the Bagoé crossing but not on the Banifing).

Terpsiphone viridis African Paradise Flycatcher. Throughout the southwest in Feb (Bafing, Mandingue, Baoulé-sud and Yanfolila), in gallery forest and adjacent woodland. In May–Jun found north to Pont-Bani and the Baoulé-nord; extends into deciduous thickets and dry forest on rocks (Kita). Colour morph of males quite variable: red-and-black, red-and-black plus white feathers (in wing or tail or both), or black-and-white all found at some localities. Females had red vent, as in central African Rufous-vented Paradise Flycatcher *T. rufocinerea*, itself probably no more than a morph of *T. viridis* (Erard in Urban *et al.* 1997, C. Erard pers. comm.).

Timaliidae

Turdoides plebejus Brown Babbler. Woodland, thicket clumps and gardens, but occasionally in thin gallery or on the outer edge of large gallery forest; widespread in the southwest to at least 14°N.

T. reinwardtii Blackcap Babbler (F). Confined to dense gallery forest in the Sudanian region, usually very common, north to Pont-Bani and the Baoulé-nord. Tolerates partial deciduousness (Boucle du Baoulé); rare in dry *Gilletiodendron* forest on rocks (Kita).

Nectarinidae

Anthreptes gabonicus Brown Sunbird (F). Two seen very well (one chasing the other) in thickets on the edge of the Baoulé-sud (Madina Diassa) on 21 Feb. New to Mali (Dowsett & Dowsett-Lemaire 2005). Not found in 2004.

A. longuemarei Violet-backed Sunbird. One or two birds feeding on flowers of *Syzygium guineense* on the Baoulé-sud (May); also encountered in woodland (rare, Soukoutali).

A. collaris Collared Sunbird (F). Confined to the far south, fairly common in gallery forest on the Baoulé-sud (Madina Diassa, Feb and May, in May often feeding on flowers of *Syzygium guineense*). Seen once on the Ouassoulou Balé (Nalla, May) and at Tambalé (Feb).

A. platurus Pygmy Sunbird. Wide variety of habitats, but locally in gallery forest (Baoulé-sud and Yanfolila in Feb but not May; Baoulé-nord in Jun). Apparently subject to local movements (pers. obs.) as in Nigeria (Elgood *et al.* 1973).

Nectarinia verticalis Green-headed Sunbird (F). Confined to evergreen gallery forest in the far south, common in the Sikasso area (Farako, Woroni) and on the Baoulé-sud (Madina Diassa); also on the N'turaya river at Sanfinian. Feeding on flowers of mistletoe and *Syzygium*.

N. senegalensis Scarlet-chested Sunbird. Throughout gallery forest (*e.g.* on flowers of *Syzygium*) and woodland in the south, to Baoulé-nord and Pont-Bani.

N. venusta Yellow-bellied Sunbird (F). Restricted to gallery forest and adjacent bush in the southwest, north to Sanfinian.

N. coccinogastra Splendid Sunbird. Once in gallery forest (a pair on flowers of *Berlinia grandiflora* in the Farako gallery, 27 May); also in tall woodland in the south (Tambalé 5–6 Feb, between Nalla and Kalana 25 May).

N. pulchella Beautiful Sunbird. Woodland and gallery forest throughout the Sudanian region (the only locality where not found in Feb being the Mandingue Plateau), and extending into the Sahel.

Zosteropidae

Zosterops senegalensis Yellow White-eye. Very common in all types of gallery forest (attracted to fruit and flowers); extends into rich woodland and thickets away from water. Throughout the south and southwest, to Baoulé-nord and Pont-Bani.

Oriolidae

Oriolus auratus African Golden Oriole. Fairly common in gallery forest and rich woodland in the south (Farako-Woroni) and southwest, to the Bafing and Négala area.

Malaconotidae

Dryoscopus gambensis Northern Puffback. Common in all types of gallery forest and thicket, also in adjacent tall woodland, throughout the south and southwest to Baoulé-nord and Pont-Bani (nest-building there 13 Jun). Absent from dry *Gillettiodendron* forest near Kita.

Laniarius aethiopicus Tropical Boubou (F). Small populations (several calling) in dense gallery forest near Madina Diassa (Feb and May) and at Farako, partial to liane tangles. New to Mali (Dowsett & Dowsett-Lemaire 2005).

L. barbarus Yellow-crowned Gonolek. Characteristic of gallery forest understorey throughout. Extends into dry thickets or thicket clumps in savanna, including in rocky gullies and the Sahel.

Malaconotus sulfureopectus Orange-breasted Bush Shrike (F). Confined to gallery forest in the southwest, and fairly widespread, north to Baoulé-nord and Pont-Bani.

M. blanchoti Grey-headed Bush Shrike. Usually in woodland, occasionally in evergreen or deciduous forest, from the far south (Farako and near Madina Diassa) to Baoulé-nord.

Dicruridae

Dicrurus ludwigii Square-tailed Drongo (F). Locally common in tall, evergreen gallery or swamp forest (Farako, Baoulé-sud near Madina Diassa, *Parinari* forest near Kollé); also several on the Banifing and Bagoé. On the Mandingue, not found in thin strips of riparian but in a larger forest patch in a rocky cleft (Famansa Plateau); similarly in the Bafing not in thin strips along the river but in larger patches (such as the sacred *Khaya* forest at Bindougou). Northern limit appears to be the *Parinari* forested island at Soukoutali. Lamarche (1980–1) had two (doubtful) records, based on eye colour: “Si couleur de l’iris est un critère valable, deux observations et deux sujets collectés”: Iris colour is not useful for separating the drongos, yet there are other characters that should have been clear in a specimen; these specimens are no longer available.

Sturnidae

Onychognathus morio Red-winged Starling. Associated with rocky hills with scrub or dry thickets, but occasionally visits gallery forest to feed on fruits (e.g. of *Bridelia micrantha* and *Manilkara multinervis* near Siby). Common in dry *Gillettodendron* forest at Cirque de Kita.

Lamprotornis chalcurus Bronze-tailed Glossy Starling. A pair nest-building in gallery forest on the Fié river, 21 Jun. More usual in Sudanian woodland.

L. caudatus Northern Long-tailed Glossy Starling. Frequently roosts and drinks in gallery forest, common in southwest and into the Sahel.

Ploceidae

Ploceus luteolus Little Weaver. Marginally associated with gallery forest: breeds on the edge of the Baoulé (west of Négala) and old nests seen on the edge of the Baoulé-nord (also in dry *Combretum–Acacia* woodland away from water). Mist-netted in gallery forest on the Bafing (Feb) in non-breeding plumage. Widespread in drier habitats in Delta and Sahel.

P. nigricollis Black-necked Weaver (F). Confined to gallery forest, most common in the south, but overall widespread north to the Baoulé near Négala; pair nest-building on the Baoulé-sud (nest hanging on a twig of *Mimosa pigra*), 24 May.

P. cucullatus Village Weaver. Often feeds on the edge of gallery forest or in dry *Khaya* sacred forest.

P. melanocephalus Black-headed Weaver. In the south, clearly associated with gallery forest and riparian thicket. Seen in breeding dress (May–Jun) on the Baoulé-sud, Fié river, near Kollé, at Sanfinian, on the Baoulé west of Négala, on the Banifing (one male displaying next to a small round nest in bush just over the water, 20 Jun) and at Pont-Bani; old nests seen inside gallery forest on the Bagoé. Birds mist-netted in non-breeding dress (Feb) on the Bafing and in quite degraded habitat in the Delta.

Estrildidae

Nesocharis capistrata White-cheeked Oliveback (F). Very local: one feeding in creepers on the Baoulé-sud (Madina Diassa) Feb; two feeding on the fruits of *Manilkara multinervis* at Farako, 20 Jun.

Pytilia melba Green-winged Pytilia. Pair in dry riparian (*Ziziphus*) thicket on the edge of the Baoulé-nord; also found away from riparian situations.

P. phoenicoptera Red-winged Pytilia. Associated with gallery forest and adjacent woodland, often feeding on the ground on the outside edge of galleries. Recorded from the Mandingue, Bafing, Madina Diassa and Nalla. Common at Sanfinian.

Euschistospiza dybowskii Dybowski's Twinspot (F). One drinking with Orange-cheeked Waxbills *Estrilda melpada* at a pool in riparian woodland, Tambalé, 5 Feb. New to Mali (Dowsett & Dowsett-Lemaire 2005).

Lagonosticta rufopicta Bar-breasted Firefinch (F). Confined to gallery forest or riparian thickets in the south, and fairly widespread, north to Baoulé-nord.

L. rara Black-bellied Firefinch (F). Locally in small numbers, on edge of gallery forest and riparian thicket, from Madina Diassa to Sanfinian. New to Mali (Dowsett & Dowsett-Lemaire 2005).

L. rubricata Blue-billed Firefinch (F). Feeding on the edge of gallery forest at Sanfinian (with other *Lagonosticta* spp. and *Pytilia phoenicoptera*) and in thickets under *Anogeissus* canopy on the Baoulé-nord.

L. larvata Black-faced Firefinch. Often associated with other firefinches in feeding parties on the edge of gallery forest, but also found in Sudanian woodland away from water. Found throughout the Haut-Bafing (Soukoutali, Bindougou, Sanfinian) and near Madina Diassa.

Estrilda caerulescens Lavender Waxbill. Common and widespread in gallery forest and thickets in the southwest; extends into dry thickets on rocky hills, including in the Sahel.

Uraeginthus bengalus Red-cheeked Cordon-bleu. Often in thickets on the edge of gallery forest, but extends into a wide variety of drier thicket types (including thornbush in the Sahel).

Spermestes fringilloides Magpie Mannikin. A group of 7–8 feeding on seeds of *Oxytenanthera abyssinica* on the edge of gallery forest at Sanfinian (2 Jun). Likely widespread in the Bafing and also on the Mandingue where this wild bamboo is common, usually in riparian situations. *Oxytenanthera* seeds are known to be its almost exclusive food in E Africa (Benson 1952, Jackson 1972, pers. obs.).

Discussion

Present coverage and habitat

Some 20 localities of gallery forest were visited in 2002 and 2004. All major localities in Lamarche (1980–1) were explored except perhaps one (the Falémé river near Kéniéba on the border with Senegal). According to L. Granjon (pers. comm.) the

Falémé is lined with dry gallery of the same type as in the Bafing region. We visited a number of places that Lamarche did not mention, like the Baoulé-sud south of Bougouni and the Ouassoulou Balé south of Yanfolila.

Our main conclusion from the botanical inventory is that typical Guineo-Congolian rain forest does not exist in Mali, confirming White (1983: references for Mali listed on p. 272, F. White pers. comm. 1993). The Farako gallery near Sikasso, with *Carapa procera*, is perhaps closest to rain forest, but its scarcity of large canopy lianes, very low tree species diversity, lack of emergents and limited width are more typical of dry evergreen forest. *Carapa* extends into other forest types well beyond the Guineo-Congolian region, to E Africa and montane areas (Dowsett-Lemaire 1989, Styles & White 1991).

In most localities the habitat was dry evergreen gallery forest lining semi-permanent rivers, with dominant tree species typical of Sudanian vegetation (cf. Arbonnier 2000, Keay *et al.* 1960). Several of these trees, like *Khaya senegalensis*, are almost endemic to the Sudanian region (White *et al.* 2001: 40); others, like *Syzygium g. guineense* and *Erythrophleum suaveolens*, are found in fringing forest throughout the continent. *Diospyros mespiliformis*, a characteristic evergreen tree of the savanna regions (extending into the Sahel) is very widespread in tropical Africa but is largely absent from the Guineo-Congolian region (White 1988, with map on p. 336).

From south to north the proportion of deciduous elements increases. It becomes important on the Baoulé-nord, with *Anogeissus* the dominant canopy tree away from *Borassus* groves. In the Haut-Niger floodplain, the swamp forest at Kollé represents a type of evergreen forest uncommon in Mali, with *Parinari congensis* dominant in the canopy and *Myrianthus serratus* in the understorey. Otherwise, from the Ouassoulé Balé, most of the Baoulé-sud and Bagoé northwards (to at least the Bafing), the floristic composition and physiognomy of gallery forest changes little, and the same dominant tree species occur: galleries are rarely broader than 50 m and the canopy may be as low as 12 m. Only in the far south, near Madina Diassa (Baoulé-sud) and near Sikasso (Farako gallery) are forest patches much taller and wider (up to 300 m wide near Madina Diassa and 30 m tall at Farako). The Farako gallery near Sikasso stands out as the only example of gallery forest closing over a small stream, thus providing the necessary requirements for the forest kingfisher *Alcedo leucogaster*.

Biogeographical considerations

The most important single biome represented is Sudanian (= "Sudan-Guinea" of Fishpool & Evans 2001). The Sudanian bird species dependent on fringing forest include *Streptopelia hypopyrrha*, *Musophaga violacea*, *Cossypha albicapilla*, *Hypergerus atriceps*, *Turdoides reinwardtii*, *Nesocharis capistrata*, *Euschistospiza dybowskii*, *Lagonosticta rufopicta* and *L. rara*. Other Sudanian endemics that are commonly encountered in or on the edge of fringing forest but extend into other habitats in the Sudanian region include *Merops bullocki*, *Lybius dubius*, *Pytilia phoenicoptera*, *Lagonosticta larvata* and *Estrilda caerulescens*; the rarer *Nectarinia coccinigastra* is also mainly Sudanian.

The two kingfishers *Halcyon malimbica* and *Alcedo quadribrachys* are widespread in the Guineo-Congolian region but extend significantly into the galleries of the Sudanian region. Using botanical terminology these could be called "Guineo-Congolian/Sudanian linking species". *Cossypha niveicapilla* also belongs here, occupying the Sudanian galleries and thickets mainly in the rainy season (Elgood *et al.* 1973). The Guineo-Congolian forest-edge swallow *Psalidoprocne obscura* (Dowsett-Lemaire & Dowsett 2001, Fishpool & Evans 2001) is also mainly a rainy-season visitor in the Sudanian region, and extends so widely into it that it might be termed another linking element. In Mali it extends at least as far as 13°N, as in E Senegal (Morel & Morel 1990); in Nigeria it extends north to 11°N in the rains (Elgood *et al.* 1994); it is not uncommon in Mole NP in Ghana (pers. obs.) well inside the Sudanian region.

In the far south, where the size and aspect of the forest change significantly, we are close to the northern limit of the Guineo-Congolian/Sudanian transition zone (Fig. 1; White 1983). This was where the few Guineo-Congolian birds were found, at Farako (*Tauraco persa*, *Alcedo leucogaster*) and on the Baoulé-sud, near Madina Diassa (*Campethera nivosus*, *Pyrrhurus scandens*, *Chlorocichla simplex* and *Anthreptes gabonicus*). The last two, found in 2002 but not 2004, are probably local wanderers from the south. The status of the *Campethera* and *Pyrrhurus* at Madina Diassa is unclear. Most of these species occur nearby in N Ivory Coast. The *Anthreptes* was recorded by Walsh (1986) as far north as Léraba (10°8'N, 5°5'W), also in Feb. Records of this species from the Comoé and PN du Haut Niger in neighbouring Guinea are undated (Salewski 2000, Nikolaus 2000), but it was found feeding young in riparian vegetation in Guinea as far north as 11°17'N, 12°30'W, in Mar 2003 (R. Demey *in litt.*). We found it nest-building in riparian thickets on the Black Volta in Bui NP, Ghana, at 8°37'N, 2°24'W, in Mar 2005. The *Campethera* has been collected in gallery forest at Korhogo (Traylor 1970) and has also been recorded from PN Haut Niger in Guinea (Nikolaus 2000), only slightly south of Madina Diassa. In Ivory Coast, *Chlorocichla simplex* is known as far north as Korhogo and Odienné (Brunel & Thiollay 1969) only 140 km south of Madina Diassa, on the same Baoulé-sud river. At Farako *Alcedo leucogaster* must be at its northern limit: in Nigeria it has been recorded north to Kgoro (9°35'N) alongside several other Guineo-Congolian species (Dyer *et al.* 1986). This area is clearly in the Guineo-Congolian/Sudanian transition zone (White 1983: 177). One specimen collected at Zaria (11°3'N) was considered a wind-blown migrant (Fry 1967), *c.* 180 km north of its normal range. The *Tauraco* and *Pyrrhurus* are the only Guineo-Congolian species which are regular, if rare, in the S Sudanian region in Nigeria.

The rest of the gallery forest birds of S Mali are species more widely distributed in dry evergreen forests, not restricted to one or two biomes (*e.g.* *Apaloderma narina*, *Chlorocichla flavicollis*, *Apalis flavida*, *Platysteira cyanea*, *Elminia longicauda*, *Nectarinia verticalis*, *Dicrurus ludwigii*). Others may be common in woodland or dry thicket in E or southern Africa, but in the dry regions of W Africa are essentially confined to evergreen or semi-evergreen forest (*e.g.* *Campethera abingoni*, *Dendropicos fuscescens*, *Malaconotus*

sulfureopectus). Most species confined to evergreen fringing forest are sedentary. The few intra-African migrants arriving in the rains are mostly species able to exploit other habitats, such as deciduous thickets (e.g. *Ceyx pictus*, *Cossypha niveicapilla*) or adjacent woodland (e.g. *Eurystomus glaucurus*, *Campephaga phoenicea*).

Birds of fringing forest in the Sudanian region of W Africa

Table 3 gives the distribution of the main species dependent on fringing forest across the Sudanian region, from well documented localities from SE Senegal to N Cameroon. N Ivory Coast and adjacent Guinea are not included because this area clearly belongs to the Guineo-Congolian/Sudanian transition zone (White 1983). The localities we studied in Mali have been grouped into three regions as the country is huge and some bird species tend to be localized; the Boucle du Baoulé and Pont-Bani were excluded as they add nothing and some species do not occur that far north. The few species that have been recorded from only one of the regions are excluded from Table 3 but briefly mentioned below.

SE Senegal. Data from Morel & Morel (1990) and our observations (10–14 Feb 1993). *Lagonosticta rubricata* is the only species not in Morel & Morel (1990) and added recently (Sauvage & Rodwell 1998); it is left with a question mark as the observer's name is not given and Payne (*in* Fry & Keith 2004) does not include the record. Olive-green Camaroptera *Camaroptera chloronota*, has been claimed from Badi (Niokolo Koba) on the basis of specimens collected by P. Dekeyser and G.J. Morel. The habitat in and around Niokolo Koba does not appear suitable for this Guineo-Congolian endemic. The Muséum National d'Histoire Naturelle in Paris does not hold any *C. chloronota* from Senegal (E. Pasquet *in litt.*) and the Morels' collections at the IRD station at Mbour, Senegal (two collected Jun 1967, cf. Morel & Morel 1990: 131) actually belong to the widespread *C. brachyura* (J.-M. Duplantier *in litt.*). The Dekeyser specimen has not been traced, and without proof we feel the record should be queried. **Mali.** *Alcedo leucogaster*, *Campethera nivosus*, *Chlorocichla simplex* and *Anthreptes gabonicus* have not been listed in Table 3. At least the *Chlorocichla* and *Anthreptes* are suspected to be wanderers, as discussed above.

N Ghana. Mole NP is reasonably well known (Dowsett-Lemaire & Dowsett 2004). We recorded all but three of the relevant species ourselves. The status of *Tauraco persa* is unclear: it was not reported by Harvey & Harrison (1970), Greig-Smith (1976) gave its status as "rare" without a locality, and it has been reliably reported to us only as a vagrant in thin riparian forest on the Samole stream in the dry season 2002; we are unaware of any records since. Ashy Flycatcher *Muscicapa caerulescens* is one of two species of fringing forest found in Mole and not elsewhere in areas listed in Table 3. The other is Willcocks's Honeyguide *Indicator willcocksii*, found singing in riparian forest in Mar 2005; this is a Guineo-Congolian species that extends locally into Sudanian galleries, as in SW Chad (cf. Chappuis 2000). The main evergreen riparian trees there are the same as in S Mali (*Cola laurifolia*, *Khaya senegalensis*, *Pterocarpus santalinoides*, *Syzygium guineense*, etc.).

Table 3. Main forest species recorded in fringing forest in Sudanian region localities.

	1	2	3	4	5	6	7
<i>Gorsachius leuconotus</i>			+	+	+	+	+
<i>Gypohierax angolensis</i>	+	+			+	+	
<i>Circaetus cinerascens</i>	+	+	+		+	+	+
<i>Podica senegalensis</i>	+	+	+	+	+	+	
<i>Streptopelia hypopyrrha</i>	+	+	+			+	+
<i>Turtur afer</i>	+		+		+	+	+
<i>Tauraco persa</i>	+			+	(+)	+	
<i>Musophaga violacea</i>	+	+	+	+	+	+	+
<i>Cuculus solitarius</i>	+		+	+	+	+	+
<i>Chrysococcyx klaas</i>	+	+	+		+	+	+
<i>Ceuthmochares aereus</i>					+	+	
<i>Scotopelia peli</i>	+	+	+		+	+	+
<i>Apaloderma narina</i>		+	+	+	+	+	(+)
<i>Alcedo quadibrachys</i>	+	+	+	+	+	+	+
<i>Halcyon malimbica</i>	+	+	+	+	+	+	+
<i>Pogoniulus bilineatus</i>	+			+			
<i>Indicator minor</i>	+	+	+	+	+	+	+
<i>Campethera abingoni</i>			+	+	+		+
<i>Dendropicos fuscescens</i>	+	+	+		+	+	+
<i>Chlorocichla flavicollis</i>	+	+	+	+	+	+	+
<i>Pyrrhurus scandens</i>			(+)			+	
<i>Cossypha niveicapilla</i>	+	+	+	+	+	+	+
<i>C. albicapilla</i>	+	+	+	+	+	+	+
<i>Apalis flavida</i>		+	+	+	+	+	+
<i>Hypergerus atriceps</i>	+	+	+	+	+	+	+
<i>Muscicapa aquatica</i>	+	+	+	+	+	+	+
<i>Platysteira cyanea</i>	+	+	+	+	+	+	+
<i>Elminia longicauda</i>	+	+	+	+	+	+	+
<i>Turdoides reinwardtii</i>	+	+	+	+	+	+	+
<i>Anthreptes collaris</i>	+		+				?
<i>Nectarinia verticalis</i>	+	+	+	+	+	+	+
<i>N. venusta</i>	+	+	+		+	+	+
<i>Laniarius aethiopicus</i>			+	+	+	+	+
<i>Malaconotus sulfureopectus</i>	+	+	+	+	+	+	+
<i>Dicrurus ludwigii</i>		+	+	+	+	+	
<i>Ploceus nigrigollis</i>	+	+	+	+	+	+	+
<i>Nesocharis capistrata</i>			+	+	+	+	+
<i>Euschistospiza dybowskii</i>	+		+				
<i>Lagonosticta rufopicta</i>	+	+	+	+	+	+	+
<i>L. rara</i>	+	+	+		+	+	+
<i>L. rubricata</i>	?	+				+	

Localities: 1= SE Senegal (Niokolo Koba to extreme SE); 2= W Mali (Bafing); 3= SW Mali (Mandingue to Ivory Coast border); 4= SE Mali (Banifing to Bagoé and Sikasso region); 5= N Ghana (Mole NP); 6= N-central Nigeria (10–12°N); 7= N Cameroon (Bénoué NP). (+) means unlikely to be resident.

Nigeria. The area considered is from *c.* 10°N northwards. Information comes from Fry (1965, 1975) and Elgood *et al.* (1994). The Jos Plateau is an enclave of semi-montane and transitional Guineo-Congolian forest, largely south of 10°N, so is not included in this comparison. Two forest species have been recorded from the Zaria region and not elsewhere in the areas under consideration: one is the Wood Owl *Strix woodfordii*, which Fry (1975) noted once (Danbagudu 10°19'N). Apart from one or two similar occurrences elsewhere in Senegal (Morel & Morel 1990), in W Africa this owl is usually confined to the Guineo-Congolian region. The other is Emerald Cuckoo *Chrysococcyx cupreus*, a rainy-season visitor regularly found north to Zaria (11°N) and occasionally further (Elgood *et al.* 1994).

N Cameroon. Information mainly from Dowsett-Lemaire & Dowsett (1999). The *Apaloderma* is unlikely to be resident (recorded once near Buffle Noir, S. de Kort *in litt.*). N. Borrow (*in litt.*) confirmed *Cuculus solitarius* and added *Nectarinia venusta* after our 1999 survey. The identity of *Anthreptes collaris* (one record) is considered doubtful. The only dry forest species common there but not included in Table 3 is Red-winged Grey Warbler *Drymocichla incana*, a Sudanian endemic which does not occur west of the Nigeria–Cameroon border. In aspect and vegetation the fringing forest on the Bénoué is reminiscent of that on Baoulé-nord in Mali; the wide, sandy river holds more water than the Baoulé but does not have many shady corners for such species as *Podica senegalensis* (unrecorded). The main evergreen trees are *Celtis integrifolia* and *Diospyros mespiliformis*.

Table 3 reveals that most bird species typical of Sudanian gallery forest in Mali are also well represented in similar habitat elsewhere (especially *Musophaga violacea*, *Halcyon malimbica*, *Chlorocichla flavicollis*, *Cossypha niveicapilla*, *C. albicapilla*, *Apalis flavida*, *Hypergerus atriceps*, *Muscicapa aquatica*, *Platysteira cyanea*, *Elminia longicauda*, *Turdoides reinwardtii*, *Nectarinia verticalis*, *Ploceus nigricollis*). *Streptopelia hypopyrrha* should also be expected to occur in N Ghana and Ivory Coast.

Those found more rarely, and usually in the far south of Mali, are also localized elsewhere: for instance *Pogoniulus bilineatus* was discovered at just one site in SE Senegal (Dinndéfélou, on the Guinea border at 12°23'N: Morel & Morel 1990) and reaches only *c.* 9°53'N in Nigeria (Wells & Walsh 1969). Dinndéfélou has a waterfall (J.-M. Duplantier *in litt.*), like Woroni in SE Mali. Waterfalls modify the microclimate and may explain the presence of this tinkerbird so far north. *Tauraco persa* appears very uncommon in SE Senegal (Morel & Morel 1990) and in Nigeria does not reach north of 10°44'N (Fry 1975); similarly *Pyrrhurus scandens* is very uncommon in N-central Nigeria, reaching Anara at 10°44'N (Fry 1965, 1975). *Anthreptes collaris* is local in Mali and elsewhere: a single record from SE Senegal (Morel & Morel 1990); in Nigeria it does not extend north of 9°53'N (Walsh 1971). *Euschistospiza dybowski* is known from only two sites in SE Senegal (Morel & Morel 1990) and its distribution in Nigeria (e.g. Jos Plateau) is mainly montane.

Historical perspective

One question is: could the vegetation have changed a lot since the 1970s when B. Lamarche was prospecting Mali? The botanical evidence suggests not. Most of the prospective botanical work in W Africa was carried out from the 1940s to 1960s or 1970s (White 1983 and references therein), and the boundaries of phytochoria as drawn by White (1983) were based on these investigations. Most published works on Mali date from the 1950s to 1960s (White 1983: 272). It is impossible to imagine that, suddenly, in the 1970s (just as a series of droughts were starting to hit the Sahel, the first being in 1969), pockets of rain forest could have sprouted in numerous locations in the west and south of the country, and disappeared one or two decades later. It takes many decades for rain forest trees to grow, and in a country as sparsely populated as Mali (where riparian vegetation is still largely intact), it is equally unlikely that they could have disappeared without a trace. On the contrary, over a large area of SW Mali, from the Ouassoulou Balé, Baoulé-sud to the Bafing and Banifing, the size of live *Khaya senegalensis* (Mahogany), *Parkia biglobosa*, *Erythrophleum suaveolens* and others, which are slow-growing and often reach a height of 25–30 m, shows that they have been there for a very long time. In Malawi, charred trunks of forest trees killed by repeated bush fires can stand and remain identifiable for several hundred years (Dowsett-Lemaire 1985: 365). In other words, there is no reason to suspect that the forest types encountered today could have been any different 30 or 40 years ago.

Despite the lack of suitable vegetation, is there any evidence that species of rain forest birds have turned up within the Sudanian phytochorion with any regularity elsewhere in W Africa? The answer is, again, no. In the better documented Nigeria, Fry (1965, 1975) was studying the Zaria region at the same time as Lamarche was prospecting Mali, and found no Guineo-Congolian species other than the localized *Tauraco persa* and *Pyrrhurus scandens* (which also occur in S Mali). In Mole NP, Ghana, which was extensively documented in the 1960s and 1970s (Greig-Smith 1976), the only Guineo-Congolian forest species recorded then was *Tauraco persa*. Our recent survey there shows that the avifauna has not changed since in any significant way: our additions include species of short grassland as well as a few of fringing forest (Dowsett-Lemaire & Dowsett 2004, pers. obs.), most of which represent northward range extensions in Ghana (Grimes 1987) but all being species that could have been overlooked in the past. In any case, Mole had no definite past records of rain forest species other than *T. persa* (which may not be resident); it has not lost species of fringing forest and there is no evidence that the habitat has been drying out. Elsewhere, in Ghana (especially in the east) there is evidence that forest is expanding rapidly over savanna in their contact zone (pers. obs.). This is happening so rapidly in the proposed Kyabobo National Park (8°–8°30'N on the Togo border) that managers are worried about the survival there of large grazing mammals (P. Hartley pers. comm.).

Conclusion

As a result of our investigations in 2002 and 2004, of the past and present botanical evidence and of the ornithological evidence in neighbouring countries within the same phytochorion, we conclude that several dozen Guineo-Congolian and other rain forest species claimed to occur in Mali by Lamarche (1980–1) have to be deleted from the national avifauna. Even for the few Guineo-Congolian species confirmed by recent surveys, we have doubts about Lamarche's localities, which are too far north and often mentioned in relation to the wrong habitat. Lamarche situated some in the Sahel (e.g. *Campethera nivosa* north to Mauritania, Blue-billed Malimbe *Malimbus nitens* north to Kayes, one of the hottest places in Africa), where the ecological requirements of these species are lacking. Lamarche claimed that several of these forest species (e.g. the conspicuous Pied Hornbill *Tockus fasciatus*) are "répandu dans le sud et l'ouest du pays", when no-one else has managed to find a single individual. Many forest species in Lamarche (1980–1) are confined to the deep shade of primary or old secondary rain forest and strictly sedentary. Several localities in the Bafing region (including Bafing-Makana and Sagabari) and Kangaba and surroundings are among the most frequently cited for several stenotopic forest species such as bulbuls of the genera *Andropodus*, *Criniger* and *Bleda*, Blue-shouldered Robin *Cossypha cyanocampter*, *Camaroptera chloronota*, Green Hylia *Hylia prasina*, Chestnut-capped Flycatcher *Erythrocercus mccallii*, Shrike-Flycatcher *Megabyas flammulatus*, Yellow-chinned Sunbird *Anthreptes rectirostris*, Johanna's Sunbird *Nectarinia johanna*, Crested Malimbe *Malimbus malimbicus* and *Nigrita* spp. Yet gallery forests at those places consist of no more than thin strips of dry evergreen vegetation, totally unsuitable for these forest birds at any time of year. Conversely, some of the most common species in this habitat were overlooked by Lamarche (e.g. *Halcyon malimbica*, *Hypergerus atriceps*, *Apalis flavida*).

We therefore recommend the deletion of the following 68 species from the country's list (these include Guineo-Congolian endemics, other rain forest species, and a few species of forest edges or herbaceous clearings which are confined to the Guineo-Congolian region in W Africa; those already rejected by Dowsett (1993) are in square brackets): Hartlaub's Duck *Pteronetta hartlaubi*, African Black Duck *Anas sparsa*, Black Goshawk *Accipiter melanoleucus*, [Red-breasted Sparrowhawk *A. rufiventris*], Western Little Sparrowhawk *A. erythropus (minullus)*, African Goshawk *A. tachiro*, Crowned Eagle *Stephanoaetus coronatus*, Ahanta Francolin *Francolinus ahantensis*, Crested Guinea fowl *Guttera pucherani*, [White-spotted Flufftail *Sarothrura pulchra*], African Grey Parrot *Psittacus erithacus*, Brown-necked Parrot *Poicephalus robustus*, Emerald Cuckoo *Chrysococcyx cupreus*, Black-throated Coucal *Centropus leucogaster*, Blue-headed Bee-eater *Merops muelleri*, Black Bee-eater *M. gularis*, Blue-throated Roller *Eurystomus gularis*, White-headed Wood Hoopoe *Phoeniculus bollei*, Pied Hornbill *Tockus fasciatus*, White-tailed Hornbill *Bycanistes fistulator*, Yellow-casqued Hornbill *Ceratogymna elata*, Yellow-throated Tinkerbird *Pogoniulus subsulphureus*, Red-rumped Tinkerbird *P. atroflavus*, Hairy-

breasted Barbet *Tricholaema hirsuta*, Double-toothed Barbet *Lybius bidentatus*, Spotted Honeyguide *Indicator maculatus*, Golden-backed Woodpecker *Campethera maculosa*, Fire-bellied Woodpecker *Thripias pyrrhogaster*, Long-tailed Wagtail *Motacilla clara*, Purple-throated Cuckoo-shrike *Campephaga quiscalina*, Little Greenbul *Andropadus virens*, Slender-billed Greenbul *A. gracilirostris*, Grey-headed Bristlebill *Bleda canicapillus*, Red-tailed Greenbul *Criniger calurus*, Yellow-bearded Greenbul *C. olivaceus*, Western Nicator *Nicator chloris*, Blue-shouldered Robin Chat *Cossypha cyanocampter*, Green Crombec *Sylvietta virens*, Green Hylia *Hylia prasina*, Olive-green Camaroptera *Camaroptera chloronota*, Shrike-Flycatcher *Megabyas flammulatus*, Chestnut-capped Flycatcher *Erythrocercus mccallii*, [Rufous-vented Paradise Flycatcher *Terpsiphone rufocinerea*], Red-bellied Paradise Flycatcher *T. rufiventer*, Brown Illadopsis *Illadopsis fulvescens*, Puvél's Illadopsis *I. puvéli*, Capuchin Babbler *Phyllanthus atripennis*, Fraser's Sunbird *Anthreptes fraseri*, Yellow-chinned Sunbird *A. rectirostris*, Olive Sunbird *Nectarinia olivacea*, Olive-bellied Sunbird *N. chloropygia*, Johanna's Sunbird *N. johannae*, Superb Sunbird *N. superba*, Brown-headed Tchagra *Tchagra australis*, Many-coloured Bush Shrike *Malaconotus multicolor*, Red-billed Helmet-Shrike *Prionops caniceps*, Emerald Starling *Coccycolius iris*, Splendid Glossy Starling *Lamprotornis splendidus*, Blue-billed Malimbe *Malimbus nitens*, Crested Malimbe *M. malimbicus*, Red-headed Malimbe *M. rubricollis*, Red-faced Flower-pecker *Parmoptila rubrifrons*, Grey-crowned Negrofinch *Nigrita canicapillus*, Chestnut-breasted Negrofinch *N. bicolor*, White-breasted Negrofinch *N. fusconotus*, Crimson Seed-cracker *Pyrenestes sanguineus*, Bluebill *Spermophaga haematina*, Black-and-white Mannikin *Lonchura bicolor*.

It is not impossible that, with time, a few of these forest species will be found in the far south of Mali, but documented evidence will be necessary. Unfortunately, this plethora of forest species apparently encouraged Bie & Morgan (1989) to report further improbable Guineo-Congolian species from as far north as the Boucle du Baoulé (Afep Pigeon *Columba unicincta*, Blue-headed Dove *Turtur brehmeri*, Cassin's Flycatcher *Muscicapa cassini*). We also recommend their deletion; the *Columba* and *Muscicapa* were deleted by Dowsett (1993).

How has such a situation arisen? B. Lamarche is the only ornithologist to have spent so long in Mali in recent decades. We have found no ornithologist who accompanied Lamarche in the field in Mali, so in the absence of extant specimens these are essentially single-observer sight records. The fact that Lamarche missed many species (some common) that are more often heard than seen suggests one source of possible error: mistakes in identifying vocalisations. Some probable visual misidentifications are readily explained (e.g. *Alcedo leucogaster* for Malachite Kingfisher *A. cristata*, *Criniger olivaceus* for *Chlorocichla flavicollis*, *Camaroptera chloronota* for *C. brachyura*, *Nectarinia johannae* or *N. superba* for *N. coccinigastra*, some *Malimbus* for *Euplectes*). For others an explanation is less obvious. Regrettably, one can no longer take for granted details of distribution given by Lamarche (1980–1) for even commoner species, and we believe all his records of forest birds must be disregarded.

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Short Notes — Notes Courtes

Réponse à Dowsett-Lemaire & Dowsett

Dowsett-Lemaire & Dowsett (2005) présentent un fort ensemble, riche en informations sur les oiseaux du Mali, et les questions qu'ils posent (présence ou absence de certaines espèces, endémismes ou déplacements éventuels) m'ont paru très intéressants. Toutefois, la manière de résoudre les dits problèmes, par une mise en doute systématique des données anciennes, non établies par eux-mêmes, m'a semblé surprenante, voire condamnable sans preuves formelles, sur le plan scientifique et somme toute peu constructive. Il semble largement préférable d'envisager, pour résoudre ces problèmes d'un grand intérêt, la mise en place d'autres hypothèses. L'excellent travail d'observation de nos collègues ne pourrait que s'en trouver valorisé.

Bien que les observations passées n'aient pas été réalisées sans soin, on pourrait ainsi songer, pour certaines espèces, outre une erreur de diagnose toujours possible, à une présence qui pourrait être saisonnière, ou annuelle irrégulière, ou encore effective dans le passé (il y a 30 ans et plus), mais ayant désormais pris fin pour des raisons multiples dont les plus évidentes au niveau de l'Afrique de l'Ouest semblent être des variations climatiques (dessèchement) se trouvant associées à d'autres facteurs de changement, d'origine anthropique (agriculture et déforestation, gestion de l'eau, mise en valeur des zones humides, barrages, routes). La prise en compte de ces divers paramètres, responsables en quelques décennies de véritables catastrophes, me semble nécessaire à la compréhension des bouleversements observables dans la répartition de nombreuses espèces. Ce serait une démarche plus riche et plus solide.

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Nest robbery of West African Thrush *Turdus pelios* by Pied Hornbill *Tockus fasciatus* in Gabon

On 16 Jan 2005, a West African Thrush *Turdus pelios* was observed in its nest, which was c. 4 m above the ground in the canopy of a riparian tree (*Erythrina vogellii*), on the bank of the Ogooué river in the north of Lopé National Park (0°1'N, 11°9'E),

Gabon. A Pied Hornbill *Tockus fasciatus* left a neighbouring tree, circled the tree containing the nest and then landed with outspread wings near the nest. The thrush gave alarm calls and flew at the hornbill, which ignored this, removed two hatchlings in its beak and took flight. It dropped one hatchling in flight a few metres from the nest and flew out of view with the remaining hatchling in its beak. The fallen chick was collected but died shortly afterwards. It was thought to be less than one week old, having not yet opened its eyes, being unable to stand and having only a few feathers.

Pied Hornbills eat fruit (Brosset & Erard 1986, Chapin 1939) but have been known to rob sunbird and woodpecker nests (Brosset & Erard 1986). This appears to be the first record of one robbing the nest of a thrush.

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A ground nest of the Lanner Falcon *Falco biarmicus* in Mauritania

Although the Lanner Falcon *Falco biarmicus* is one of few raptor species occurring well into the desert, there seem to be no observations showing that the species nests on the ground where other structures might be rare. Lanners may nest on isolated rocky hills in the desert, including on the top of cliffs, where they are often easily accessible (Jany 1960, McLachlan & Liversidge 1978, Newby 1981, J.-M. Thiollay pers. com.). Apart from this information we are not aware of any record of the species nesting on the ground in Africa, where it either nests in scrapes on cliff edges or in old nests of large raptors, corvids or herons (Brown *et al.* 1982, Kemp 1993). The only reference we found that mentions nesting on the ground, without giving further details, is Hoyo *et al.* (1994). We describe here the discovery of a ground nest of Lanner Falcon in Mauritania.

A trip was made from Ouadâne (20°54'N, 11°35'W) to Bir Amrane (22°47'N, 8°43'W) in early April 2004. North of El Ghallâouïya (21°35'N, 10°35'W) the track led first through rocky areas where isolated bushes grew and then through plain sand desert. The track was marked throughout with scattered stone piles up to 1.5 m high. We realised that Palaearctic migrants such as Woodchat Shrike *Lanius senator* or

Northern Wheatears *Oenanthe oenanthe* often perched on these piles. We also found a Nightingale *Luscinia megarhynchos* resting in the shade in such a pile. On some piles we saw clumps of dry branches that suggested nests of Brown-necked Raven *Corvus ruficollis* although the species was not observed on the trip. We also recognized Lanner Falcons a few times perching on the piles.

At one of the piles (22°20'N, 9°6'W) on 3 April our guide pointed out a Lanner sitting on the ground next to our car. When we were still sitting in the car the falcon started to show "broken wing" behaviour. After crawling for a few metres it finally flew off. When leaving the nest it revealed an egg and two chicks that were a few days old. The nest itself was a shallow bowl scraped in the sand without any lining (Fig. 1). Sticks and some pellets were lying around the nest but not in any apparent arrangement that suggested that they were placed there deliberately. We quickly took some photographs and left immediately. The area where we found the nest was plain sand desert with no trees nor cliffs in the vicinity. The only other structure where the



Figure 1. Female Lanner showing "broken wing" behaviour when leaving its ground nest (photo VS).

falcon could have bred was the stone pile *c.* 3–4 m away. There were some sticks on the pile and also on the ground that must have been carried by birds for quite a long distance.

On 6 Apr we found another Lanner brood approximately 15 km northwest of Bir Amrane in an isolated stand of about 20 *Acacia tortilis* trees (22°55'N, 8°48'W). There, an old nest in a tree contained three chicks (Fig. 2), indicating flexibility in selection of breeding sites in the desert.

Lanners are known to prey on Palaearctic migrants on spring migration in the Sahara and timing of breeding is associated with migration phenology (Jany 1960, Heu 1961, Newby 1981, J.-M. Thiollay pers. comm.). We did not search for food remains around the ground nest because of the disturbance that might have been caused but under the tree nest we found several tails of *Uromastix* lizards. However, passerine migrants were abundant in the area (pers. obs.), so sites and season of our observations are not surprising. Other *Falco* species are known to breed on the ground when other substrates are scarce *e.g.* Sooty Falcon *F. concolor*, Eleonora's Falcon *F. eleonora* and Peregrine Falcon *F. peregrinus* (Hoyo *et al.* 1994). The abundance of passerine migrants in the desert during spring migration together with the possible scarcity of predators might attract falcons to breed even at an apparently sub-optimal site.



Figure 2. Lanner nest in an *Acacia tortilis* tree; two of the three young in the nest are visible (photo VM).

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A supplementary gazetteer for the birds of Ghana

A number of localities mentioned in Grimes (1987) do not appear in the gazetteer to that work. I give their coordinates or approximate locations here. Localities have been traced using various maps and gazetteers, and double-checked where possible. A few localities are explained in notes and a few alternative spellings included. FR is an abbreviation for Forest Reserve.

Abrobonko, Sweet (Kakum) river mouth ¹	5°6'N, 1°19'W
Abutia Kloe	6°29'N, 0°21'E
Adidome	6°4'N, 0°31'E
Agyabura (Bura river) FR.....	5°50'N, 2°18'W
Akosombo.....	6°17'N, 0°3'E
Akwapim ²	c. 5°45'N, 0°15'W
Amminsa (Amisa) lagoon.....	5°12'N, 1°1'W
Anjuanema Mt, Mpraeso	6°34'N, 0°46'W
Anum.....	6°29'N, 0°9'E

Awatotse (Apototse).....	6°58'N, 0°29'E
Ayimensa, Akwapim ridge	5°47'N, 0°11'W
Big Ada.....	5°49'N, 0°37'E
Bimbile (correctly Babile), SSE of Lawra	10°31'N, 2°50'W
Bimpong FR	5°43'N, 1°28'W
Birim river	c. 5°55'N, 1°9'W
Black Volta road bridge (Buipe).....	8°48'N, 1°34'W
Bososo (Bosusu).....	6°18'N, 0°25'W
Brimsu reservoir	5°13'N, 1°16'W
Bui rapids	8°16'N, 2°16'W
Bunso (Bunsu).....	6°17'N, 0°28'W
Cape St Paul	5°49'N, 0°57'E
Christianborg, Accra.....	5°32'N, 0°11'W
Denkera (Denkyera) ³	5°59'N, 1°45'W
Densu river, near Accra	5°31'N, 0°20'W
Fantee (Fanti) ⁴	c. 5°10'N, 1°12'W
Fort Victoria, Cape Coast	5°7'N, 1°15'W
Game (Afegame) Mt.....	6°36'N, 0°31'E
Hwini river, Takoradi	4°53'N, 1°47'W
Jamestown Harbour, Accra	5°31'N, 0°12'W
Kafaba ⁵	8°29'N, 0°44'W
Kazarako (Kayereku), Denkera region	5°36'N, 1°38'W
Klouto, Togo.....	6°57'N, 0°34'E
Korle river mouth, Accra.....	5°31'N, 0°13'W
Kpota	6°17'N, 0°48'E
Kulnaba (or Kologo), S of Navrongo (Hall 1980)	10°44'N, 1°5'W
Kulpawn–White Volta confluence.....	10°29'N, 1°4'W
Kwissa (Kwisa).....	6°17'N, 1°30'W
Kwobia (Kpabiya) ⁶	9°15'N, 0°15'W
Labadi beach, Accra	5°33'N, 0°9'W
Lartey (Lateh).....	5°56'N, 0°4'W
Madina, Legon.....	5°41'N, 0°10'W
Mamfe	5°56'N, 0°7'W
Monse hills (Kunsimua hill) ⁷	6°10'N, 1°26'W
Muni lagoon (Muni-Pomadze), Winneba	5°19'N, 0°40'W
Navasco (Navrongo secondary school).....	10°55'N, 1°3'W
Ningo hill.....	6°3'N, 0°11'E
Osu, Accra	5°32'N, 0°11'W
Oti (Otti) lake, Dumbai.....	8°4'N, 0°14'E
Panbros salt pans	5°31'N, 0°19'W
Pra Anum FR.....	6°15'N, 1°10'W
Quamin-fio ⁸	Not precisely located

Songaw (Songor) lagoon	5°49'N, 0°28'E
Tampiong reservoir.....	9°35'N, 0°40'W
Techiman.....	7°35'N, 1°56'W
Tesano, Accra.....	5°33'N, 0°13'W
Totope, near Songor lagoon.....	5°46'N, 0°33'E
Volta river mouth.....	5°45'N, 0°40'E

¹Abrobonko is the type locality of *Artomyias ussheri*, collected by Mosse on 14 Jan 1871. The locality was well-known at the time; Shelley & Buckley (1872, p. 282) wrote of the roads out of Cape Coast: “the other, leaving the town westward, leads to Denkera, by way of Abrobonko and Bula” (the last place not traced). Abrobonko is between Cape Coast and Elmina, on the lower Sweet (Kakum) river (M. LeCroy *in litt.*), the mouth of which is at 5°6'N, 1°19'W.

²Akwapim (Aguapim) is an extensive area of escarpment. Grimes (1987) mentioned it in his gazetteer under Akropong. “Akwapim”, without elaboration, was the type locality of *Dendropicos gabonensis lugubris* and *Ceyx lecontei ruficeps*, both described by Hartlaub. Collections were made by Basel missionaries based at Akropong, and it is likely that all records from that period relate to the Akropong area.

³Denkera was an important collecting area and the type locality of *Bostrychia rara*, *Bubo shelleyi*, *Apaloderma narina constantia*, *Zoothera p. princei*, *Onychognathus fulgidus harterti*, *Parmoptila r. rubrifrons* and *Malimbus scutatus rubropersonatus*. Grimes (1987, p. 15) suggested that Denkera “almost certainly refers to the area inland from the coast, bordering the Ivory Coast and stretching as far north as Wiawso, through which the river Tano flows”. I believe this situates Denkera too far west. In 1870–1, when S.T.D. Aubinn collected the above birds for H.T. Ussher, the latter was Administrator, based at Cape Coast. Denkyira was a region of the Akan empire, centred on the gold-rich area inland from and essentially north of Elmina (see Bannerman 1948, p. 115 footnote, and Fage 1992, p. 137). The holotype of *O. f. harterti* is from Fort Denkera, Fantee, and the holotype of *B. rara* is labelled from the “Orfee” river, Denkera. These two would seem to be from the area of Dunkwa, on the Offin river. For practical purposes, therefore, “Denkera” can be taken as the region centred on Dunkwa at 5°59'N, 1°45'W. Support for this comes from another collecting locality of that period, namely Kazeraku (Keyeraku), at 56'N, 1°38'W, midway between Cape Coast and Dunkwa, on the road taken in those days to the gold mines further north.

⁴Denkera was in “the interior of Fanti” (or Fantee), itself the type locality of some 25 avian taxa. Fante was originally a kingdom around Mankesim, just east of Saltpond. In 1868 an enlarged Fante Confederation was founded there (Fage 1992), while Ussher was Administrator. “Fanti” as understood by Ussher can thus be considered to be the region inland from Cape Coast and Elmina, within which the present-day Kakum National Park and other protected areas preserve much of the forest environment.

⁵Kafaba is further north than the Akwapim Hills, the area suggested by Grimes (1987: *Campethera cailliautii*).

⁶Kwobia is the type locality of *Glaucidium perlatum albiventer*, collected by Boyd Alexander, whose account (Alexander 1902, see map p. 279) shows that his Kwobia is what is today Kpabiya, and not to be confused with Kwobirra at 9°44'N, 1°6'W).

⁷Monse hills. This is another of Boyd Alexander's collecting localities, shown on his map, and clearly what is also known as Kunsimua hill, near Kwissa.

⁸Quamin-fio was some 10 miles inland from Accra, whence recorded *Caprimulgus natalensis* amongst other species (Shelley & Buckley 1872, p. 285); it is perhaps the same as Kwaman at 5°47'N, 0°10'W.

For comments on a draft of this note I thank L.G. Grimes, and Mrs M. LeCroy (American Museum of Natural History).

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Reviews — Revues

Field Guide to the Birds of Western Africa, by N. Borrow & R. Demey, 2004. 512 pp., 148 col. plates, numerous maps. Christopher Helm, London. ISBN 0-7136-6692-7, paperback, £29.99.

This is the field edition of *Birds of Western Africa*, by the same authors and publisher, which appeared in 2002 (see *Malimbus* 24: 45–47, 2002), hereafter “handbook”. The present work, 2 cm smaller all round, with 60% of the price and pages, and one more plate than the handbook, most importantly weighs less than half of what the hardback handbook does, at just less than 1 kg.

Geographical coverage is unchanged, W Africa by the authors’ definition extending southeast to Congo Republic. All bird species recorded or claimed from the region are illustrated in colour, as are distinctive sex, age and infraspecific plumages (but sometimes without saying which ssp. is illustrated). Ten plates are new and many amended, including filling up the emptier ones of the handbook. All are of course smaller so some show the birds quite tiny, but they are fine for identification purposes. Nomenclature, taxonomy and distribution are updated to 2004, and some common names have been changed, mostly sensibly and to reflect common usage. Many of the maps are more detailed, not just updated it seems. This is a great improvement, as the maps are one’s primary reference to the distributional literature when in the field.

The major omission from the handbook is the bulk of the text, unnecessary for field identification. In this work, 453 of the 512 pages are devoted to plates, descriptions and maps. Brief identification texts face the plates, as in the handbook, and the maps, which were placed on text pages in the handbook, are now grouped on map plates interspersed every few pages with the colour plates. The species texts are mostly of 3–5 lines each, giving the main identification points for each plumage phase, habitats, habits where these aid identification and voice where distinctive, usually with a reference to Chappuis (2000, *African Bird Sounds*, Société d’Etudes Ornithologiques de France, Paris). In some cases identification texts over-run their page and are continued on the accompanying map plate, which should be merely a minor inconvenience. On the whole, I think the arrangement will work well in the field, and of course one can now take the book in a large pocket, whereas the handbook was heavy even for a backpack.

The remaining pages carry introductory sections on how to use the book, climate, topography, habitats, restricted-range species and Endemic Bird Areas in W Africa, and at the end, brief lists of key regional references and indexes of scientific and English names. No Family names are used, whereas I would like to have seen these in the page headers along with the English group-names.

There are a few slips, such as on p. 11 in the review of taxonomic changes with respect to the handbook ("*Cinnyris obscura*" becomes "*Cinnyris olivaceus*", whereas the genus is *Cyanomitra* in both books), and on p. 18 the description of the Cape Verde Islands is 90° out, since the western islands, both north and south, are the mountainous ones. However, I didn't spot many such errors, and field testing would be necessary to pick up slips in the species texts; I couldn't find any on a random pass through.

At last we have what we have all been waiting for: a comprehensive field guide to W African birds.

Alan Tye

Society Notices — Informations de la Société

No elections to WAOS Council

Following the call for comments on the proposal for elections to WAOS Council (*Malimbus 27*: 49–50), the results were disappointing. Only nine WAOS members replied and, of these, five were members of WAOS Council. Although seven of those who replied indicated that they would prefer elections to be held, the tiny response indicates that, in fact, an attempt to hold elections would not meet with an adequate response either. Council must therefore take this as an indication that the membership is happy with the way the Society is being run, and with the co-option of officers to Council by existing members of Council, as necessary.

There is an immediate need to replace two current Council members, who have indicated their wish to step down. Prof. C.H. Fry will vacate the position of Vice-President as soon as convenient, while R.E. Sharland would like to give up the post that he has held for more than 40 years, of Treasurer and Membership Secretary (*Malimbus 27*: 50–51). If any member has suggestions of suitable persons, who must be WAOS members, to fill these posts, please let the Secretary, Roger Wilkinson, know (Zoological Gardens, Chester CH2 1LH, U.K. <r.wilkinson@chesterzoo.co.uk>).

WAOS Council

Pas d'élections au Conseil de la SOOA

La consultation sur la proposition relative à des élections au Conseil de la SOOA (*Malimbus 27* : 49-50) a donné des résultats décevants. Seulement neuf membres de la SOOA ont répondu et, parmi eux, cinq étaient membres du Conseil de la SOOA. Bien que sept des membres ayant répondu aient indiqué qu'ils préféreraient la tenue d'élections, le faible nombre des réponses indique qu'en fait, une tentative d'organiser des élections n'obtiendrait pas une participation adéquate. Le Conseil doit ainsi considérer qu'il y a là un signe de ce que les membres sont satisfaits de la manière dont la Société est conduite, et de la cooptation de nouveaux membres du Conseil par les membres du Conseil en place lorsque c'est nécessaire.

Dans l'immédiat, il est nécessaire de remplacer deux membres du Conseil de la SOOA (*Malimbus 27*: 49–50), qui ont manifesté le désir de se retirer. Le Professeur C.H. Fry se démettra de son poste de Vice-Président dès que possible, cependant que R.E. Sharland souhaiterait être déchargé du poste qu'il occupe depuis plus de 40 ans, de Trésorier et Secrétaire chargé du fichier des adhérents (*Malimbus 27*: 50–51). Tout membre ayant des noms à suggérer de personnes susceptibles de remplir ces fonctions

et membres de la SOOA est invité à en informer le Secrétaire, Roger Wilkinson (Zoological Gardens, Chester CH2 1LH, U.K. <r.wilkinson@chesterzoo.co.uk>).

Conseil de la SOOA

Stephen Marchant, 1912–2003

Stephen Marchant, who made an important contribution to knowledge of the birds of Nigeria, died in Australia on 30 August 2003.

Stephen was in S Nigeria 1940–1 and again from 1946–9. He published two important papers on his observations and collections of the birds of S Nigeria (Marchant 1942, 1953), as well as an interesting commentary on Upper and Lower Guinea forest avifaunas (Marchant 1954). He was the first to find *Stizorhina finschi* in Nigeria, and his detailed field description (Marchant 1942: 169–170) contained the pertinent comment that “these habits suggest a member of the Muscicapidae, and are not at all what one would expect from *Neocossyphus*.” He also added *Dendropicos gabonensis*, *Andropadus ansorgei*, *Apalis rufogularis*, *Muscicapa caerulescens*, *Myioparus griseigularis*, *Megabyas flammulatus*, *Dyaphorophya concreta*, *D. tonsa*, *Laniarius leucorhynchus*, *Anthoscopus flavifrons* to the Nigerian avifauna (Marchant 1942, 1953), several of these not the easiest birds to identify in the field.

Stephen maintained very strict standards of identification; for example, although he believed he had identified *Malimbus cassini* (Marchant 1942) he later added (Marchant 1953: 67) that he had failed to confirm it, and that whenever he thought he had collected one, it turned out to be *M. malimbicus*. He doubted that *M. cassini* occurred in Nigeria (a doubt now widely shared), and his comments ought to be borne in mind regarding claims that *M. cassini* occurs further west still (e.g. Grimes 1987). His reservations about field identification in Nigeria of *Muscicapa ussheri* (Marchant 1966) have not been heeded. He had a good ear for vocalisations, noting for example that *Nectarinia verticalis* included imitations in its song. He made interesting observations on the behaviour of *Melichneutes robustus* (Marchant 1953: 51); incidentally, his record from Umuagwu was the same as that mentioned by Bannerman (1951) from Owerri, so only one locality is concerned and not two as suggested by Elgood *et al.* (1994). His detailed field notes and selective collection of specimens (Marchant 1953) were a model of responsible ornithology. Bannerman (1951) made frequent mention of the value of Stephen’s contribution.

Stephen Marchant is remembered in the name *Illadopsis cleaveri marchanti* (Serle 1956: 22). He himself named two new subspecies: *Indicator minor pallidus* (Marchant 1950: 25) and *Macrosphenus kempfi flammeus* (Marchant 1950: 26), both from Umuagwu, Owerri Division, Nigeria. White (1950: 43) named *Anthreptes collaris nigeriae* from a specimen collected by Marchant at Owerri in 1949.

Stephen Marchant was awarded the Union Medal of the British Ornithologists' Union in 1971, for his eminent services to ornithology. "Few members of the B.O.U. can have exploited their travels with greater ornithological distinction" (*Ibis* (1971) 113: 403–404). Stephen and his wife Mary settled in Australia in 1963. Those who, like us, had the pleasure of staying with them at Moruya in New South Wales, will remember Stephen's enthusiasm for and knowledge of the local birds he studied. Obituaries detailing Stephen's enormous contribution to Australasian ornithology have been published by Davies (2004) and Fullagar (2004).

I am grateful for help from Stephen's daughter Sarah.

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Instructions aux Auteurs

Malimbus publie des Articles, des Notes Courtes, des Revues de Publications et des Nouvelles & Lettres traitant de l'ornithologie ouest-africaine.

Les **Articles** et les **Notes Courtes** doivent être des apports originaux; ceux déjà publiés ailleurs, en partie ou en totalité, seront normalement refusés. Les Notes Courtes sont des articles de moins de 1500 mots (références comprises) ou de trois pages imprimées. Autant que possible, les manuscrits auront été auparavant soumis au moins à un ornithologue ou biologiste pour un examen minutieux. Les manuscrits seront envoyés pour critique à au moins un lecteur compétent.

Les textes des **Nouvelles & Lettres** ne devraient dépasser 1000 mots.

Les **textes** sont acceptés en anglais et en français; la Rédaction pourra aider les auteurs dont la langue maternelle n'est pas l'une de celles-ci. Nous préférons les envois de manuscrits par e-mail (pièce jointe). Pour les envois sur papier, les textes seront tapés en deux exemplaires, d'un seul côté de la page, avec double interligne et larges marges. Consultez l'Éditeur pour tout détail supplémentaire, p. ex. les logiciels compatibles.

Tous les Articles (mais non les Notes Courtes) comporteront un **Résumé**, n'excédant pas 5% de la longueur totale. Le Résumé mentionnera brièvement les principaux résultats et conclusions de l'Article et ne sera pas un simple compte rendu du travail. Les résumés seront publiés à la fois en anglais et en français et seront traduits au mieux par la Rédaction.

Les **conventions** concernant les tableaux, les chiffres, le système métrique, les références, *etc.* peuvent être trouvées dans ce numéro et doivent être soigneusement suivies. Notez en particulier que les dates s'abrègeront comme 2 fév 1990 mais les mois écrits seuls pourront s'écrire en entier; que les heures s'écriront comme 6h45, 17h00; que les coordonnées s'écriront comme 7°46'N, 16°4'W; que les nombres jusqu'à dix s'écriront en entier, excepté devant une unité de mesure (p. ex. 6 m), que les nombres à partir de 11 s'écriront en chiffres sauf au début d'une phrase. Toute référence citée dans l'article, et aucune autre, doit figurer dans la bibliographie.

Les **articles d'avifaune** doivent comprendre une carte ou une liste des localités citées. Ils devraient donner quelques détails sur le climat, la topographie, la végétation et l'environnement (y compris les événements inhabituels) avant ou durant l'étude (p. ex. pluies tardives, *etc.*). Les **listes d'espèces** ne devraient contenir que des données importantes: les listes complètes ne sont justifiées que pour les régions encore non étudiées ou délaissées pendant longtemps. Autrement, ne citer que les espèces sur lesquelles l'étude fournit de nouveaux faits sur la répartition, la période de séjour, la reproduction, *etc.* Pour chaque espèce, indiquer l'extension de l'aire, une estimation d'abondance (*Malimbus* 17: 38) et les données datées sur la reproduction; indiquer le statut migratoire et la période de séjour seulement telles qu'elles ressortent de l'étude. Eventuellement, remplacez les faits dans le contexte en les comparant brièvement avec une liste régionale de référence. Les longues listes d'espèces peuvent être sous forme de tableaux (p. ex. *Malimbus* 25: 4–30, 24: 15–22, 23: 1–22, 1: 22–28, or 1: 49–54) ou sous forme de texte des derniers numéros. La **séquence taxonomique** et les **noms scientifiques** (et de préférence aussi les **noms vernaculaires**) devraient suivre Borrow & Demey (2004, *Field Guide to the Birds of Western Africa*, Christopher Helm, London), ou Dowsett & Forbes-Watson (1993, *Checklist of Birds of the Afrotropical and Malagasy Regions*, Tauraco Press, Liège) ou The Birds of Africa (Brown *et al.* 1982, Urban *et al.* 1986, 1997, Fry *et al.* 1988, Keith *et al.* 1992, Fry & Keith 2000, 2004, Academic Press, London), à moins de donner les raisons de s'écarter de ces auteurs. Un **guide plus complet aux auteurs** d'articles sur l'avifaune, comprenant une notation d'abondance des espèces la plus conseillée, est publié dans *Malimbus* 17: 35–39. On peut en obtenir une copie de la Rédaction, qui se fera aussi un plaisir d'offrir ses conseils sur la présentation de ce genre d'études.

Les **figures** doivent être préparées pour une reproduction directe, permettant une réduction de 20–50%. Pour le dessin des Figures, tenir compte du format de *Malimbus*. On préfère les figures préparées sur logiciel graphique approprié et sauvegardées en haute définition. Elles doivent être envoyées comme fichiers de logiciel graphique, et ne pas être incluses dans un fichier de texte. Les fichiers de faible définition et les sorties sur imprimantes de mauvaise qualité seront refusés. On encourage les auteurs à soumettre des **photographies** qui illustrent des points importants de leurs articles. Les photographies doivent être bien contrastées (par être publiées en monochrome) et de haute définition (au moins 600 dpi). Elles doivent être envoyées comme fichier de logiciel graphique (par ex. jpg ou tif) et non pas être incluses dans un fichier de texte. Consulter le Rédacteur pour tout renseignement.

Dix **tirés-à-part** des Articles (mais non des Notes courtes) seront envoyés gratis à l'auteur ou à l'auteur principal. Les tirés-à-part sont de simples extraits de la revue.

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MALIMBUS

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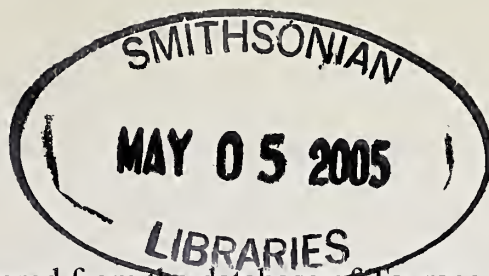
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The Society grew out of the Nigerian Ornithologists' Society, which was founded in 1964. Its object is to promote West African ornithology, especially by publishing its journal *Malimbus* (formerly the *Bulletin of the Nigerian Ornithologists' Society*).

Applications for Membership are welcome. Annual subscriptions are £10 (€17) for Ordinary Members (individuals) and £25 (€39) for Corporate Members (libraries and other organisations). Payments may be made in £ Sterling to the Treasurer, or in Euro to the President. Ordinary Members receive *Malimbus* by surface mail, Corporate Members by airmail, free of charge. An extra charge is made for airmail to Ordinary Members (enquire of the Treasurer for rate).

Back Numbers: Vols 11–14 (1975–78) of the *Bulletin of the Nigerian Ornithologists' Society* (A5 format, as *Malimbus*) are available at £2 per issue (£4 per volume) or £15 a set. *Malimbus* Vols 1–9 are available at £3 per issue (£6 per volume) and Vol. 10 onwards at £5 per issue (£10 per volume). A full set of *Malimbus* Vols 1–26 may be purchased at the reduced price of £195. Postage and packing are free. Please enclose payment with your order, which should be addressed to the Treasurer.

W.A.O.S. Research Grants: guidelines for applicants may be found in *Malimbus* 25: 72–75, and can be obtained from the Secretary to Council, to whom applications should be sent.



This index has been prepared from the database of Tauraco a.s.b.l., Liège, Belgium.

I. Systematic Names

As with previous indexes, names have usually been standardised to those of Dowsett R.J. & Forbes-Watson A.D. (1993, *Checklist of Birds of the Afrotropical and Malagasy Regions*, Tauraco Press, Liège), which includes most commonly encountered synonyms. Some synonyms are included below, where there might otherwise be confusion. Entries are in the form "volume:page". The method of database sorting used means that although volumes are in numerical order under each species, this is not always the case for pages within each volume.

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Format of tabular material, numbers, metric units, references, *etc.* should match recent issues. Note particularly: dates are written 2 Feb 1990 but months standing alone may be written in full; times of day are written 6h45, 17h32 and coordinates in the form 7°46'N, 16°4'E (no leading zeros); numbers up to ten are written in full, except when followed by abbreviated units (*e.g.* 6 m), numbers from 11 upwards are written in figures except at the beginning of a sentence. All references mentioned in the article, and only such, must be listed in the bibliography.

Avifaunal articles must contain a map or gazetteer, including all localities mentioned. They should include brief notes on climate, topography, vegetation, and conditions or unusual events prior to or during the study (*e.g.* late rains *etc.*). **Species lists** should include only significant information; full lists are justified only for areas previously unstudied or unvisited for many years. Otherwise, include only species for which the study provides new information on range, period of residence, breeding *etc.* For each species, indicate migratory status, period of residence (as shown by the study), range extensions, an assessment of abundance (*Malimbus* 17: 36) and dated breeding records. Where appropriate, set data in context by brief comparison with an authoritative regional checklist. Lengthy species lists may be in tabular form (*e.g.* *Malimbus* 25: 4–30, 24: 15–22, 23: 1–22, 1: 22–28, or 1: 49–54) or in the textual format of recent issues. **Taxonomic sequence** and **scientific names** (and preferably also **vernacular names**) should follow Borrow & Demey (2002, *Birds of Western Africa*, Christopher Helm, London), or Dowsett & Forbes-Watson (1993, *Checklist of Birds of the Afrotropical and Malagasy Regions*, Tauraco Press, Liège) or *The Birds of Africa* (Brown *et al.* 1982, Urban *et al.* 1986, 1997, Fry *et al.* 1988, 2000, Keith *et al.* 1992, Academic Press, London), unless reasons for departure from these authorities are stated. A **more complete guide for authors** of avifaunal papers, including the preferred abundance scale, appeared in *Malimbus* 17: 35–39; a copy may be obtained from the Editor, who will be happy to advise on the presentation of specific studies.

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