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## Birds of the Rio Del Rey estuary, Cameroon

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### Summary

During nine 80-km river censuses from December 1978 to May 1979 and in July 1983, plus other observation periods, 68 water-related bird species were recorded in Cameroon's Rio del Rey estuary. Numbers of species and individuals were greatest during the dry season, when Palaearctic and regional migrants were present. Avocets *Recurvirostra avosetta* were seen in January and February, and a flock of up to 500 Lesser Flamingos *Phoeniconaias minor* was seen on five different occasions (December-May).

### Résumé

Au cours de neuf parcours fluviaux de 80 km, de décembre 1978 à mai 1979 et en juillet 1983, complétés par d'autres observations, nous avons noté dans l'estuaire du Rio del Rey au Cameroun 68 espèces d'oiseaux liées au milieu aquatique. C'est durant la saison sèche que le nombre d'espèces et d'individus étaient au maximum, tandis que les migrateurs paléarctiques et régionaux étaient présents. Des Avocettes *Recurvirostra avosetta* furent observées en janvier et février et un vol comptant jusqu'à 500 Petits Flamants *Phoeniconaias minor* fut vu à cinq reprises différentes, de décembre à mai.

### Introduction

The Rio del Rey estuary is a large area (several thousand km<sup>2</sup>) of creeks and mangrove swamps between the Cross River in Nigeria and Mt Cameroon. Until a new road was completed in 1985, travelling by river boat through these channels and up the Ndi'an River was the only way to reach the town of Mundemba and what is now the Korup National Park. Several observers have mentioned individual bird species seen in the Rio del Rey (Serle 1950, 1954, 1965, Louette 1981), and a draft

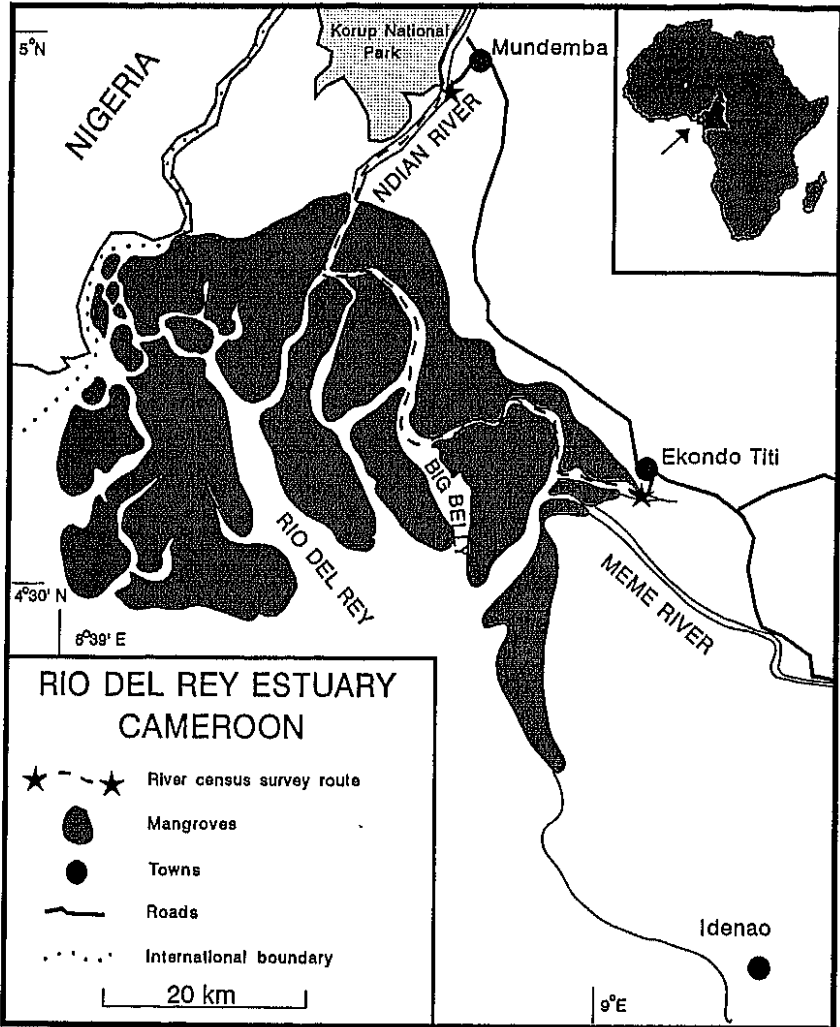


Figure 1. The Rio del Rey estuary, Cameroon, showing the census route. Inset: location within Africa and Cameroon.

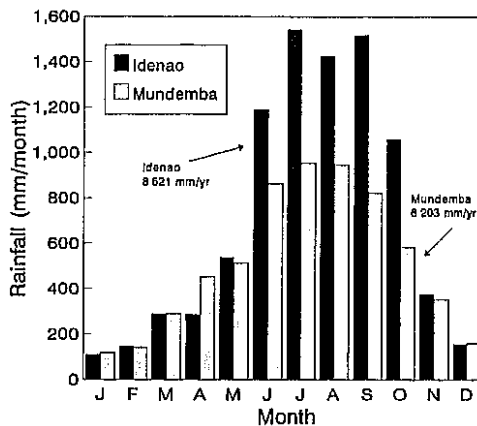
management plan for the Korup National Park (Gartlan undated) listed birds found in the general vicinity. Tye (1987) has suggested that the estuary may be of international importance as a wintering site for Palaearctic waders. However, no one has written specifically about the Rio del Rey area.

In 1978 and 1979 I travelled frequently to Mundemba; on eight of those river trips and on one trip in 1983 I recorded birds seen from the boat. The route from Ekondo Titi to Mundemba was approximately 80 km (Fig. 1), and the journey usually lasted about eight hours.

### Study Area and Methods

Numerous creeks and channels flow through the mangrove swamps of the Rio del Rey estuary, joining to form broad channels such as the one known as "Big Belly", which has extensive mudflats at low tide (Fig. 1). Upstream from the mangroves, the river is bordered by mixed mangroves and forest (shown as mangroves in Fig. 1) and finally by primary rain forest. The river is tidal up to Mundemba; above that point, it borders the Korup National Park and is fast-flowing and seasonally very variable in volume (Thomas 1991).

The climate is warm and humid, with a high annual rainfall that ranges from 6203 mm at Mundemba to 8623 mm at Idenao, 50 km south of the study area (Fig. 2). December to February is the driest part of the year, and June to October the wettest.



**Figure 2.** Precipitation at Idenao, 50 km south of the study area, and at Mundemba (Ndian Plantation), based on data from Griffiths (1972) for a period of 10-11 years,

I attempted to record all bird species seen on each trip, and on some trips I tried to count every bird. However, several factors limited these observations. The boat kept to the centre of the channel; therefore many smaller birds were undoubtedly under-represented (*Anthreptes gabonensis* and *Fraseria cinerascens*, in particular; English names may be found in the Appendix). Similarly, birds swimming under overhanging vegetation (e.g. *Pteronetta hartlaubii* and *Podica senegalensis*) may have been missed at times.

Observations were sometimes irregular or inconsistent; during wet-season trips when few birds were present, I sometimes rested for parts of the afternoon. The different times and tidal conditions also affected the species and numbers of birds recorded. Birds were censused only during December to July, although on one August trip I noted that there were "not many birds".

## Results and Discussion

### Total species and numbers

The Appendix shows the 58 bird species identified during the nine river censuses, plus ten other species recorded during other river trips or from shore, for a total of 68. Only birds typically found near water or at the forest edge are included here; forest species such as bulbuls are excluded (but see Thomas 1991).

The censuses in the Appendix are organized by month rather than year. Total numbers of species ranged from a high of 44 on 13 February to a low of six in July. Similarly, total bird counts varied. On 13 February I counted at least 307 individual birds (excluding over 500 flamingos). Eleven days later the number was 115, and in July the count was only 28 individuals.

Numbers of both resident and migrant species increased as the dry season progressed, to the 13 February maximum (Fig. 3). During the much lower count on 24 February (14 species), many of the usual forest edge species were missed because the boat passed the forest late in the day; in addition, the tide was high in the mangroves, and several sandbar/mudbank and other species were absent (Appendix, Fig. 3). Numbers were again fairly low for the April trip, when the boat passed the mangroves at night (18 species, mostly forest edge residents). On 2 May there were very few birds present (8 species seen), but I had malaria and probably missed some of the few that were there.

By the last two trips the weather was dull and grey, typical of the wet season, and few birds were present - 16 species on 25 May (mostly residents) and six on 5 July, when the tide in the mangroves was relatively high. All of the July birds were of resident species except one *Ardea melanocephala* which, according to Louette (1981), should be in southern Cameroon "at the peak of the dry season only". However, I have also seen this species on the Sanaga River southeast of Douala in July 1978.

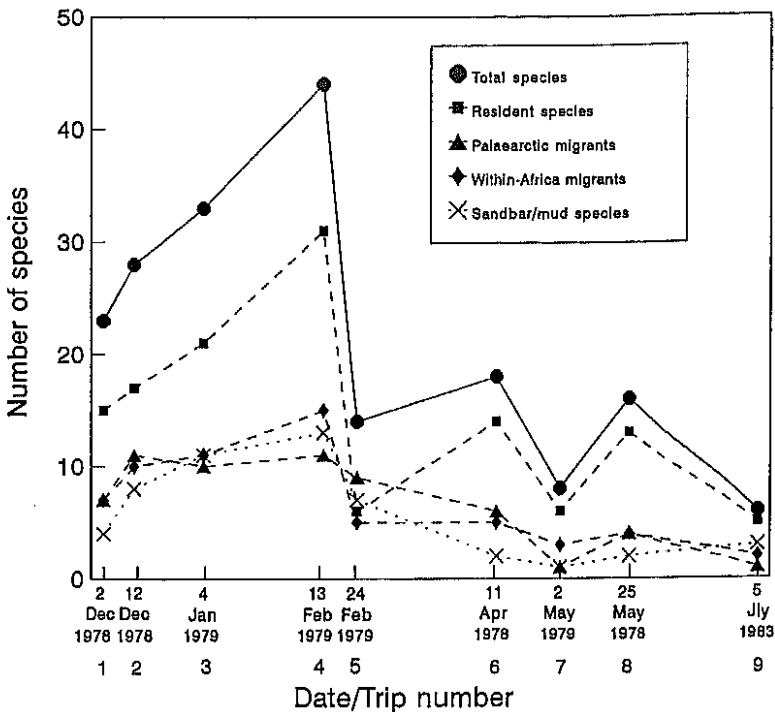


Figure 3. Total numbers of species seen during each census, plus numbers of resident species, Palaearctic and intra-African migrants, and species found primarily on sandbars or mudflats. Some species are included in more than one status category (Appendix), so numbers of resident, Palaearctic, and intra-African species often add up to more than the total species numbers. Many of the sandbar/mudflat species are also counted as migrants.

The numbers of resident, Palaearctic, and regional migrant species all changed with the seasons (Fig. 3). The fact that both resident and intra-African counts varied so dramatically suggests that the line between these categories is not distinct; in very wet parts of Africa even "resident" birds may make local movements.

#### Palaearctic waders

Six migrant wader species were identified during the censuses. They were most abundant during January and February; however, *Numenius phaeopus* and *Tringa nebularia* were first seen in December, and *Actitis hypoleucos* was present from December to April.

The large numbers of *Recurvirostra avosetta* seen during January and February are of interest. Urban *et al.* (1986) show this species occurring only in the far north of Cameroon; Louette (1981) mentions just one record for the coast. The birds recorded here were all on the mudflats near Big Belly; similarly, Hilary Tye (pers. comm.) saw five *R. avosetta* on a mudflat at the northern end of Big Belly in February 1984.

Tye (1987) has suggested that the Bight of Biafra may be a stopping place for waders migrating along the Atlantic coast to over-winter in Namibia. Most of the waders in this study were seen during the middle of the dry season (January-February) and therefore were unlikely to have travelled farther south. However, other birds may have passed earlier in the season. There were no March censuses, and in April and May very few migrants were seen.

#### Other seasonal variation

Other species present only during the drier part of the year included *Ardea cinerea*, which may be either a Palaearctic or a regional migrant (Louette 1981), and *A. goliath*, for which Louette gives only dry-season records in Cameroon; he believes it must nest outside the country. According to Brown *et al.* (1982), *Ciconia episcopus* (seen December-February) avoids the rains in wetter areas, and Louette (1981) reports few Cameroon observations during the rainy season. Brown *et al.* (1982) report that *Threskiornis aethiopica*, also seen December-February, moves farther north to breed during the rains. Serle (1965) noted it during November 1941 in the Rio del Rey.

A large flock of *Phoeniconaias minor* (up to 500 birds or more) was seen at Big Belly on five occasions. Although Louette (1981) lists this species as a "rare visitor to Cameroon", and mentions 2000 birds in the Rio del Rey in February-March of 1932, it appears that the Big Belly flamingos are often present; it would be interesting to know where these birds breed. Western Cameroon is the eastern extremity of the range for the West African population of this nomadic species (Brown *et al.* 1982).

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River Eagle – Aigle pêcheur – *Haliaeetus vocifer*  
Photo: Michael Gore



## Appendix

Numbers of birds censused during nine river journeys through the Rio del Rey estuary, Cameroon, Dec-May 1978-79 and July 1983.

Status within study area, based on literature:

- R = Resident
- P = Palaearctic migrant
- A = Migrates within Africa, or local movements.

Habitat, based on observations within study area:

- |               |                                     |
|---------------|-------------------------------------|
| Zone          | Habitat                             |
| M = Mangroves | W = Swimming in water               |
| F = Forest    | S = Sandbar, mudflat, or river edge |
|               | R = Rocks (upper river)             |
|               | V = Vegetation and branches (low)   |
|               | T = Trees (high)                    |
|               | A = Air, above river or forest      |
- Thus, FM-SV = found in forest and mangrove zones, on sandbars and in low vegetation.

Numbers of individuals are listed where counted. S = "several to many"; p = "present"

**Key to trips**

Observation zone: Man = mangroves and mudflats; For = forested river.

Tide: H = high; M = medium; L = low; H-M = high, falling to medium, etc.).

Trip	1	2	3	4	5
Date	2 Dec 1978	12 Dec 1978	4 Jan 1979	13 Feb 1979	24 Feb 1979
Zone	Man For	For Man	Man For	For Man	Man For
Time	8-11	11-17	9-13	8-11	12-16
Tide	?	H-M	H	M-L	M-H
Weather	sun	sun	sun/haze	sun/haze	sun/clouds
Trip	6	7	8	9	
Date	11 Apr 1978	2 May 1979	25 May 1978	5 Jul 1983	
Zone	[Man] For	For Man	Man For	Man For	
Time	night	7-11	10-14	14-18	
Tide	?	H-M	?	M-H	
Weather	night	sun	grey	grey	rain

	Trip									
	1	2	3	4	5	6	7	8	9	X
Status	1	2	3	4	5	6	7	8	9	X
Habitat	1	2	3	4	5	6	7	8	9	X
2 Dec 1978	12 Dec 1978	4 Jan 1979	13 Feb 1979	24 Feb 1979	11 Apr 1978	2 May 1979	25 May 1978	5 Jul 1983	undated	
1978	1978	1978	1979	1979	1979	1978	1979	1983		
Long-tailed Cormorant <i>Phalacrocorax africanus</i>	RA	M-SV	2	2	2					
Anhinga <i>Anhinga melanogaster</i>	R	M-SV	p	2		p	p	p	1	
Pink-backed Pelican <i>Pelecanus nigrescens</i>	RA	M-A	6+	1						
Bittern <i>Botaurus stellaris</i>	P	M-V	p							
Squacco Heron <i>Ardeola ralloides</i>	PA	FM-SV	p	6+	14+	1	4+		p	
Cattle Egret <i>Bubulcus ibis</i>	RA	F-T								
Green-backed Heron <i>Eurostrelia striata</i>	R	FM-V	p	4+	p	7	2	2	p	

X: other observations on the river, undated. Includes only species not recorded during census trips.



Whimbrel <i>Nansenius phaeopus</i>	P	F-S	5+	P	2	5+		P
Greenshank <i>Tringa nebularia</i>	P	M-S	2+	40	1	18		
Green Sandpiper <i>T. ochropus</i>	P	S						
Wood Sandpiper <i>T. glareola</i>	P	M-S		15				
Common Sandpiper <i>Actitis hypoleucos</i>	P	FM-S	S	P	24+	22+	P	
Royal Tern <i>Sterna maxima</i>	A	A		P				
Green Pigeon <i>Treron calva</i>	R	F-T			12			
Grey Parrot <i>Psittacus erithacus</i>	R	A	P	P	5+	9	P	P
Red-headed Parrot <i>Poicephalus gulielmi</i>	R	A	P	P				
Great Blue Turaco <i>Corythaeola cristata</i>	R	T	P	8+	3			
Sabine's Sparrow <i>Rhopaidana sabini</i>	R	A		P				P
Palm Swift <i>Cypsiurus parvus</i>	R	A						
European Swift <i>Apus apus</i>	P	A						
Grey-headed Kingfisher <i>Halcyon leucoccephala</i>	RA	F-V	1					P
Woodland Kingfisher <i>H. senegalensis</i>	RA	FM-V	S	P	13	2+	P	3
Pygmy Kingfisher <i>Ceyx picta</i>	RA	FM-V	P		1			
Malachite Kingfisher <i>Corythornis cristata</i>	R	F-V	2+					
Shining-blue Kingfisher <i>Aleedo quadrifasciatus</i>	R	FM-V		P	8	2+		
Giant Kingfisher <i>Megacerthya maxima</i>	R	F-V	P	P	1	2+	P	
Pied Kingfisher <i>Ceryle rudis</i>	RA	FM-V			1	1		
Broad-billed Roller <i>Eurystoma glaucurus</i>	RA	T		2+	6			
Pied Hornbill <i>Tockus fuscatus</i>	R	T	P		2	P		
Piping Hornbill <i>Certhopygia fuscolator</i>	R	T	P	P	12	P		
Black-casqued Hornbill <i>C. carata</i>	R	T	P	P	3			
Yellow-casqued Hornbill <i>C. elata</i>	R	T	P	P	2	P		
White-throated Blue Swallow <i>Hirundo nigrita</i>	RA	F-V		P				
European Swallow <i>H. rustica</i>	P	A	P	P	S	S	S	
Cassin's Grey Flycatcher <i>Muscicapa cassini</i>	R	F-V	P		1			P

	R	F-V	P	P	S	P	P
White-browed Forest Flycatcher <i>Fraseria cinerascens</i>	R	F-V					
Mouse-brown Sunbird <i>Anthreptes gabonensis</i>	R	F-V	P				
Vieillot's Black Weaver <i>Ploceus nigerrimus</i>	R	A			S	P	
Pied Crow <i>Corvus albus</i>	R	T			3		
<b>SPECIES PER TRIP (Total = 68)</b>			23	28	33	44	14
							18
							8
							32
							114
							307
<b>Total individuals, if counted*</b>			-	83	-	307	114
							32
							-
							28
							-

\*For the sake of comparison, "p" is counted as 1, "S" as 2, and "+" as an additional 1. The flamingo flock is excluded from the total of individuals.