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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 & Marteijn (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.

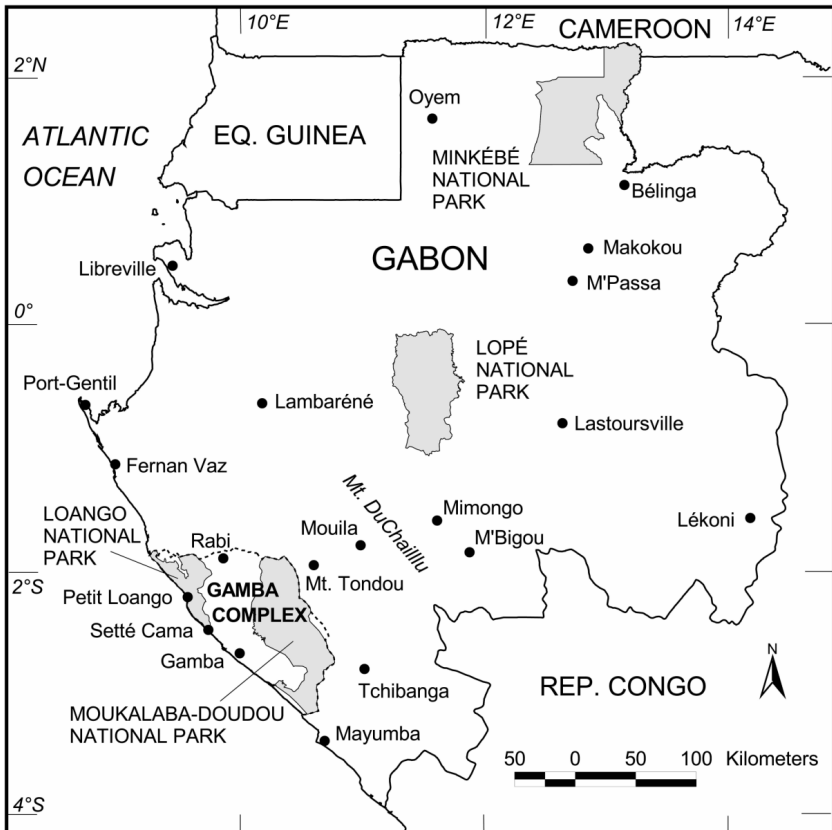


Figure 1. Gabon, showing localities mentioned in the text.

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-Ndogo, 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.

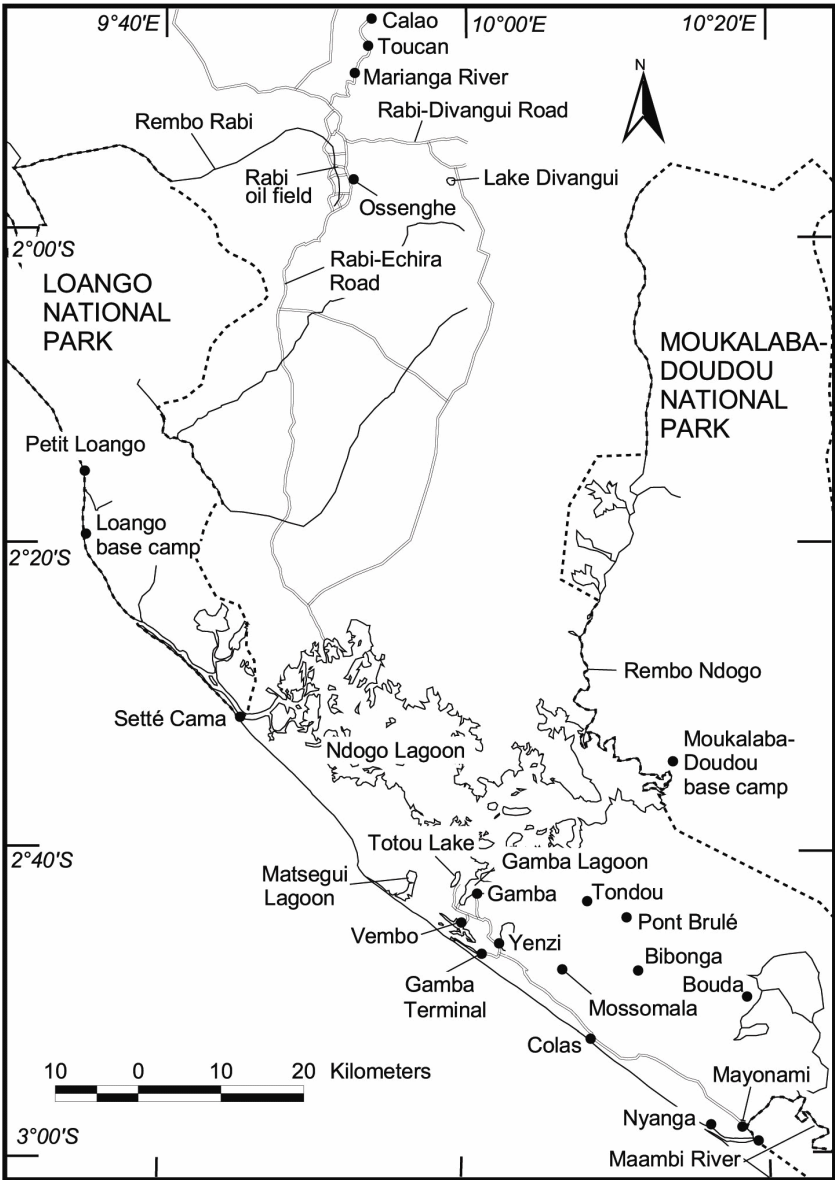


Figure 2. The Gamba area, showing localities mentioned in the text.

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 & Marteijn (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 (Moukoulaba-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 Guinea fowl		Usr	U	Fr
<i>Guttera plumifera</i> Plumed Guinea fowl		R ¹		
Rallidae				
<i>Himantornis haematopus</i> Nkulengu Rail				R
<i>Canirallus oculeus</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 gulielmi</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 anelli</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 duchailui</i> Yellow-spotted Barbet	F	Fr	Ur	Cr
<i>Tricholaema hirsuta</i> Hairy-breasted Barbet	Cr	Cr	C	Cr
<i>Trachylaema 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>Pseudochelidon 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 erythrorhox</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. brunescens</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>Hyltiota violacea</i> Violet-backed Hyltiota		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. cyanoaema</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 sabini</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 melpada</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 sturmi* 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 Divangué 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 Guineafowl, 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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