

## The birds of the Lesio-Louna and Lefini Reserves, Batéké Plateau, Republic of Congo

by Tony King

The Aspinnall Foundation, Port Lympne Wild Animal Park, Hythe, Kent CT21 4PD,  
U.K. <tonyk@aspinnallfoundation.org>

Received 27 April 2009; revised 14 January 2011.

### Summary

This paper summarises all known information regarding the avifauna of the Lesio-Louna and Lefini Reserves of the Republic of Congo. Located in the Batéké Plateau region, the major habitats are open *Loudetia* grassland and lightly wooded *Loudetia* or *Hyparrhenia* grassland, with gallery and swamp forests along water-courses and patches of dry forest on higher ground. Observations and mist-netting were undertaken between 2002 and 2007, with 264 species recorded. One subspecies represents a new record for Congo: the intra-African migrant Pygmy Kingfisher *Ceyx pictus natalensis*, which occurs sympatrically with a resident subspecies. Fifty-nine species are newly published for the reserves, of which the most notable include White-crested Tiger Heron *Tigriornis leucolophus* (on nest), Black-breasted Snake Eagle *Circaetus pectoralis*, African Marsh Harrier *Circus ranivorus*, Chestnut-flanked Sparrowhawk *Accipter castanilius*, Wahlberg's Eagle *Aquila wahlbergi*, Grey Kestrel *Falco ardosiaceus*, Peregrine Falcon *F. peregrinus*, Bronze-winged Courser *Rhinoptilus chalcopterus*, African Skimmer *Rynchops flavirostris*, Horus Swift *Apus horus*, Black-backed Barbet *Lybius minor*, Red-throated Cliff Swallow *Hirundo rufigula*, Orange-tufted Sunbird *Cinnyris bouvieri*, Holub's Golden Weaver *Ploceus xanthops* and Zebra Waxbill *Amandava subflava*. These species additions bring the total of species known for the reserves to 317, which includes 74 Guineo-Congolian and five Zambezian biome species, reinforcing the categorisation of the Batéké Plateau as the northern limit of the Guinea-Congolian/Zambezian transition zone.

### Résumé

**Les oiseaux des Réserves de Lésio-Louna et Léfini, Plateau Batéké, République du Congo.** Cet article résume toutes les connaissances concernant l'avifaune des Réserves de Lésio-Louna et Léfini de la République du Congo. Situés dans la région du Plateau Batéké, les habitats principaux sont la prairie

à *Loudetia* et la savane herbeuse faiblement boisée à *Loudetia* ou *Hyparrhenia*, avec des forêts-galerie et forêts de marécages le long des cours d'eau et des tâches de forêts sèches sur les reliefs. Des observations et la pose de filets de bagueur ont été réalisées entre 2002 et 2007, avec 264 espèces enregistrées. Une sous-espèce est nouvelle pour le Congo: le Martin-pêcheur pygmée *Ceyx pictus natalensis*, migrateur africain, qui est sympatrique avec une sous-espèce résidente. Cinquante-neuf espèces sont publiées pour la première fois pour ces réserves, dont les plus notables incluent l'Onoré à huppe blanche *Tigriornis leucolophus* (au nid), le Circaète à poitrine noire *Circaetus pectoralis*, le Busard grenouillard *Circus ranivorus*, l'Autour à flancs roux *Accipiter castanius*, l'Aigle de Wahlberg *Aquila wahlbergi*, le Faucon ardoisé *Falco ardosiacus*, le Faucon pèlerin *F. peregrinus*, le Courvite à ailes bronzées *Rhinoptilus chalcopterus*, le Bec-en-ciseaux d'Afrique *Rynchops flavirostris*, le Martinet horus *Apus horus*, le Barbican de Levaillant *Lybius minor*, l'Hirondelle à gorge fauve *Hirundo rufigula*, le Souimanga de Bouvier *Cinnyris bouvieri*, le Tisserin safran *Ploceus xanthops* et le Bengali zébré *Amandava subflava*. L'addition de ces espèces porte le total des espèces connues pour les réserves à 317, dont 74 espèces pour le biome Guinéo-Congolais et cinq espèces pour le biome Zambézien, ce qui renforce le placement du Plateau Batéké en limite Nord de la zone de transition Guinéo-Congolaise/Zambézienne.

## Introduction

The Lesio-Louna and Lefini Reserves lie c. 140 km north of Brazzaville in the Republic of Congo (hereafter referred to as Congo) (Fig. 1). The two reserves form part of the Batéké Plateau, an area of rolling savanna and patchy forest extending from southeast Gabon across central Congo and extending into the Democratic Republic of Congo (hereafter referred to as DRC). This region is well-known amongst ornithologists for the unique diversity of its avifauna (Dowsett-Lemaire 1997a, 2001, Christy 2001), which may be attributed to the diversity of forest and grassland-woodland habitats in the area. These varied habitats support elements of both the Guinea-Congo forest biome and Zambezian (southern grassland/woodland) biome avifaunas (Fishpool & Evans 2001). The richness of the savanna avifauna of the Batéké Plateau was one of the principle reasons for the classification of the Lesio-Louna and Lefini Reserves of Congo (Dowsett-Lemaire 2001) and the Bombo-Lumene Game Reserve in DRC (Demey & Louette 2001) as "Important Bird Areas" (IBAs), and for the creation of the Batéké Plateau National Park (BPNP) in Gabon.

Despite the internationally recognised diversity and importance of the Batéké Plateau avifauna, in reality very little is known about it. The main reports available for Gabon give 267 species for the zone around Léconi, and 255 species for the BPNP (P.

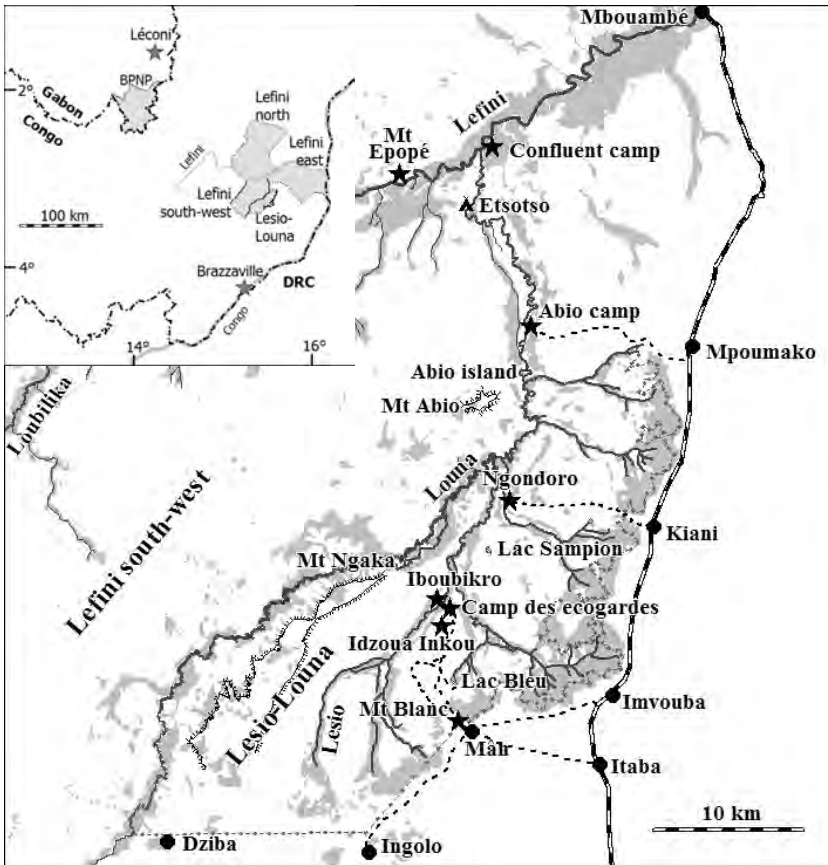


Figure 1. Inset: protected areas (shaded) within the Batéké Plateau region of Congo and Gabon. Main map: survey sites and other localities in the Lesio-Louna and southwest Lefini Reserves, with forest cover shaded in light grey, watercourses in dark grey, selected villages as black spots, tracks as dotted lines, and the major National Road 2 as a thick dashed line to the east of the reserves.

Christy and T. King unpubl.). In Congo, Dowsett-Lemaire (1997a) gave a list of 240 species for the “Lefini Reserve”, in fact based primarily on a week-long visit to the Lesio-Louna Reserve, since when a further 16 species have been published (King *et al.* 2004, King 2007, 2008a, King & Chamberlan 2007, Rainey *et al.* 2009). King *et al.* (2004) also provided information on timing of moult amongst forest and savanna birds, based on a small mist-net survey during 2002.

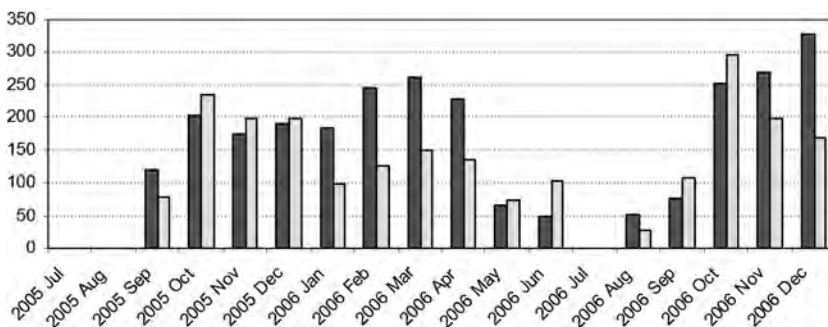
The aim of this paper is to summarise all known information regarding the avifauna of the Lesio-Louna and Lefini Reserves in Congo, including records of another 59 species newly published for the reserves, with notes on seasonality, breeding, moult and morphological measurements collected during the period 2002–7.

### Study sites

The Lefini Reserve was created in 1951, covering *c.* 400,000 ha, and was enlarged to 630,000 ha in 1963, to include a large area east of the previous limits, stretching to the Congo River (Fig. 1). The Lesio-Louna Reserve is an area of 44,000 ha adjacent to the eastern boundary of the southwest portion of the Lefini Reserve (Fig. 1), created in 1993 through an agreement between The Aspinall Foundation of the U.K. and the Ministry of Forest Economy of the government of Congo, as a sanctuary for the reintroduction of gorillas orphaned by the illegal bush-meat trade. It was upgraded to a Natural Reserve by Presidential Decree in 1999.

The two reserves range from 300 m to 750 m in altitude. The major habitats are open *Loudetia* grassland and lightly wooded *Loudetia* or, especially on the remaining plateaus and in damp valley bottoms, *Hyparrhenia* grassland, with gallery and swamp forests along the water-courses and some patches of dry forest on higher ground (Fig. 2, on p. 9; Dowsett-Lemaire 1997a, King *et al.* 2004). Much of the wooded grassland is dominated by *Hymenocardia acida*, while other woody species present include *Annona senegalensis*, *Bridelia ferruginea*, *Gardenia ternifolia*, *Syzygium guineense* var. *macrocarpum*, *Maprounea africana*, *Chaetocarpus africanus*, *Nauclea latifolia*, *Strychnos* spp., *Vitex* spp. and *Albizia adianthifolia*. *Xylopia* spp., *Raphia* sp. and *Uapaca* spp. are amongst the dominant species of gallery and swamp forest, while dry mixed forest is often characterised by *Piptadeniastrum africanum*. The reserves support a mix of forest and savanna mammals (King 2008b, King & Dallimer 2010).

The climate of the reserves is similar to that elsewhere on the plateau, with a dry season from late May to September, the heaviest rains in October–November and March–April, with a drier period around January–February (Dowsett-Lemaire 1997a). Rainfall and temperature were measured from June to mid-December 2002 at Iboubikro (the base camp for the Lesio-Louna Reserve; summary in King *et al.* 2004), and then rainfall was measured from July 2005 onwards at both Iboubikro and the Confluent camp (at the confluence of the Louna and Lefini rivers in the Lefini Reserve) (Fig. 3). A long dry season in 2005, with no rain at all in August and the first big rains of the wet season on 20 September, resulted in savanna fires burning further into forest areas than normal. The year 2006 showed a surprisingly large difference in rainfall between the two sites, with Iboubikro receiving a relatively high 2013 mm, and the Confluent camp 1483 mm. By totalling the mean monthly rainfall for all available data from 2002 to 2006, an average annual rainfall for the two reserves can be estimated as 1660 mm.



**Figure 3. Rainfall (mm) for Ibobikro in the Lesio-Louna Reserve (dark grey bars) and Confluent in the Lefini Reserve (pale grey), July 2005 to Dec 2006.**

### Methods

Observations were made in the two reserves from February 2002 to April 2007, principally in areas close to the main camps of the Lesio-Louna management project, particularly Ibobikro, Camp des ecogardes, Confluent camp, Abio, Ngondoro and Mt Blanc (Fig. 1), and the vehicle and river access routes between them. Observations included species, maximum group size noted (1, 2, 3–9, 10–29, 30–99, 100+), evidence of breeding (breeding or non-breeding plumage, on nest, feeding juveniles, carrying nest material *etc.*) and any other notable information.

Mist-netting was carried out only in the Lesio-Louna Reserve, in 2002 (results summarised in King *et al.* 2004), very briefly in 2003, then again from late 2005 to early 2007. Most netting was carried out close to Ibobikro (named “Base-Vie” in King *et al.* 2004), and the nearby sites of Camp des ecogardes and Idzoua Inkou (Fig. 1). In 2002 (and briefly in 2003), netting was also carried out at Ngondoro, and briefly at Lac Bleu. Habitats surveyed included gallery forest interior, forest–savanna transition, and lightly wooded savanna. Generally, 3–5 nets (6 x 2.5 m, 38 mm mesh) were set at a time, almost always at 0.5–5 m from the ground. Birds captured were identified (and sexed and aged by plumage characters if possible) using Borrow & Demey (2001). Mass was measured using spring balances to the nearest 1 g, except heavy birds where stated to the nearest 5 g. Wing length was measured to the nearest mm, using a wing-rule and flattening the primaries gently against the rule (following Svensson 1992). Tail length was measured with the reverse side of the wing-rule, to the base of the tail feathers above the under tail-coverts (unless otherwise stated). Other measurements were taken using a pair of dial callipers, such as bill length to feathering, bill length to skull, tarsus, body length and total length, but are not presented in this paper. Notes on brood patch were recorded from November 2005 onwards. Moulting of flight and tail feathers was noted throughout the sampling period. Each flight and tail feather was

assessed, and a bird was recorded as being in moult if at least one primary feather was either growing or still had a sheath. Birds were marked with a water-based pen on the underside of the wings, to allow identification of recaptured birds for up to several weeks after capture (the longest recorded time between captures being 16 weeks).

Sequence and nomenclature follow Borrow & Demey (2001), with some corrections based on Borrow & Demey (2004). Subspecific identifications are given when determined, as the habitat is atypical of the central African region as a whole and therefore range assumptions based on geographic locality can be unreliable. Brief notes are given on distribution, habitat types, seasonality and breeding, plus a summary of information from netted birds (638 netted birds representing 86 species). Measurements are given in mm, except mass which is in g; measurements of four or more birds are summarised as range (mean  $\pm$  standard deviation).

All observations are by the author except where otherwise referenced; other information is only included when it adds to an understanding of the species' status, and is always referenced. All species known from the reserves are included; those not recorded by the author are placed in square brackets, and those newly published for the reserves are marked with an asterisk (*i.e.* species not included in Dowsett-Lemaire 1997a, King *et al.* 2004, King 2007, 2008a, King & Chamberlan 2007, or Rainey *et al.* 2009). Photographs of many species are online at <[http://carpe.umd.edu/resources/Documents/King\\_2009\\_PhotoGuide\\_oiseaux\\_birds.pdf/view](http://carpe.umd.edu/resources/Documents/King_2009_PhotoGuide_oiseaux_birds.pdf/view)> or on request to the author.

Status is assessed as: R = resident, M = intra-African migrant, P = Palaearctic migrant, V = rare visitor. An assessment of abundance is given for resident species using the following scale: Abundant (> 10 may be seen or heard in suitable habitat per day), Common (1–10 may be seen or heard in suitable habitat per day), Frequent (often seen but not every day), Uncommon (several records per year), Rare (one record per several years). Site locations are given in Fig. 1 and Table 1.

## Results

### Podicipedidae

*Tachybaptus ruficollis* Little Grebe. R. Singles or pairs at Iboubikro seasonal ponds Oct–Nov, Jan–Feb (2004, 2005) and Lac Bleu Nov (2006); small groups at Lac Bleu Jul 2004 (five birds), Jul 2005 (seven); breeding plumage Nov.

### Anhingidae

*Anhinga rufa* African Darter. R/M? Uncommon. Lefini, Louna and Lesio rivers, Feb–Aug. Singly except for a pair resident at Abio island Jul 2006. Also Lac Sampion (Dowsett-Lemaire 1997a).

### Ardeidae

*Ixobrychus m. minutus* Little Bittern. P. One photographed in riverside vegetation at Etsotso on the Louna River, 8 Jan 2007. Also one immature in a marsh in the Lesio-Louna, Nov (Dowsett-Lemaire 1997a).

**Table 1. Gazetteer of locations in or near the Lesio-Louna and southwest Lefini Reserves mentioned in the text.**

|  | S      | E       |
|--|--------|---------|
| Abio camp                                | 3° 6′  | 15° 31′ |
| Abio island                              | 3° 8′  | 15° 31′ |
| Camp des ecogardes                       | 3° 16′ | 15° 29′ |
| Confluent camp (Lefini-Louna confluence) | 2° 59′ | 15° 30′ |
| Dziba                                    | 3° 25′ | 15° 19′ |
| Ekassaka                                 | 3° 1′  | 15° 28′ |
| Epopé                                    | 3° 1′  | 15° 27′ |
| Etsotso                                  | 3° 2′  | 15° 29′ |
| Iboubikro                                | 3° 16′ | 15° 28′ |
| Idzoua Inkou                             | 3° 17′ | 15° 28′ |
| Kiani                                    | 3° 13′ | 15° 36′ |
| Lac Bleu                                 | 3° 19′ | 15° 29′ |
| Lac Sampion                              | 3° 14′ | 15° 30′ |
| Loubilika-Lefini confluence              | 3° 2′  | 15° 16′ |
| Mâh                                      | 3° 21′ | 15° 30′ |
| Mbouambé                                 | 2° 55′ | 15° 38′ |
| Mpoumako                                 | 3° 7′  | 15° 37′ |
| Mt Abio                                  | 3° 2′  | 15° 30′ |
| Mt Blanc (near Mâh)                      | 3° 20′ | 15° 29′ |
| Mt Epopé                                 | 3° 1′  | 15° 27′ |
| Mt Ngaka                                 | 3° 15′ | 15° 26′ |
| Ngondoro                                 | 3° 12′ | 15° 31′ |
| Port Albert                              | 3° 10′ | 15° 32′ |

\**Tigriornis leucolophus* White-crested Tiger Heron. R. Rare. One on a nest consisting of a few twigs on a fork in a small branch overhanging the Louna River (Fig. 4), c. 3 m above river, near Abio, Oct–Nov 2006, first observed 17 Oct. A single chick hatched 19 Nov (N. Ngoulou pers. comm.). The first record for the Batéké Plateau.

[*Gorsachius leuconotus* White-backed Night Heron. R? Lac Bleu from 15 Jun 1975 (Dowsett & Dowsett-Lemaire 1989). Gallery forest (Dowsett-Lemaire 1997a).]

*Nycticorax nycticorax* Black-crowned Night Heron. R. Uncommon. Up to three together on the Louna River near Etsotso, 13 Apr and 20 Jul 2003, and Abio island, Mar 2007.

*Ardeola ralloides* Squacco Heron. P. Singles observed four times, 25 Oct 2006, 2 Dec 2005, 3 Dec 2004, 2 Mar 2004, Iboubikro ponds and Lefini river.

*Bubulcus ibis* Cattle Egret. R. Widespread, frequent. Breeding plumage Nov.

\**Butorides striata* Green-backed Heron. R. Frequent. Singles along Louna River Nov–Jun, also Iboubikro ponds and Lefini river. Juvenile Feb.

*Egretta garzetta* Little Egret. P. Singles observed twice, Nov, Dec, Iboubikro ponds and Confluent camp.

\**E. intermedia* Intermediate Egret. R/M? Singles or small groups, Iboubikro and Louna River, Nov–Dec. First record for Batéké Plateau, but common in Brazzaville (pers. obs.).

*E. alba* Great Egret. P. Singles: Iboubikro ponds, Dec 2004; Mt Blanc, Jan–Feb 2005.

*Ardea purpurea* Purple Heron. R. Frequent. Resident on Louna and Lefini rivers; visitor to Iboubikro ponds, Oct–Dec. Juveniles Apr, Oct.

*A. cinerea* Grey Heron. P. Singles at Iboubikro ponds and Louna River, Feb–Mar 2003.

### **Scopidae**

*Scopus umbretta* Hamerkop. R. Singles or pairs all year along Louna River and at Iboubikro ponds; groups of 3–5, Jul–Oct. Common on Louna River, less so on Lefini River, confirming preference for open rather than forested habitats (Brown *et al.* 1982).

### **Ciconiidae**

*Ciconia abdimii* Abdim's Stork. M. Large migratory flocks, sometimes of thousands of birds, Feb–May (earliest 6 Feb 2007; latest 14 May 2005), especially along Louna and Lefini rivers.

\**C. episcopus* Woolly-necked Stork. V/M? One observed on a small sand bank along the Lefini River opposite Confluent camp, 22 Nov 2004. A pair reported from Lesio-Louna Reserve, probably Iboubikro, 5–12 Jul 1998 (M. Akangala unpubl.).

*C. ciconia* White Stork. V. Two birds in freshly burnt grassland half-way up the escarpment of Epopé, along the Lefini River, 21 Dec 2004 (Rainey *et al.* 2009). First record for Batéké Plateau, the second for Congo (Mokoko Ikonga & Bokandza-Paco 2001, Rainey *et al.* 2009).

### **Threskiornithidae**

*Bostrychia rara* Spot-breasted Ibis. R. Frequently heard at dawn and dusk flying over gallery forests.

### **Anatidae**

\**Pteronetta hartlaubii* Hartlaub's Duck. R/V? One flushed along Lefini River c. 3 km west of the confluence with the Louna, 15 Oct 2003.

*Sarkidiornis melanotos* Knob-billed Duck. R/V? Two at Iboubikro ponds, 5 Jun 2006. One along the Louna River, 20 Nov 2004 (C. Chamberlan pers. comm.). Also reported at Iboubikro in Aug (Dowsett-Lemaire 1997a).

*Nettapus auritus* African Pygmy Goose. R/V? Group of three on Lefini River east of Confluent camp, 29 Dec 2002. One male and two females on an ox-bow lake at Abio, 7 Jan 2007. Also reported at Iboubikro, Apr (Dowsett-Lemaire 1997a).

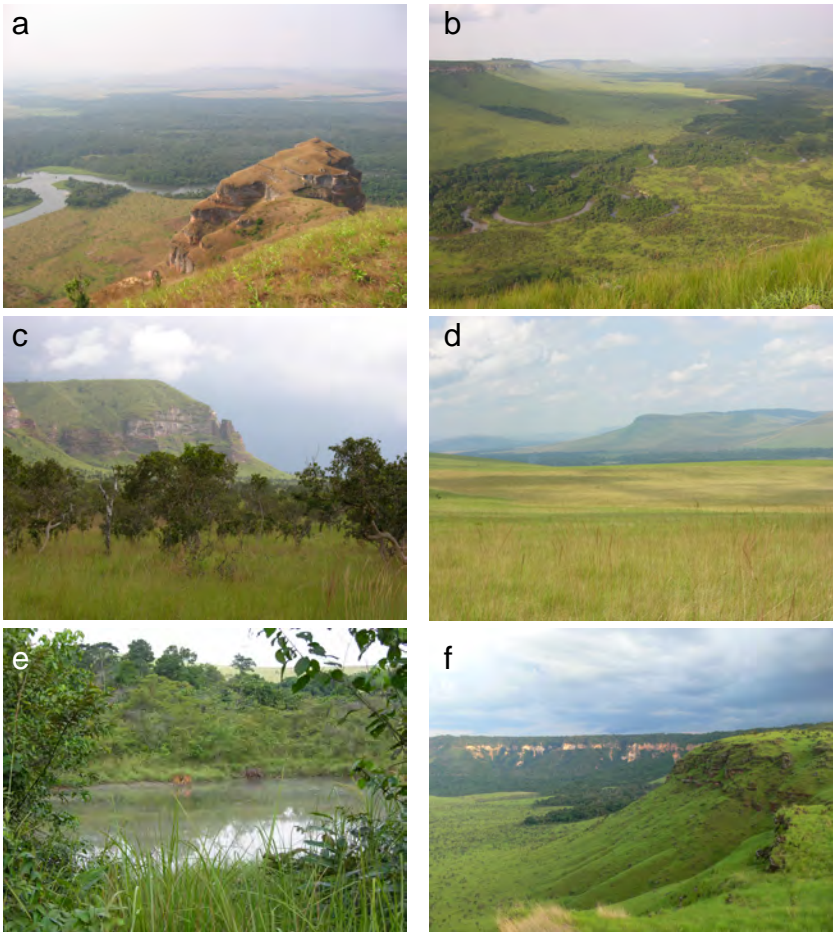
### **Pandionidae**

\**Pandion haliaetus* Osprey. P. One fishing at Lac Bleu, 31 Jan 2005. One perched along the Louna River south of Abio island, 16 Oct 2006.

### **Accipitridae**

\**Aviceda cuculoides* African Cuckoo Hawk. R. Uncommon. Singles along Louna River, Jun and Oct 2005, and at Camp des ecogardes, Dec 2005.





**Figure 2.** Views of the Lesio-Louna and Lefini Reserves: (a) Lefini gallery forest looking southeast from Mt Epopé; (b) Louna gallery forest looking north from Mt Ngaka towards Mt Abio; (c) *Loudetia* grassland with scattered *Hymenocardia acida* trees near Mt Epopé; (d) *Loudetia* grassland between Mpoumako and Abio; (e) seasonal ponds at Iboubikro; (f) cliff forests near Mâh from ridge above Lac Bleu. Photos: (a) A. Sully, (b–e) T. King, (f) P. King.

\**Pernis apivorus* European Honey Buzzard. P. One adult in typical plumage feeding in a tree at the confluence of the Lefini and Louna rivers, 15 Nov 2003. Further observations in the same area during Dec 2003 and Jan 2006.



**Figure 4. White-crested Tiger Heron on nest overhanging the Louna river, near Abio island, 2006. Photo: T. King.**

*\*Macheiramphus alcinus* Bat Hawk. R? Two at Idzoua Inkou, 25 May 2006.

*Elanus caeruleus* Black-shouldered Kite. R. Singles frequently observed Sep–Mar, especially on Mâh plateau.

*Milvus migrans* Black Kite. R/M? Frequent. Widespread, singly or in small groups, all year (except May, Nov–Dec).

*Haliaeetus vocifer* African Fish Eagle. R. Uncommon along the Louna and Lefini rivers, all year. Juveniles Oct and Feb.

*Gypohierax angolensis* Palm-nut Vulture. R. Frequent. Singly or in groups of two, along the Lefini, Louna and Lesio rivers, Dec–Jul. Juveniles Feb–Mar, May.

*\*Circaetus pectoralis* Black-breasted Snake Eagle. R/M? One photographed soaring over open grassland between Abio and Mpoumako, 5 Feb 2007. Few records in Congo: one collected Brazzaville, 15 Sep 1939 (Malbrant & MacLatchy 1949), and a pair in SW Congo, Sep and Nov 1990 (Dowsett-Lemaire *et al.* 1993).

*Terathopius ecaudatus* Bateleur. R. Uncommon. Singles or pairs in the Abio area, Sep–Dec, Mar. Juvenile with two adults, Oct.

*Polyboroides typus* African Harrier Hawk. R. Frequent. Singles or pairs in wooded grassland and gallery forest throughout, Jun–Jan. Juvenile Dec. One adult landed on a



**Figure 5. Wahlberg's Eagle over the Louna River, 31 Mar 2007. Photos: T. King.**

dead tree in Lesio gallery forest to investigate holes of a colony of Sladen's Barbets, Nov 2006.

[*Circus pygargus* Montagu's Harrier. P? One observation in Jan (Dowsett-Lemaire 1997a).]

\**C. ranivorus* African Marsh Harrier. R/V? Singly at Mt Blanc marsh, 5 and 7 Jan 2006. Barred tail and rufous rump clearly seen. First record for Batéké Plateau, known in Congo only from the southwest (Loudima: Dowsett & Dowsett-Lemaire 1989) and the north (Odzala, one pair passing in Feb: Dowsett-Lemaire 1997b).

\**C. aeruginosus* Eurasian Marsh Harrier. P. Singles observed four times, two males and two females, at Mt Blanc marsh, Confluent camp, Abio and Etsotso marsh, 13 Jan



**Figure 6. Peregrine Falcon at Confluent camp, 6 Feb 2007. Photos: T. King.**

and 2 Dec 2004, 6 and 8 Feb 2007. Already recorded from the southwest (Kouilou region: Dowsett-Lemaire *et al.* 1993) and north (Odzala and Nouabalé-Ndoki: Dowsett-Lemaire 1997b, 1997c) of the country.

*Melierax metabates* Dark Chanting Goshawk. R. Singles frequently observed in wooded grassland near Idzoua Inkou. Carrying nesting material late Mar 2006. Pair Oct 2005.

*Accipiter tachiro* African Goshawk. R. One in heavily wooded grassland between Iboubikro and Mâh, 4 Jul 2005. Also in forest (Dowsett-Lemaire 1997a).

\**A. castanilius* Chestnut-flanked Sparrowhawk. R? One flying low over *Hymenocardia acida* trees in grassland between two gallery forest patches of the Lefini River, mobbed by Lesser Striped Swallows, 29 Dec 2003. Few records from Congo, known from the southwest (Goumina: Dowsett-Lemaire *et al.* 1993) and north (Odzala: Dowsett-Lemaire 1997b), while the closest record is probably Loukolela on the Congo River in DRC (Chapin 1932).

\**Urotriorchis macrourus* Long-tailed Hawk. R. Uncommon. Five singles observed, all at Confluent, Feb, Jun and Nov. Very vocal juvenile, several days in Nov 2004.

*Kaupifalco monogrammicus* Lizard Buzzard. R. Frequent. Singles in wooded grassland throughout, Jul, Dec–Feb.

*Buteo auguralis* Red-necked Buzzard. R. Frequent. Singles or pairs throughout, all year. In moult Feb.

[*Aquila rapax* Tawny Eagle. R. Breeding resident (Dowsett-Lemaire 1997a).]



**Figure 7. Finsch's Francolin, Lesio-Louna Reserve, Mar 2006. Photo: T. King.**



\**A. wahlbergi* Wahlberg's Eagle. M. One soaring above Louna River near Abio island, 31 Mar 2007 (Fig. 5): distinctive silhouette unmistakable. Few records in Congo. Satellite tracking demonstrated that a female of this species tagged in Namibia passed over Congo on both legs of her annual migration, in Apr and Aug 1994 (Meyburg *et al.* 1995), and an immature was seen in Odzala, 17 Aug 1994 (Dowsett-Lemaire & Dowsett 1998).

[*Lophaetus occipitalis* Long-crested Eagle. R? Forest (Dowsett-Lemaire 1997a).]

*Polemaetus bellicosus* Martial Eagle. R? Uncommon. One immature perched beside Louna River near Port Albert, 21 Jul 2006; two sightings of adults at Epopé (Lefini River) and Abio, Nov 2006 (Rainey *et al.* 2009). First records for Congo (Rainey *et al.* 2009), although already known from the Batéké Plateau in Gabon (Borrow & Demey 2001, pers. obs. Feb 2007).

### **Falconidae**

*Falco tinnunculus* Common Kestrel. R (and P?). Frequent. Singles and pairs in grassland and around rocky escarpments throughout, all year except May–Jun. Group of three Aug. The resident subspecies is richly coloured and thought to be *rupicolus* (Dowsett-Lemaire & Dowsett 1998). One bird perched in a savanna tree along the track between Mpoumako and Abio, 11 Mar 2007, appeared to have a plain (not barred) grey tail, and may have been of the Palearctic race *F. t. tinnunculus*, which is not yet confirmed for Congo but of which a specimen was collected in Kinshasa, DRC (Malbrant & Maclatchy 1949).

\**F. ardosiaceus* Grey Kestrel. R? One perched on a *Hymenocardia acida* tree in lightly wooded grassland near Lac Bleu, 4 Oct 2004. Few records in Congo, but known from the Batéké Plateau in Gabon (Borrow & Demey 2001).

\**F. peregrinus* Peregrine Falcon. R? One juvenile photographed at dusk at Confluent camp, 6 Feb 2007 (Fig. 6). The colours of the underparts and head (with apparent rufous nape) indicate the resident ssp. *minor*, while the highly vocal behaviour also suggests a local bird (D. Forsman *in litt.*). No resident populations previously reported in Congo, but considered resident in the Batéké Plateau in Gabon (Borrow & Demey 2001).

### **Phasianidae**

*Francolinus finschi* Finsch's Francolin. R. Frequent. Singles or pairs in *Loudetia* grassland, particularly on both tracks towards Mâh from Iboubikro, but also Mpoumako–Abio region and Camp des ecogardes (Fig. 7). Dowsett-Lemaire (1997a) estimated the species density in open *Loudetia* grassland at c. 1 pair/km<sup>2</sup>.

[*F. squamatus* Scaly Francolin. R. Forest and thickets (Dowsett-Lemaire 1997a).]

*F. afer* Red-necked Francolin. R. Frequent. Singles and pairs in grassland throughout, all year. Group of three Oct.

### **Numididae**

[*Guttera pucherani* Crested Guineafowl. R. Forest (Dowsett-Lemaire 1997a).]

\**Numida meleagris* Helmeted Guineafowl. R. Frequent. Singles and pairs in wooded grassland. Small group Jun. Regularly recorded by Reserve staff during monitoring activities. A group of nearly 50 reported in Lesio-Louna Reserve in 1998 (M. Akangala unpubl.).

**Turnicidae**

*Turnix sylvatica* Little Buttonquail. R? Frequent in grassland.

[*T. hottentotta* Black-rumped Buttonquail. R? Moist grassland (Dowsett-Lemaire 1997a).]

**Rallidae**

[*Sarothrura pulchra* White-spotted Flufftail. R. Gallery forest (Dowsett-Lemaire 1997a).]

[*S. rufa* Red-chested Flufftail. R. Marsh (Dowsett-Lemaire 1997a).]

*Crex egregia* African Crake. R/M? Frequent. Singles and pairs, especially in rank grassland along roads on plateau, Nov–May.

*Amaurornis flavirostris* Black Crake. R. One at Lac Sampion, 28 Aug 2002.

**Heliornithidae**

*Podica senegalensis* African Finfoot. R. Frequent. Singles all year, Louna River. Also on Lefini and Lesio rivers.

**Otididae**

*Eupodotis senegalensis* White-bellied Bustard. R. Common. Singles, pairs and small groups (usually 3–4) in grassland all year, especially Mpoumako to Abio. Small chicks Sep 2005. Side-striped Jackals *Canis adustus* often observed near family groups, probably hunting young birds.

*E. melanogaster* Black-bellied Bustard. R. Frequent. Singles and pairs in grassland all year (except May–Jun).

**Jacanidae**

*Actophilornis africana* African Jacana. R. Frequent. Singles and pairs all year, Iboubikro ponds (especially Jan–Jun) and Louna River; also Lefini River. Juveniles Feb–Jun.

**Glareolidae**

*Cursorius temminckii* Temminck's Courser. R/M? Frequent. Singles, pairs and groups (< 10) in grassland, often in recently burnt areas, Apr–Nov.

\**Rhinoptilus chalcopterus* Bronze-winged Courser. M? A pair in non-woody savanna between Kiani and Ngondoro, just before dusk, 21 Jan 2004. A singleton on the same savanna track around 19h30, 23 Jan 2004. Both sightings within several hundred metres of more heavily-wooded savanna. Few records in Congo, known only from Odzala, Dec–Jan (Dowsett-Lemaire 1997b) and a specimen in Brazzaville University from the “route du nord”, 20 Dec 1970 (Dowsett & Dowsett-Lemaire 1989). Malbrant & Maclatchy (1949) record it from “côte de Loango”, but Dowsett (1991) considers this location to be in Cabinda (Angola).

**Charadriidae**

*Vanellus lugubris* Lesser Black-winged Lapwing. R (and M?). Frequent. Grassland throughout. Singles and pairs all year; flocks (7–20), Dec–Apr.

**Scolopacidae**

\**Gallinago media* Great Snipe. P. One in a grassy marsh at Ngondoro, flushed four times, 8–9 Jan 2004. On each occasion flew silently and landed in the same marsh. Already known from the Batéké Plateau, Oct–Feb (Salvan 1972, Dowsett & Dowsett-Lemaire 1989).

\**Tringa nebularia* Common Greenshank. P. Singles, Iboubikro ponds, 28 Oct 2006, and Louna River, 6 Jan 2007.

[*T. glareola* Wood Sandpiper. P? Marsh (Dowsett-Lemaire 1997a).]

\**Actitis hypoleucos* Common Sandpiper. P. Singles, Louna and Lefini rivers and Iboubikro ponds, Jul–Apr, commonly from Sep. Group of three, Aug 2004.

### **Rynchopidae**

\**Rynchops flavirostris* African Skimmer. V. One pair skimming along the Lefini River at Confluent, 15 Jun 2003.

### **Columbidae**

*Treron calva* African Green Pigeon. R. Common in forest. Singles all year, small groups Oct–Jun, calling Aug–May. One netted in primary moult, Dec 2005: mass 190; wing 167; tail 89.

\**Turtur brehmeri* Blue-headed Wood Dove. R. Uncommon. Five singles observed along forested rivers: Loubilika River, 24 Aug 2003; Lefini River near Loubilika, 24 Aug 2003; near Confluent, 16 Feb 2006; Louna River near Abio island, 12 Jul 2006 and 14 Feb 2007.

*T. tympanistria* Tambourine Dove. R. Uncommon. Singles and pairs, Confluent and Iboubikro. One male netted in primary moult, Aug 2006: mass 80; wing 119; tail 90.

*T. afer* Blue-spotted Wood Dove. R. Common. Singles in wooded grassland and forest edges throughout, all year. Pairs Jan, Feb. Three netted: mass 59, 60, 68; wing 109, 111, 111; tail 85, 88, 91. In primary moult Feb.

[*Oena capensis* Namaqua Dove. V. One male, Sep (Dowsett-Lemaire 1997a).]

*Columba iriditorques* Western Bronze-naped Pigeon. R. Common. Singles and pairs in forest throughout, all year. Calling Oct–Feb. One female netted, Feb 2006: mass 125; wing 152; tail 102. Tail considerably longer than measurements given by Urban *et al.* (1986).

*C. uncinata* Afep Pigeon. R. Uncommon. Eight observations of singles, pairs or small groups, Lefini and Louna rivers, Confluent camp, Jan, Mar, Jul–Aug, Nov–Dec.

*Streptopelia semitorquata* Red-eyed Dove. R. Common. Singles, pairs and groups in wooded grassland and forest edges throughout, all year. One adult netted Jan 2006, in primary moult: mass 220; wing 180; tail 125.

\**S. capicola* Ring-necked Dove. R/V? Two singles: on track from Mâh to Imvouba, 19 Feb 2004; Camp des ecogardes, 13 Nov 2006. Resident elsewhere in the Batéké Plateau (Borrow & Demey 2001).

### **Psittacidae**

*Psittacus erithacus* Grey Parrot. R. Common. Singles, pairs, flocks up to 60, all year, in forest throughout, but especially Lefini River.

[*Agapornis pullarius* Red-headed Lovebird. V? Occasional flocks (Dowsett-Lemaire 1997a).]

### **Musophagidae**

*Corythaeola cristata* Great Blue Turaco. R. Uncommon. Singles or pairs in gallery forest along Louna, Lefini and Loubilika rivers, and at Lac Bleu. Pair Apr.

*Tauraco persa* Green Turaco. R. Frequent. Heard in forest throughout, seen occasionally, mainly along Louna river. Small group Nov.

[*Crinifer piscator* Western Grey Plantain-eater. V? One on Lesio River, Feb (Dowsett-Lemaire 1997a).]

### **Cuculidae**

*Oxylophus levaillantii* Levaillant's Cuckoo. M? Three singles, gallery forest and forest edge at Lefini River, hill above Lac Bleu and Camp des ecogardes, Jul, Sep, Dec.

*Cuculus solitarius* Red-chested Cuckoo. R. Singing in forest throughout, Sep–Mar.

*C. clamosus gabonensis* Black Cuckoo. R? One photographed along Louna River 9 Jan 2007.

*C. gularis* African Cuckoo. R/M? Two singles in wooded grassland, Jul, Nov.

[*Cercococcyx mechowi* Dusky Long-tailed Cuckoo. R. Forest (Dowsett-Lemaire 1997a).]

[*C. olivinus* Olive Long-tailed Cuckoo. R. (Dowsett-Lemaire 1997a).]

*Chrysococcyx cupreus* African Emerald Cuckoo. R. Singing in forest throughout, Aug–Feb.

[*C. klaas* Klaas's Cuckoo. R. Forest (Dowsett-Lemaire 1997a).]

\**C. caprius* Didric Cuckoo. R. Six singles in wooded grassland, Jan, Mar, Sep, Nov–Dec. Two males and two females netted, male in primary moult Nov: mass (m) 26, 32, (f) 36, 39; wing (m) 106, 112, (f) 114, 119; tail (m) 77, 77, (f) 80, 83. The two males showed great variation in the amount of white in the plumage (Fig. 8).

*Ceuthmochares aereus* Yellowbill. R. Frequent. Singles and pairs in forest or forest edge throughout, Mar, May, Sep–Oct, Dec.

*Centropus anselli* Gabon Coucal. R. Uncommon. Four singles in forest or forest edge, Iboubikro and Louna River, Jan, Mar, Oct.

*C. grillii* Black Coucal. R? Uncommon. Singles and pairs in dense grassland on Mâh plateau, Feb, Nov. Also near Etsotso marsh, Jan.

*C. senegalensis* Senegal Coucal. R. Frequent. Singles in wooded grassland and forest edges throughout, although no observations May–Aug.

\**C. monachus* Blue-headed Coucal. R? One juvenile at Iboubikro ponds, 3 Jul 2005. It was small for a coucal, with black tail, rufous back, streaky brown head and pale dirty white throat. First record for Batéké Plateau, although widespread in southern Congo (Dowsett & Dowsett-Lemaire 1989).

### **Tytonidae**

\**Tyto alba* Barn Owl. R? One between Mâh and Mt Blanc, 14 Dec 2005.

### **Strigidae**

[*Otus senegalensis* African Scops Owl. R? Included in an unpublished 1996 report by K. Bailey, D. Daramani, R.J. Dowsett and F. Dowsett-Lemaire.]

*Bubo africanus* Spotted Eagle Owl. R. Pair at Idzoua Inkou, 1 Mar 2004.

[*Scotopelia peli* Pel's Fishing Owl. R. Forested rivers (Dowsett-Lemaire 1997a).]

[*S. bouvieri* Vermiculated Fishing Owl. R. Swamp forest (Dowsett-Lemaire 1997a).]

[*Strix woodfordii* African Wood Owl. R. Forest (Dowsett-Lemaire 1997a).]



**Caprimulgidae**

*Caprimulgus natalensis* Swamp Nightjar. R. Abundant in grassland throughout. Three netted in 2002; mass (to nearest 5 g) 50, 50, 50; wing 141, 142, 142; tail 87, 88, 92. Smaller than measurements given in Fry *et al.* (1988) for *C. n. natalensis*, although they note that “Gabon birds are small”.

*C. climacurus* Long-tailed Nightjar. R/M? Camp des ecogardes, Nov 2005; grassland near the confluence of the Lefini and Louna rivers, Jun 2005.

[*C. fossii* Square-tailed Nightjar. R? Included in an unpublished 1996 report by K. Bailey, D. Daramani, R.J. Dowsett and F. Dowsett-Lemaire.]

[*C. pectoralis* Fiery-necked Nightjar. R. Forest edges and ponds (Dowsett-Lemaire 1997a).]

*Macrodipteryx vexillarius* Pennant-winged Nightjar. M. Common in grassland, Jul–Aug.

**Apodidae**

*Cypsiurus parvus* African Palm Swift. R. Common. Singles, pairs and small groups throughout, all year.

*Apus apus* Common Swift. P. Large flocks throughout, Sep–Mar; earliest 20 Sep, latest 29 Mar.

[*A. caffer* White-rumped Swift. R/V? Uncommon (Dowsett-Lemaire 1997a).]

\**Apus horus* Horus Swift. R/M? Small numbers at Abio camp, with large flock of Common Swifts and a few Little Swifts, 29 Mar 2007; probably previously overlooked. Known from the Batéké Plateau in Gabon (Borrow & Demey 2001, pers. obs. Feb 2007).

\**A. affinis* Little Swift. R. Large breeding colony at bridge over Lefini River in Mbouambé, on nest Feb; small numbers observed throughout reserves.

**Coliidae**

*Colius striatus* Speckled Mousebird. R. Small groups common around Mâh.

**Trogonidae**

[*Apaloderma narina* Narina’s Trogon. R. Forest (Dowsett-Lemaire 1997a).]

**Alcedinidae**

*Halcyon badia* Chocolate-backed Kingfisher. R. One in forest at Iboubikro, 8 Apr 2006.

*H. albiventris* Brown-hooded Kingfisher. R. Frequent. Singles in wooded grassland and forest clearings at Mt Blanc, Idzoua Inkou, Ekassaka, Confluent, and plateau near Mpoumako, Jan–Feb, Nov.

*H. leucocephala pallidiventris* Grey-headed Kingfisher. M. Singles in wooded grassland throughout, including Iboubikro camp, Idzoua Inkou, Mt Blanc, Etsotso. Of the 18 observations, 17 were during the period mid-Apr to early Aug, the other in Dec. Photos from Apr, May and Aug are clearly of the southern race *pallidiventris*, which has been reported as a non-breeding visitor in S Congo (Borrow & Demey 2001). No photo or description is available for the one observation in Dec 2005 at Idzoua Inkou.

*H. m. malimbica* Blue-breasted Kingfisher. R. Common. Calling in forest throughout, Oct–Apr. Three netted: mass (to nearest 5 g) 75, 80, 85; wing 106, 115, 117; tail 70, 79, 79.

*H. senegalensis fuscopileus* Woodland Kingfisher. R. Common. Singles and pairs all year, vocal and conspicuous at forest edges, especially along Louna and Lefini rivers and Iboubikro ponds. Groups of three Jan–Feb, Jun, Nov. Juvenile Nov. Three netted: mass 54, 55, 58; wing 95, 101, 104; tail 60, 65, 65.

*H. c. chelicuti* Striped Kingfisher. R. Frequent in wooded grassland in Lesio-Louna and on Mâh plateau. Singles all year except Apr–Jun; pair Dec.

*Ceyx lecontei* African Dwarf Kingfisher. R. One at Iboubikro ponds, 2 Dec 2006.

*C. pictus* African Pygmy Kingfisher. R and M. Common. Mostly the resident ssp. *ferruginus* or *pictus*, but also the migratory southern African *natalensis* (Fry *et al.* 1988). Forest edges throughout, including Iboubikro, Idzoua Inkou, Mt Blanc, Confluent. Singles all year; pairs Feb, Nov. Hunting dragonflies Feb. Sixteen *C. p. ferruginus* or *pictus* netted (all Aug–Feb, see Fig. 9 left): primary moult Dec; active brood patch Oct; juvenile Oct. Fifteen adults: mass 11–14 ( $12.3 \pm 0.9$ ); wing 50–54 ( $52.3 \pm 1.4$ ); tail 22–26 ( $24.9 \pm 1.0$ ); one juvenile (dark bill): mass 14; wing 54; tail 25. Four recaptured (including one twice), maximum distance *c.* 600 m. One *C. p. natalensis* netted (Fig. 9 right), identified by blue spot above the white blaze on side of neck, orange superciliary stripe broad at the rear, and deep bill (C.H. Fry, *in litt.*), apparently a young bird as it had dark markings at the base of its bill, 16 May 2006: wing 55 (longer than the *C. p. ferruginus/pictus*); mass 12; tail 23. First record of this subspecies in Congo.

[*Alcedo leucogaster* White-bellied Kingfisher. R. Swamp forest (Dowsett-Lemaire 1997a).]

*A. c. cristata* Malachite Kingfisher. R. Uncommon. One perched by ox-bow lake behind Abio camp, 8 Dec 2006; one at puddles in road along the northern limit of the Lefini Reserve, Feb 2007.

*A. quadribrachys guentheri* Shining-blue Kingfisher. R. Frequent. Lefini, Louna and Lesio rivers, Iboubikro ponds; singles throughout year. One male netted, 4 Nov 2005: mass 32; wing 79; tail 36; recaptured seven weeks later, same net.

*Megaceryle maxima* Giant Kingfisher. R. Singles and pairs, all year. Common along Lefini and Louna rivers, also Loubilika River and Iboubikro ponds.

*Ceryle r. rudis* Pied Kingfisher. R. Singles and pairs all year. Common along Lefini and Louna rivers. One aggressive interaction with a swimming cobra, Epopé, Lefini River, Jun 2005. Occasional visitor to ponds and lakes in the Lesio-Louna (Dowsett-Lemaire 1997a).

### **Meropidae**

*Merops breweri* Black-headed Bee-eater. R. Frequent. Singles and pairs all year. Small groups Feb, Jun, Nov. Forest edges, Louna and Lefini rivers, Iboubikro.

*M. gularis australis* Black Bee-eater. R. Frequent. Singles and pairs all year. Small groups Jan, Apr. Forest edges, Lefini, Louna and Lesio rivers, Iboubikro. Often at sandbank at Camp des ecogardes, Aug (nesting?). One netted, Jun 2002: mass 33; wing 99; tail 75. The large size of the netted bird confirmed the subspecific identity, with a distinct but ill-defined green superciliary stripe (Fig. 10), as Chapin (1939)

noted to occur occasionally in this subspecies. Recent texts claim the head of *australis* to be all black, except in W Africa towards the boundary of the subspecific limit with nominate *gularis*, which exhibits a clear blue supercilium (Fry *et al.* 1988, Hoyo *et al.* 2001, Borrow & Demey 2001).

*M. pusillus meridionalis* Little Bee-eater. R. Frequent in grassland from Iboubikro to Mâh. Singles and pairs all year, small groups Jan, May–Jun, Dec, juveniles Nov–Jan. Netted three adults, one in primary moult Nov, one with possible active brood patch Aug, and one juvenile in primary moult, Dec: mass 13, 15, 15 (ad), 14 (juv); wing 78, 78, 79 (ad), 78 (juv); tail 59, 61, 62 (ad), 63 (juv).

*M. v. variegatus* Blue-breasted Bee-eater. R. Common in grassland throughout, including Iboubikro to Mâh, Ngondoro, Abio, Etsotso, all year. Small groups all year except Mar–May; juveniles Nov–Jan. Eight adults netted: mass 18–21 ( $20.1 \pm 1.1$ ); wing 80–86 ( $82.9 \pm 2.6$ ); tail 59–64 ( $61.6 \pm 1.9$ ); possible brood patch Aug. Smaller than measurements in Fry *et al.* (1988) for ssp. *bangweoloensis*, and by Chapin (1939) for ssp. *loringi*.

*M. albicollis* White-throated Bee-eater. M. Flocks up to 30, occasionally more, in wooded grassland and forest edges throughout, Nov–Apr; earliest 7 Nov 2006, latest 2 Apr 2007. One adult in primary moult netted, 2 Dec 2005: mass 23; wing 95; tail 76.

[*M. persicus* Blue-cheeked Bee-eater. P/V. One observation, Feb (Dowsett-Lemaire 1997a).]

*M. apiaster* European Bee-eater. P. Flocks up to 100 in wooded grassland and forest edges throughout, Sep–Apr; earliest 26 Sep 2006, latest 3 Apr 2007.

*M. malimbicus* Rosy Bee-eater. R/M? Flocks up to 100, Nov–Jan, smaller groups Jan–Feb, Jun, Aug–Sep, Dec. Forest edges near Louna and Lefini rivers.

### **Coraciidae**

\**Coracias garrulus* European Roller. P. One perched in wooded grassland between Mâh and Ingolo, 16 Feb 2007.

*C. c. caudatus* Lilac-breasted Roller. R. Frequent. Singly or in pairs in wooded grassland between Mpieri forest (just west of Idzoua Inkou) and Mâh, and between Mpoumako and Abio, all year. Pair copulating Aug.

*Eurystomus gularis neglectus* Blue-throated Roller. R. Uncommon. Singles and pairs in gallery forest from Abio to Confluent, Sep, Jan. Pair investigating hole in dead tree in forest clearing at Confluent, Jan 2007. Probably commoner and overlooked.

*E. glaucurus* Broad-billed Roller. R (and M?). Common. Singles and small groups all year in wooded grassland and forest edges throughout. Large flocks Dec–Jan.

### **Phoeniculidae**

[*Rhinopomastus aterrimus* Black Wood-hoopoe. R? A pair occasionally seen on the edge of gallery forest along the Lesio river, 1994–1996 (Dowsett-Lemaire 1997a, Dowsett-Lemaire & Dowsett 1998).]

### **Upupidae**

*Upupa epops* Hoopoe. M? Seven observations, singly or in groups of 3–5, in wooded grassland between Camp des ecogardes and Mâh, and between Mpoumako and Abio, 21 Sep to 14 Oct 2006. Otherwise only a single undated observation in 2002.

### Bucerotidae

[*Tropicranus albocristatus* White-crested Hornbill. R? Forest (Dowsett-Lemaire 1997a).]

\**Tockus camurus* Red-billed Dwarf Hornbill. R? One in gallery forest at Iboubikro, 31 Oct 2005.

*T. f. fasciatus* African Pied Hornbill. R. Common and conspicuous in gallery forest throughout. Singles, pairs and small groups all year. Carrying nest material Feb.

\**Bycanistes fistulator sharpii* Piping Hornbill. R. Frequent in gallery forest along Lefini and Louna rivers, also Iboubikro and Idzoua Inkou. Singles, pairs and small groups all year. Large flocks Feb (seven pairs), Jul (nine birds), Dec (11 birds).

*B. albotibialis* White-thighed Hornbill. R. Three above forest canopy at base of Mâh cliffs, 7 Nov 2006.

### Capitonidae

*Gymnobucco b. bonapartei* Grey-throated Barbet. R. Common. Singles, pairs and small groups in forest and forest edge, Iboubikro. One adult netted, active brood patch and in primary moult, Oct 2006: morphometrics and photograph in King & Chamberlan (2007).

*G. sladenii* Sladen's Barbet. R. Small groups in gallery forest at Iboubikro all year. Nesting colony preyed upon by African Harrier Hawk, Oct 2006. Flocks of c. 20–30 feeding on fruit, Nov 2006. One caught an insect in flight. Six netted, primary moult Aug, Nov, active brood patch Aug: morphometrics and photographs in King & Chamberlan (2007). The only records for Congo.

*Pogoniulus scolopaceus flavisquamatus* Speckled Tinkerbird. R. Common. Forest edges throughout. Singles all year, pairs Jun, Dec. Five netted, primary moult Nov–Jan, possible active brood patch Dec–Jan: mass 15–17 ( $15.8 \pm 0.8$ ); wing 57–60 ( $57.8 \pm 1.3$ ); tail 31–34 ( $33.2 \pm 1.3$ ). One recaptured four weeks later, close to original net.

*P. atroflavus* Red-rumped Tinkerbird. R. Frequent. Forest edge Iboubikro, Aug, Dec–Jan, Mar. Three netted: mass 18, 18, 18; wing 62, 64, 66; tail 30, 32, 32.

*P. subsulphureus flavimentum* Yellow-throated Tinkerbird. R. Common. Forest edges throughout. Singles all year, pairs Jun, Oct, Dec. Observed feeding on small flying termites. Twelve netted (including at least 1 juvenile, Oct): mass 8–10 ( $9.3 \pm 0.7$ ); wing 47–52 ( $48.8 \pm 1.5$ ); tail 22–24 ( $22.6 \pm 0.8$ , n = 10).

*P. bilineatus leucolaima* Yellow-rumped Tinkerbird. R. Common. Forest edges throughout, all year. Three adults netted, possible active brood patch Feb: mass 11, 11, 11; wing 51, 53, 53; tail 26, 27, 27.

*P. chrysoconus extoni* Yellow-fronted Tinkerbird. R? One adult netted in wooded grassland at Idzoua Inkou, 30 May 2006; morphometrics and photo in King & Chamberlan (2007). First record for Congo.

*Tricholaema hirsuta* Hairy-breasted Barbet. R. Uncommon. Camp des ecogardes and Iboubikro camp (King 2008a). Apparently intermediate between race *ansorgii* and either *flavipunctata* or *angolensis* (King 2008a).

*T. frontata* Miombo Pied Barbet. R. Wooded grassland at Idzoua Inkou, Jul 2005 to May 2006 (King & Chamberlan 2007). Feeding nestlings in a hole in a dead branch of

a *Hymenocardia acida* tree, Oct. One adult netted, 3 Oct 2005: morphometrics and photos in King & Chamberlan (2007). First records for Congo.

\**Lybius minor* Black-backed Barbet. R? One in wooded grassland at Mt Blanc 28 Nov 2006. Subspecies unclear: yellowish bill, whitish head sides, grey crown and nape.

### Indicatoridae

\**Indicator indicator* Greater Honeyguide. R? An adult male on the trunk of a dead tree in a burnt area of gallery forest at the confluence of the Lefini and Louna rivers, 21 Jan 2004. Few records in Congo, only from the coast (Dowsett-Lemaire *et al.* 1993), although known from the Batéké Plateau in Gabon (Borrow & Demey 2001).

*I. conirostris* Thick-billed Honeyguide. R? One netted in degraded forest at Camp des ecogardes, Nov 2005: mass 29; wing 94; tail 60.

### Picidae

[*Jynx ruficollis* Red-throated Wryneck. R? Open wooded grassland (Dowsett-Lemaire 1997a).]

*Campethera cailliautii permista* Green-backed Woodpecker. R. Frequent. Singles and pairs in forest edge, Ngondoro and Iboubikro. One female (in primary moult Oct) and two males netted: mass (m) 43, 46, (f) 48; wing (m) 92, 98, (f) 97; tail (m) 54, 57, (f) 63.

\**C. n. nivosa* Buff-spotted Woodpecker. R. Two netted in forest and forest edge: one male, 19 Dec 2005, one female with active brood patch, 7 Oct 2006: mass (m) 35, (f) 38; wing (m) 82, (f) 90; tail (m) 42, (f) 45.

*C. caroli* Brown-eared Woodpecker. R. Uncommon. Singles or pairs in burnt clearing in forest at Confluent Mar–Apr, Dec 2004. Also gallery forest edge at Iboubikro, Mar 2007.

*Dendropicos fuscescens sharpii* Cardinal Woodpecker. R. Frequent. Singles in wooded grassland, especially near Idzoua Inkou, Jan, May–Jun, Oct–Nov. Two males netted, in primary moult Nov, Dec: mass 22, 24; wing 79, 80; tail 40, 41.

\**D. xantholophus* Yellow-crested Woodpecker. R. Uncommon. Singles, pairs and small groups in degraded forest, Confluent and Iboubikro, Feb–Mar, Jun, Oct–Dec. Male in hole in tree Dec.

[*D. elliotii* Elliot's Woodpecker. V? One in gallery forest, Iboubikro, 12 Dec 2002 (King *et al.* 2004).]

### Alaudidae

[*Mirafra africana* Rufous-naped Lark. R. *Loudetia* grassland (Dowsett-Lemaire 1997a).]

*M. rufocinnamomea* Flappet Lark. R. Abundant. Conspicuous display flight common above grassland throughout, including Mt Blanc, all year. One netted: mass 29; wing 79; tail 52.

### Hirundinidae

[*Psalidoprocne nitens* Square-tailed Saw-wing. R. Forest (Dowsett-Lemaire 1997a).]

*P. pristopectera* Black Saw-wing. R. Frequent. Singles, pairs and small groups at Mt Blanc, Confluent, Lac Bleu and Epopé, especially Nov–Apr, also Jun, Sep.

*Phedina brazzae* Brazza's Martin. V. One along wooded grassland ridge above Lac Bleu, 20 Jun 2005 (King 2007).

*Riparia cincta* Banded Martin. R. Abundant. Singles, pairs and small groups over grassland throughout, all year. Flock of  $\geq 12$ , Dec. Carrying nest materials, Mt Blanc, Nov. Visiting holes in large sand bank along Louna River, Nov.

*Hirundo semirufa* Rufous-chested Swallow. R/M? Grassland throughout. Singles and pairs Jul–Feb, flock Jul. Investigating buildings at Camp des ecogardes, Aug, Nov.

*H. senegalensis* Mosque Swallow. R? Two at Ngondoro, 8 Jan 2004.

*H. abyssinica* Lesser Striped Swallow. R. Frequent. Grassland throughout, all year. Large flocks at the village of Mbouambé. Carrying nest material Jan. Nesting Mt Blanc, Jun, Sep. Juveniles Jan.

\**H. rufigula* Red-throated Cliff Swallow. M? Large flocks in various grassland habitats at Ngondoro, 8–9 Jan 2004, associated with other swallows and swifts. A huge flock of hundreds or even thousands in moist grassland south of Abio along the Louna River, 6 Dec 2006; two at Mt Abio the next day. Apparently expanding northwards (Borrow & Demey 2001), and recorded from coastal Congo (Dowsett & Dowsett-Lemaire 1989) and central and southeast Gabon (Borrow & Demey 2001).

*H. fuligula* Rock Martin. R. Frequent. Rocky outcrops throughout (Mt Abio, Epopé, Ngaka, above Lac Bleu), Feb, Jun, Sep, Nov–Dec.

*H. nigrita* White-throated Blue Swallow. R. Abundant along Lefini and Louna rivers, also occasionally at Ngondoro camp and Camp des ecogardes. Singles and pairs all year, flocks ( $\geq 10$ ) Dec–Feb, Apr. Nest-building Jan. On nest Feb, Apr. Juveniles Mar, Sep–Oct.

*H. rustica* Barn Swallow. P. Uncommon, only seven observations in the reserves. Usually singly, Nov–Dec, Apr; latest 3 Apr 2007. Abundant elsewhere on Batéké Plateau in both Congo and Gabon, Feb 2007 (pers. obs.).

\**Delichon urbicum* Common House Martin. P. Four observations of pairs or small groups, 20 Sep 2006, Dec–Jan, 10 Mar 2007.

### **Motacillidae**

*Motacilla flava* Yellow Wagtail. P. One at Camp des ecogardes, 30 Nov 2005. Also Iboubikro ponds (Dowsett-Lemaire 1997a).

[*Anthus cinnamomeus* Grassland Pipit. R? Local (Dowsett-Lemaire 1997a, as *A. richardi*).]

*A. nyassae* Woodland Pipit. R. Common, wooded grassland.

*A. leucophrys* Plain-backed Pipit. R. Common, Ngondoro, Lac Bleu.

\**A. pallidiventris* Long-legged Pipit. R? Iboubikro ponds, Jul and Sep 2005. Very plain pipit, greyish head, pale supercilium, bobbing tail.

[*A. brachyurus* Short-tailed Pipit. R. Short grassland (Dowsett-Lemaire 1997a).]

*Macronyx croceus* Yellow-throated Longclaw. R. Common. Grassland throughout. Singles and pairs all year; groups of three Mar, Nov. Carrying nest material Jan, Feb.

### **Pycnonotidae**

*Andropadus virens* Little Greenbul. R. Abundant in forest throughout, all year. Small groups Jun–Jul, Nov. Of 164 netted: active brood patch Dec; primary moult all year but especially Oct–Feb; juveniles Oct–Dec, Mar–Jun. Adults: mass 20–30 ( $24.7 \pm 1.8$ ,

n = 130); wing 69–84 ( $76.8 \pm 2.9$ , n = 130); tail 62–77 ( $70.7 \pm 3.1$ , n = 128). Juveniles and immatures: mass 19–26 ( $23.6 \pm 1.9$ , n = 34); wing 70–80 ( $75.0 \pm 2.6$ , n = 34); tail 63–75 ( $70.0 \pm 2.7$ , n = 32).

*A. gracilis* Little Grey Greenbul. R. Frequent. Forest throughout, Mar, Jun, Oct, Dec. Two adults netted, in primary moult Apr, Aug; mass 18, 21; wing 73, 74; tail 68, 69.

*A. gracilirostris* Slender-billed Greenbul. R. Pair, Iboubikro, 6 Apr 2007.

*Baeopogon indicator* Honeyguide Greenbul. R. A pair regularly in mixed species flocks, Iboubikro camp, Jun 2006.

\**Chlorocichla simplex* Simple Leaflove. R? One, Iboubikro camp, 15 Jan 2004.

[*C. flavicollis* Yellow-throated Leaflove. R. Gallery forest and thickets (Dowsett-Lemaire 1997a).]

*Thescelocichla leucopleura* Swamp Palm Bulbul. R. Common. Small, vocal groups in gallery forest along Lefini and Louna rivers, and Ngondoro, all year. Carrying nest material Jan. Three netted at Ngondoro, 2002: mass (to nearest 5 g) 50, 50, 55; wing 100, 109, 112; tail 97, 102, 105.

[*Pyrrhurus scandens* Leaflove. R. Forest (Dowsett-Lemaire 1997a).]

*Bleda notatus ugandae* Lesser Bristlebill. R. Forest understorey, Iboubikro (Rainey *et al.* 2009). Six netted, including one female: mass 44, wing 99, tail 88. Five larger birds, primary moult Dec: mass 45–50 ( $48.0 \pm 2.3$ ); wing 102–106 ( $103.8 \pm 1.5$ ); tail 91–97 ( $95.2 \pm 2.5$ ).

*Pycnonotus barbatus tricolor* Common Bulbul. R. Abundant and conspicuous. Singles, pairs and small groups in wooded grassland and forest edges throughout, all year. Carrying nest material Jul. Among 39 netted (including two juveniles), active brood patches Aug, Oct, many in primary moult Oct–May, juveniles Oct–Nov. Adults: mass 30–42 ( $26.4 \pm 2.2$ , n = 37); wing 85–103 ( $94.2 \pm 4.3$ , n = 37); tail 78–92 ( $83.8 \pm 3.5$ , n = 36). Juveniles: mass 36, 37; wing 89, 89; tail 74, 82. One recapture, four days and *c.* 600 m away (Iboubikro to Camp des ecogardes).

*Neolestes torquatus* Black-collared Bulbul. R. Frequent. Wooded grassland at Ngondoro, Mt Blanc and Camp des ecogardes, Dec–Feb. One female netted, Camp des ecogardes, 25 Dec 2005, with active brood patch: mass 25, wing 76, tail 63.

*Nicator chloris* Western Nicator. R. Frequent. Forest at Iboubikro, Confluent. One male, three females (based on size) and one juvenile netted: mass (m) 61, (f) 43, 46, 47, (j) 41; wing (m) 112, (f) 92, 94, 96, (j) 94; tail (m) 114, (f) 92, 95, (j) 94.

### **Turdidae**

*Cossypha natalensis larischi* Red-capped Robin Chat. R? Four adults netted in gallery forest understorey, Iboubikro, Jun 2002, Nov–Dec 2005, primary moult Dec, probable active brood patch Dec: mass 31–35 ( $32.8 \pm 1.7$ ); wing 90–91 ( $90.3 \pm 0.5$ ); tail 66–68 ( $67.0 \pm 0.8$ ). The short tail is typical of *ssp. larischi* (Keith *et al.* 1992). These are the only records for the Batéké Plateau (King *et al.* 2004).

[*C. niveicapilla* Snowy-crowned Robin Chat. R. Thickets (Dowsett-Lemaire 1997a).]

\**Alethe diademata castanea* Fire-crested Alethe. R? One adult netted, gallery forest understorey, Iboubikro, 22 Dec 2005: mass 33; wing 85; tail 66.

*Stizorhina fraseri* Rufous Flycatcher Thrush. R. Frequent and vocal in forest, Iboubikro.

*Cercotrichas leucophrys* White-browed Scrub Robin. R. Frequent. Singles and pairs in wooded grassland, Idzoua Inkou. Five adults netted match ssp. *munda* in coloration, including extensive brown band on tail (Fig. 11); primary moult Feb; mass 15–17 ( $16.0 \pm 1.0$ ); wing 60–66 ( $62.6 \pm 2.6$ ); tail 52–64 ( $57.4 \pm 4.4$ ).

*Saxicola torquatus salax* Common Stonechat. R. Uncommon. Rocky grassland above Lac Bleu, 25 Jan 2004, 11 Apr 2007; sand bank on Lefini River at Epopé, 12 Nov 2006.

*Myrmecocichla tholloni* Congo Moor Chat. R. Common in non-wooded grassland throughout. Singles and pairs all year; small groups Sep–Mar, Jun. Dowsett-Lemaire (1997a) estimated densities of up to 6 pairs/km<sup>2</sup> near Mâh.

*M. nigra* Sooty Chat. R. Common in wooded grassland throughout. Singles, pairs and small groups all year. Nine netted, active brood patch Aug, primary moult Nov–Dec. Seven males: mass 39–46 ( $41.3 \pm 2.3$ ); wing 95–100 ( $97.6 \pm 1.5$ ); tail 52–60 ( $57.1 \pm 2.8$ ). Two females: mass 36, 40; wing 94, 95; tail 55, 57. Tails shorter than those cited by Keith *et al.* (1992).

### Sylviidae

[*Melocichla mentalis* African Moustached Warbler. R? Tall rank grassland (Dowsett-Lemaire 1997a).]

*Cisticola lateralis* Whistling Cisticola. R. Frequent at Idzoua Inkou.

*C. rufilatus* Tinkling Cisticola. R. One singing in wooded grassland at Idzoua Inkou, Oct.

*C. galactotes* Winding Cisticola. R. Common. Grassy marshes, ponds and rivers throughout. Vocal all year. Three netted, primary moult Dec: mass 17, 19, 19; wing 60, 61, 63; tail 50, 51, 56.

*C. natalensis* Croaking Cisticola. R. Frequent in grassland throughout. Vocal Sep–Apr. One adult (Aug) and one juvenile (Apr) netted: mass 26 (a), 22 (j); wing 74 (a), 66 (j); tail 61 (a), 57 (j). Long tail of adult suggests non-breeding plumage (Urban *et al.* 1997).

*C. brachypterus* Short-winged Cisticola. R. Frequent in wooded grassland at Idzoua Inkou and Camp des ecogardes. One netted: mass 8; wing 48; tail 32.

*C. fulvicapillus* Piping Cisticola. R. Common in wooded grassland throughout. Vocal Dec–Jun.

*C. juncidis* Zitting Cisticola. R. Common in grassland throughout. Vocal Sep–May.

*C. brunnescens* Pectoral-patch Cisticola. R. Ngondoro, Jan 2004.

[*C. cinnamomeus* Pale-crowned Cisticola. R? Grassy marsh, Mâh, June 1989 (Dowsett-Lemaire 1997a).]

*Prinia subflava* Tawny-flanked Prinia. R. Common in wooded and rank grassland throughout. Singles and pairs all year, small groups Dec–Jan. Carrying nest material Feb. Six netted (but no data for one). One small bird: mass 6, wing 48. Four larger, primary moult Dec–Jan: mass 8–10 ( $9.3 \pm 0.96$ ), wing 52–55 ( $53.3 \pm 1.5$ ), tail 52–56 ( $53.3 \pm 2.31$ ,  $n = 3$ ). Short tails indicate all birds (Dec–Jan, Mar, Jul) were in breeding plumage (Urban *et al.* 1997).





**Figure 8. Two male Didric Cuckoos netted in the Lesio-Louna Reserve: left, Nov 2005; right, Dec 2005. Photos: C. Chamberlan.**

*Schistolais leucopogon* White-chinned Prinia. R. Small, vocal groups frequent in rank grassland and forest edge, Idzoua Inkou; also Mt Blanc.

[*Apalis rufogularis* Buff-throated Apalis. R. Forest (Dowsett-Lemaire 1997a).]

*Camaroptera brachyura tincta* Grey-backed Camaroptera. R. Common in forest edge, Iboubikro and Idzoua Inkou. Ten netted, brood patch Aug, Oct (same bird), primary moult May; mass 11–14 ( $12.4 \pm 1.17$ ); wing 50–56 ( $54.1 \pm 2.51$ ); tail 31–40 ( $37.6 \pm 3.16$ ,  $n = 8$ ).

[*C. superciliaris* Yellow-browed Camaroptera. R. Forest clearings (Dowsett-Lemaire 1997a).]

*Eremomela salvadorii* Salvadori's Eremomela. R. Frequent in wooded grassland, Mt Blanc and Idzoua Inkou. One netted: mass 8; wing 56; tail 27.

*E. scotops congensis* Green-capped Eremomela. R. Small, vocal groups common in wooded grassland, Idzoua Inkou; also Camp des ecogardes. All year.

[*Sylvietta ruficapilla* Red-capped Crombec. R. Wooded grassland (Dowsett-Lemaire 1997a).]

*S. virens tando* Green Crombec. R. Common. Forest edge, Iboubikro. Singles and pairs all year, small group Mar. Twelve netted, primary moult May, Oct–Nov: mass

8–10 ( $8.9 \pm 0.7$ ); wing 48–53 ( $50.3 \pm 1.7$ ); tail 12–20 ( $16.9 \pm 2.2$ ). Several with small yellow streak on belly.

\**Phylloscopus trochilus* Willow Warbler. P. Singles at Iboubikro, 17 Sep 2005, 1 and 18 Oct 2006.

\**Sylvia borin* Garden Warbler. P. One adult netted 2 Dec 2005: mass 18; wing 79; tail 54; plumage worn.

*Hyliota flavigaster* Yellow-bellied Hyliota. R. Frequent in wooded grassland, especially Idzoua Inkou.

*Hylia p. prasina* Green Hylia. R. Frequent in forest, Iboubikro. Three netted: mass 12, 16, 16; wing 58, 67, 69; tail 40, 48, 49. The smaller individual probably a female, the others probably males (Urban *et al.* 1997).

### Muscicapidae

*Fraseria o. ocreata* Fraser's Forest Flycatcher. R. Frequent. Small, vocal groups in forest canopy, Iboubikro, Confluent, Loubilika. All year.

*F. cinerascens ruthae* White-browed Forest Flycatcher. R. Frequent. Forest understorey, Iboubikro and Lefini River. Three netted: two males, primary moult Dec (mass 23, 22; wing 82, 83, tail 67, 68) and one female with active brood patch (Jan) (mass 19, wing 79, tail 63).

*Malaenornis pallidus murinus* Pale Flycatcher. R. Common in wooded grassland throughout. Singles and pairs all year; small groups Nov–Dec. Six netted, primary moult Dec: mass 24–31 ( $27.7 \pm 2.7$ ); wing 89–105 ( $96.7 \pm 6.1$ ); tail 72–82 ( $77.3 \pm 4.5$ ).



**Figure 9.** African Pygmy Kingfishers netted in the Lesio-Louna Reserve: left, resident subspecies *ferruginus* or *pictus*, Oct 2005; right, migrant subspecies *natalensis*, May 2006. Photos: C. Chamberlan.



**Figure 10.** Black Bee-eater *Merops gularis australis* netted in the Lesio-Louna Reserve, Jun 2002. Photo: C. Chamberlan.

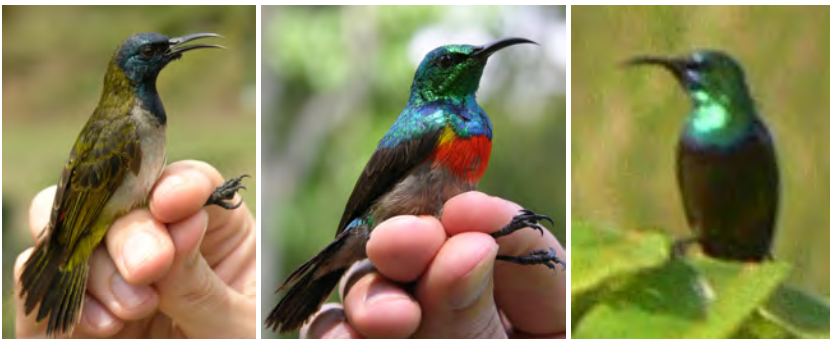


**Figure 11.** Two White-browed Scrub Robins, netted in the Lesio-Louna Reserve, Nov 2005 (left) and Feb 2006. Photos: C. Chamberlan (left) and T. King.



**Figure 12.** Bates's Paradise Flycatcher, ssp. *bannermani*, Lesio-Louna Reserve: left, male, Aug 2006; centre, male on nest, Dec 2005; right, female, Dec 2006. Photos: C. Chamberlan (left) and T. King.

\**Muscicapa striata* Spotted Flycatcher. P. Wooded grassland throughout (Camp des ecogardes, Idzoua Inkou, Abio). Singles, pairs and small groups; Sep (four, earliest 19 Sep 2005), Nov (one), Mar (one), 7 Apr 2006 (one). One adult netted, 5 Nov 2006: mass 14; wing 88, tail 62. Probably ssp. *striata*: larger than *balearica*, streaked rather than spotted breast eliminates *tyrenhica*, and unlikely to be *neumanni* due to locality.



**Figure 13.** Left: Reichenbach's Sunbird, Lesio-Louna Reserve, Jan 2006 (photo: D. Hayman). Centre: male Olive-bellied Sunbird, Lesio-Louna Reserve, Oct 2005 (photo: C. Chamberlan). Right: Orange-tufted Sunbird, Lefini north, 1 Mar 2007 (photo: T. King).

*M. cassini* Cassin's Flycatcher. R. Common on Lefini, Louna and Lesio rivers. Singles and pairs all year. Nest-building Feb; on nest Jan–Feb, Sep.

*Myioparus p. plumbeus* Lead-coloured Flycatcher. R. Frequent. Singles or pairs in wooded grassland and forest edges, Iboubikro, Idzoua Inkou, Ngondoro, Aug, Oct, Dec–Mar. Juvenile Feb. Seven netted. Six adults: mass 12–18 ( $14.5 \pm 2.1$ ); wing 62–67 ( $64.3 \pm 2.0$ ); tail 53–61 ( $57.8 \pm 3.3$ ,  $n = 5$ ). One juvenile: mass 11; wing 63; tail 61.

### Monarchidae

[*Trochocercus nitens* Blue-headed Crested Flycatcher. R. Forest (Dowsett-Lemaire 1997a).]

*Terpispone viridis* African Paradise Flycatcher. R? Uncommon, forest edge, Iboubikro and Ngondoro.

*T. batesi bannermani* Bates's Paradise Flycatcher. R. Common. Singles and pairs in forest interior and forest edge, Iboubikro. On nest (both sexes) Oct, Dec–Jan. Nestlings Oct, Dec. Thirteen netted, active brood patch Aug (possibly), Oct, Dec, primary moult Dec. Six males: mass 15–16 ( $15.3 \pm 0.5$ ); wing 77–83 ( $79.0 \pm 2.3$ ); tail (T2) 82–89 ( $84.4 \pm 2.70$ ,  $n = 5$ ); projection of central tail feathers (T1–T2) 15, 19, 20, 25, 63. Six females: mass 13–16 ( $14.2 \pm 1.0$ ); wing 72–77 ( $74.8 \pm 2.3$ ); tail (T2) 72–77 ( $74.5 \pm 2.1$ ); projection of T1–T2 0–9 ( $4.5 \pm 3.3$ ). One unsexed (female or young male): mass 15, wing 80, tail (T2) 82, projection of T1–T2 7. The combination of the long central tail feathers and uncrested head (Fig. 12) are diagnostic of ssp. *bannermani*, but the measurements appear closer to those of *T. rufocinerea* than of other races of *T. batesi*, as given by Urban *et al.* (1997). Often (Fig. 12 left) but not always (Fig. 12 right), the head appeared significantly darker than the rest of the underparts, a characteristic also considered more typical of *T. rufocinerea* than of *T. batesi* (Urban *et al.* 1997).

### Platysteiridae

*Bias m. musicus* Black-and-white Flycatcher. R. Frequent. Singles and pairs near forest edges throughout, Nov–Mar, Jul. One male netted 6 Nov 2005: mass 22; wing 88; tail 50.

*Dyaphorophya c. castanea* Chestnut Wattle-eye. R. Frequent in forest understorey, Iboubikro. One male and two females netted: mass (m) 15, (f) 13, 15; wing (m) 62, (f) 59, 60; tail (m) 28, (f) 24, 26.

*Platysteira cyanea* Common Wattle-eye. R. Pair, Idzoua Inkou 25 Feb 2004.

*Batis minor erlangeri* Black-headed Batis. R. Frequent in wooded grassland at Idzoua Inkou, also Camp des ecogardes. Singles and pairs all year, small group Jul. One female netted Dec 2005; mass 11; wing 58; tail 43.

*B. minulla* Angola Batis. R. Frequent, Idzoua Inkou and Camp des ecogardes.

### Paridae

*Parus leucomelas* White-winged Black Tit. R. Common in wooded grassland throughout Lesio-Louna. Singles and pairs all year, small groups Aug–Feb, May. Four adults netted, active brood patch Aug: mass 21–28 ( $24.8 \pm 3.0$ ); wing 80–89 ( $84.8 \pm 3.8$ ); tail 66–72 ( $69.0 \pm 2.6$ ).

### Remizidae

*Anthoscopus caroli ansorgei* Grey Penduline Tit. R. Iboubikro, 5 Nov 2004 and 1 Oct 2006.

### Nectariniidae

*Antheptes aurantium* Violet-tailed Sunbird. R. Frequent along Lefini, Louna and Lesio rivers, also Lac Bleu. Singles and pairs all year, also small groups. Nest-building Apr, Jul. At nest Nov. Feeding nestlings Dec. Feeding juveniles Jan, Jul, Oct. Juveniles Dec–Jan, Mar, Jun–Jul, Oct. Cooperative breeding observed (King & Cheke 2009). Two males, three females and one juvenile netted, primary moult Jan: mass (m) 12, 13, (f) 12, 13, 13, (j) 13; wing (m) 65, 66, (f) 62, 62, 62, (j) 64; tail (m) 46, 48, (f) 42, 43, 44, (j) 45. \**A. rectirostris tephrolaemus* Green Sunbird. R. Uncommon. Seven observations at Iboubikro, Oct–Dec, Mar. Almost always in pairs.

\**A. seimundi* Little Green Sunbird. R? One, Confluent, 8 Mar 2005; small group, Abio island, 30 Mar 2007.

[*Deleornis fraseri* Fraser's Sunbird. R. Forest (Dowsett-Lemaire 1997a).]

*Anabathmis reichenbachii* Reichenbach's Sunbird. R. Common. Singles, pairs and small groups at Lefini, Louna and Lesio rivers, Iboubikro ponds, and Ngondoro marsh. Often aggressive towards other sunbirds, especially *A. aurantium*. Carrying nest material Mar. Nesting Mar, Jun, Nov–Dec. Feeding nestlings and fledglings Nov. Feeding juvenile Feb. Juveniles Feb, Jul, Oct–Nov. Seven adults (Fig 13 left) and one juvenile netted, active brood patch Dec, primary moult Mar, Jul: mass (a) 7–12 ( $8.8 \pm 1.72$ ,  $n = 6$ ), (j) 10; wing (a) 53–60 ( $56.2 \pm 2.8$ ,  $n = 6$ ), (j) 58; tail (a) 40–50 ( $44.0 \pm 4.4$ ,  $n = 5$ ), (j) 46. First records in the Batéké Plateau region of Congo (King *et al.* 2004). Given its apparent abundance and conspicuousness, it is surprising that it has been previously overlooked, unless it has increased in recent years. Recently recorded from the BPNP, Batéké Plateau in Gabon, Jun 2007 (P. Christy pers.comm.), and in Franceville, Sep 2007 (pers. obs.).

*Cyanomitra verticalis bohndorffi* Green-headed Sunbird. R. Common in forest edges, Iboubikro and Idzoua Inkou, also Mt Blanc and Confluent. Singles and pairs all year, juveniles Feb–Mar. Four males and five females netted, active brood patch Feb, head moulting from juvenile to female plumage Dec: mass (m) 10–15 ( $13.5 \pm 2.4$ ), (f) 10–16 ( $12.6 \pm 2.2$ ); wing (m) 64–67 ( $65.3 \pm 1.3$ ), (f) 58–62 ( $60.6 \pm 1.7$ ); tail (m) 44–49 ( $46.3 \pm 2.06$ ), (f) 39–45 ( $41.3 \pm 2.63$ ,  $n = 4$ ).

*C. cyanolaema* Blue-throated Brown Sunbird. R. Uncommon in forest and forest edge, Iboubikro. One male netted: mass 14, wing 71, tail 54.

*C. olivacea cephalis* Western Olive Sunbird. R. Abundant in forest and forest edge throughout. Singly or in pairs, all year. Netted 38 males, 14 females, five juveniles (May, Nov–Dec), one immature male, probable brood patches Dec, primary moult Jul–Dec, Feb: mass (m) 10–14 ( $11.4 \pm 0.9$ ,  $n = 37$ ), (f) 9–12 ( $10.0 \pm 0.8$ ), (j/i) 8–11 ( $10.2 \pm 1.3$ ,  $n = 6$ ); wing (m) 61–68 ( $65.1 \pm 1.9$ ,  $n = 37$ ), (f) 56–60 ( $57.4 \pm 1.3$ ), (j/i) 56–64 ( $59.7 \pm 3.2$ ,  $n = 6$ ); tail (m) 47–60 ( $53.2 \pm 2.9$ ,  $n = 36$ ), (f) 40–44 ( $42.5 \pm 1.4$ ,  $n = 13$ ), (j/i) 39–47 ( $44.3 \pm 3.1$ ,  $n = 6$ ). Four recaptured: maximum distance *c.* 600 m (Iboubikro to Camp des ecogardes).



\**Chalcomitra r. rubescens* Green-throated Sunbird. R. Common in forest edge throughout, including Mt Blanc. Singles and pairs all year, also small groups. Nest-building Sep (using parts of old nest and spiders web). At nest high in forest edge tree and harassing Woodland Kingfisher, Mar. Pair with juvenile Oct. Feeding on flying termites Sep. Three males (one adult; two immature, Nov) and one female netted, primary moult Oct–Nov: mass (ad m) 11, (imm m) 11, 11, (f) 10; wing (ad m) 68, (imm m) 66, 67, (f) 60; tail (ad m) 46, (imm m) 41, 41, (f) 36.

*C. amethystina deminuta* Amethyst Sunbird. R. Common in wooded grassland throughout, especially Idzoua Inkou. Singles and pairs all year, also small groups. Juvenile Feb, immature males May, Aug, Nov. Five males (two adult, three immature) and three females netted, primary moult Feb (female), May and Aug (immature males): mass (m) 12–14 ( $13.2 \pm 0.8$ ), (f) 11, 13, 14; wing (m) 69–71 ( $69.8 \pm 0.8$ ), (f) 63, 64, 65; tail (m) 41–45 ( $43.2 \pm 1.5$ ), (f) 38, 38, 40.

*Hedydipna collaris somereni* Collared Sunbird. R. Frequent in forest edge throughout (but not Idzoua Inkou or Mt Blanc). Singles and pairs all year, also small groups. Carrying nest material April. Feeding on flying termites Sep. One male and two females netted, active brood patch Dec, primary moult Oct: mass (m) 8, (f) 8, 8; wing (m) 53, (f) 50, 51; tail (m) 33, (f) 29.

*Cinnyris c. chloropygius* Olive-bellied Sunbird. R. Common in forest edge throughout, including Mt Blanc, but not Idzoua Inkou. Singles all year, pairs Dec–Apr, also small groups. Five males (Fig. 13 centre), two females and three juveniles (Oct–Nov) netted, active brood patch Nov, primary moult Dec: mass (m) 6–7 ( $6.4 \pm 0.5$ ), (f) 6, 6, (j) 5, 6, 7; wing (m) 50–52 ( $50.8 \pm 0.8$ ), (f) 47, 48, (j) 47, 50, 50; tail (m) 31–36 ( $33.0 \pm 2.0$ ), (f) 32, 32, (j) 30, 32, 33. These measurements are slightly larger than those given by Fry *et al.* 2000 for ssp. *chloropygius*, but smaller than those given for ssp. *orphogaster*.

[*C. congensis* Congo Sunbird. V? One male between Lefini River and Ngo, 1 Feb 1994 (Dowsett-Lemaire 1997a).]

\**C. bouvieri* Orange-tufted Sunbird. R? One photographed, perched conspicuously on an *Annona senegalensis* shrub in rank grassland beside the road along the northern boundary of Lefini north (2°24'S 15°25'E), 1 Mar 2007. The only sunbirds known from western and west-central Africa with the combination of green head, throat and mantle, dark purple breast band and dark belly are Palestine *C. osea*, Purple-banded *C. bifasciata* and Orange-tufted; of these only Orange-tufted has a dark brown, rather than black, belly, and the small bluish forehead and throat patches apparent in Fig. 13 (right).

[*C. johannae* Johanna's Sunbird. R. Forest (Dowsett-Lemaire 1997a).]

*C. c. cupreus* Copper Sunbird. R. Abundant in wooded grassland and degraded forest throughout. Singles all year, also pairs and small groups. Carrying nest material Feb. At nest Feb. Male and female feeding nestlings Mar. One male and one female netted: mass (m) 8, (f) 9; wing (m) 59, (f) 57; tail (m) 46, (f) 41.

### **Laniidae**

*Lanius collaris* Common Fiscal. R. Common in wooded grassland throughout Lesio-Louna and adjacent plateau. Singles all year, juveniles Nov–Jan.

[*L. souzae* Sousa's Shrike. R? Local in wooded grassland (Dowsett-Lemaire 1997a).]

### **Malaconotidae**

*Bocagia minuta* Marsh Tchagra. R. In pairs at Mt Blanc marsh, frequent.

*Tchagra senegala* Black-crowned Tchagra. R. Common in wooded grassland throughout. Singles and pairs all year; small group Nov.

*Dryoscopus gambensis* Northern Puffback. R. Three observations: Idzoua Inkou and Mt Blanc.

*Laniarius leucorhynchus* Sooty Boubou. R. Common at Iboubikro ponds. Three adults netted, primary moult Aug, Dec: mass 54, 57, 57; wing 94, 99, 101; tail 90, 91, 92. Tail longer than measurements given by Fry *et al.* (2000).

### **Dicruridae**

*Dicrurus ludwigii* Square-tailed Drongo. R. Frequent in forest edge, Idzoua Inkou.

\**D. modestus* Velvet-mantled Drongo. R. Uncommon. Confluent (five observations) and Louna River (once). Always singly, perched high on exposed branch in gallery forest. Widespread in Congo (Dowsett & Dowsett-Lemaire 1989, as *D. adsimilis*), but not previously recorded from the Batéké Plateau (Borrow & Demey 2001), except in the BPNP in Gabon (pers. obs. Feb, Aug–Sep 2007, P. Christy unpubl.).

### **Corvidae**

*Corvus albus* Pied Crow. R. Mâh village, uncommon. Also one flying high westwards over Confluent, 16 Apr 2004.

### **Sturnidae**

*Onychognathus fulgidus* Forest Chestnut-winged Starling. R. Frequent in Lefini River gallery forest.

*Lamprotornis purpureiceps* Purple-headed Glossy Starling. R. Frequent in gallery forest at Iboubikro, Confluent, and Louna River. Pairs, all year.

[*L. nitens* Cape Glossy Starling. V? One pair at Lac Bleu (Dowsett-Lemaire 1997a).]

*L. splendidus* Splendid Glossy Starling. R. Frequent in gallery forest throughout, Aug–Jan, Apr, Jun. Pairs and small groups. Flock of 24 at Ngondoro, 9 Jan 2004.

*Cinnyricinclus leucogaster verreauxi* Violet-backed Starling. M. Wooded grassland throughout, especially Idzoua Inkou. All records Feb–Oct (earliest 25 Feb 2004, latest 4 Oct 2004), therefore a non-breeding migrant. Pairs Mar–Sep, small groups Feb–Oct, flocks  $\geq 10$  Apr–May, Sep. Two males and four females netted, primary moult Dec: mass (m) 38, 39 (m), (f) 40–43 ( $41.5 \pm 1.7$ ); wing (m) 104, 106, (f) 97–103 ( $100.0 \pm 2.4$ ); tail (m) 59, 60, (f) 53–56 ( $54.5 \pm 1.3$ ). The two netted males had white bases to the outer web of their outer tail feathers (T6), a feature diagnostic of ssp. *verreauxi* (Fry *et al.* 2000, Borrow & Demey 2001).

### **Passeridae**

*Passer griseus* Northern Grey-headed Sparrow. R. Frequent. Singles and pairs in camps and villages, Dec–Jun. One netted Feb 2002: mass 28; wing 85.

*Petronia superciliaris* Yellow-throated Petronia. R. Common in wooded grassland, especially at Idzoua Inkou. Singles and pairs all year, small groups May, Sep. Feeding juvenile Sep. Juvenile Nov. Sixteen adults and two juveniles or immatures netted,



primary moult Nov–Dec (all), also May; mass (a) 23–28 ( $24.5 \pm 1.5$ ), (j/i) 24, 26; wing (a) 87–95 ( $90.8 \pm 2.7$ ), (j/i) 82, 85; tail (a) 53–60 ( $56.7 \pm 2.1$ ), (j/i) 53, 54.

### **Ploceidae**

*Ploceus nigrimentus* Black-chinned Weaver. R. Uncommon. Wooded grassland between Iboubikro and Mâh, 13 Jan 2004, 20 Jun 2006, and by sand-pits near Abio camp, 11 Sep 2006.

\**P. xanthops* Holub's Golden Weaver. R. Mt Blanc marsh, 28 Feb 2004 (one) and 7 Jan 2006 (pair): large, bright yellow weavers with black bill, one with reddish throat patch. First records for the Batéké Plateau, otherwise known in Congo from only the extreme south (Dowsett & Dowsett-Lemaire 1989, Borrow & Demey 2001).

*P. n. nigerrimus* Vieillot's Black Weaver. R. Common in wooded grassland, forest edges, rivers, camps and villages. Nesting colonies Aug–Feb. Among 28 netted, primary moult Mar, possible active brood patches Dec–Jan. Seven adult males and 21 females (may include some immature males): mass (m) 35–39 ( $37.4 \pm 1.4$ ), (f) 28–34 ( $30.3 \pm 1.8$ ,  $n = 20$ ); wing (m) 82–86 ( $84.1 \pm 1.5$ ), (f) 73–81 ( $76.2 \pm 2.1$ ,  $n = 20$ ); tail (m) 52–55 ( $53.0 \pm 1.4$ ,  $n = 4$ ), (f) 46–50 ( $48.0 \pm 1.6$ ,  $n = 4$ ).

\**P. cucullatus collaris* Village Weaver. R. Breeding colonies in villages, where abundant. One male in breeding plumage netted 27 Dec 2005, Camp des ecogardes: mass 40; wing 85; tail 51 (Fig. 14). The broad chestnut breast band and only very thin strip of chestnut on the back of the neck indicate ssp. *collaris* (known from coastal Gabon to S Congo: Borrow & Demey 2001), rather than *bohndorffi* (most of Gabon and Congo), although the mantle is not as heavily marked as the figure of *collaris* shown in Borrow & Demey (2001).

\**P. tricolor* Yellow-mantled Weaver. R? Uncommon. An adult 19–21 Jan 2004, and a pair 6 Dec 2004, in a burnt clearing in gallery forest at Confluent. Known from the Mayombe region of Congo, but not previously recorded on the Batéké Plateau (Dowsett-Lemaire *et al.* 1993, Borrow & Demey 2001).

\**Pachyphantes superciliosus* Compact Weaver. R. Pairs or small groups, Mt Blanc, frequent. Breeding plumage Nov, Jan–Mar.

*Malimbus nitens* Blue-billed Malimbe. R. Frequent. Singles and pairs in gallery forest and by ponds, Iboubikro and Louna river, Jan–Feb, Nov.

[*M. malimbicus* Crested Malimbe. R. Gallery forest (Dowsett-Lemaire 1997a).]

\**M. rubricollis* Red-headed Malimbe. R? Singles high in gallery forest at Confluent 19–20 Jan and 25 Mar 2004. Not previously known from the Batéké Plateau in Congo, although reported in Brazzaville and the Mayombe (Dowsett & Dowsett-Lemaire 1989).

*Quelea erythrops* Red-headed Quelea. R. Frequent. Flocks in grassland throughout (Ngondoro, Mt Blanc, Camp des ecogardes, Lefini River). Breeding plumage Dec–Mar. Two females or non-breeding males netted, Aug, Nov: mass 15, 16; wing 60, 64; tail 31, 32.

\**Euplectes hordeaceus* Black-winged Red Bishop. R. Abundant in tall plateau grasslands in Lefini north, but only two observations from Mâh plateau. Breeding plumage Feb–Mar, May.

*E. m. macroura* Yellow-mantled Widowbird. R. Abundant. Singles and flocks in grassland throughout. Breeding plumage Nov–May, non-breeding Jul–Nov, in moult Nov. Three males (including two in breeding plumage) and four females netted, active brood patch Feb, male ending primary moult to non-breeding plumage Aug, primary moult finished and tail moult nearly finished to breeding plumage 29 Nov: mass (m) 24, 27, 29, (f) 19–25 ( $21.8 \pm 2.7$ ); wing (m) 81, 81, 81, (f) 66–75 ( $69.3 \pm 4.0$ ); tail (m) 55 (non-breeding), 104 (breeding), (f) 49, 54, 57.

*E. albonotatus* White-winged Widowbird. R. Two observations at Mt Blanc marsh: 14 Feb 2005 (breeding plumage); 28 Dec 2005 (in moult).

\**E. ardens concolor* Red-collared Widowbird. R. Frequent in rank grassland on plateau, especially near Mpoumako, abundant in tall plateau grasslands of Lefini north, one observation at Iboubikro ponds. All-black breeding plumage Feb–May. Previously unreported from the Batéké Plateau, and known in Congo only from the southeast (Loudima and Divénié, Dowsett & Dowsett-Lemaire 1989, Borrow & Demey 2001).

*E. hartlaubi humeralis* Marsh Widowbird. R. Frequent. Singles, pairs and small groups in moist grasslands throughout, except on plateau. Breeding plumage Nov–Jun, non-breeding Jun–Jul.

### **Estrildidae**

*Nigrita canicapillus* Grey-crowned Negrofinch. R. Iboubikro camp, 17 and 26 Sep 2005.

*N. l. luteifrons* Pale-fronted Negrofinch. R. Frequent. Singles and pairs in forest edges throughout (Idzoua Inkou, Iboubikro, Confluent). Nest-building Jan (male, in *Hymenocardia acida* tree). One female netted 16 Aug 2006, possible active brood patch, primary moult: mass 12; wing 56; tail 36.

*N. bicolor* Chestnut-breasted Negrofinch. R. Iboubikro ponds, 14 Jan 2004; Confluent, 12 Nov 2004.

[*N. fusconotus* White-breasted Negrofinch. R. Forest (Dowsett-Lemaire 1997a).]

*Pytilia afra* Orange-winged Pytilia. R. Small flocks frequent in wooded grassland at Idzoua Inkou, Camp des ecogardes. Twelve adults and two juveniles (Oct) netted, primary moult Aug, Oct, Feb: mass (a) 14–19 ( $16.8 \pm 1.5$ ), (j) 17, 19; wing (a) 57–63 ( $60.0 \pm 1.5$ ), (j) 61, 61; tail (a) 31–37 ( $33.7 \pm 1.8$ ,  $n = 7$ ), (j) 32.

*Pyrenestes ostrinus* Black-bellied Seedcracker. R. Frequent. Singles in bushy vegetation, Iboubikro ponds and Confluent. Singing Jan.

*Spermophaga haematina pustulata* Western Bluebill. R. Frequent in forest understorey, Iboubikro and Confluent. Four males, one female and one juvenile (Jan) netted, primary moult Dec: mass (m) 23–25 ( $24.0 \pm 0.8$ ), (f) 24, (j) 22; wing (m) 67–75 ( $71.5 \pm 3.4$ ), (f) 66, (j) 70; tail (m) 55–59 ( $57.5 \pm 1.7$ ), (f) 52, (j) 54.

*Lagonosticta rubricata congica* Blue-billed Firefinch. R. Singles and pairs frequent at Mt Blanc and elsewhere on Mâh plateau. One male netted, Ngondoro, 4 Dec 2002: mass 10; wing 46; tail 40.

*Estrilda paludicola* Fawn-breasted Waxbill. R. Frequent in moist grassland, Ngondoro marsh, Mt Blanc, Etsotso. Juveniles Jan.

*E. m. melpoda* Orange-cheeked Waxbill. R. Pairs, small groups and flocks abundant in tall grassland throughout. Juveniles Feb. Four netted: mass 6–8 ( $7.0 \pm 0.8$ ); wing 43–47 ( $45.0 \pm 1.8$ ); tail 43 ( $n = 1$ ).

[*E. astrild* Common Waxbill. V? Moist grassland (Dowsett-Lemaire 1997a).]

\**Amandava subflava clarkei* Zebra Waxbill. M? Pairs and small groups in tall grassland, Camp des ecogardes (Fig. 14), Iboubikro, Idzoua Inkou, Ngondoro, Nov–Jan. One noted within a small flock of Bronze Mannikins. First record for the Batéké Plateau, but known from Kouilou and the Brazzaville area (Dowsett & Dowsett-Lemaire 1989, Dowsett-Lemaire & Dowsett 1991, Borrow & Demey 2001).

*Ortygospiza locustella* Locust Finch. R? Short moist grassland (Dowsett-Lemaire 1997a).

*O. gabonensis* Black-chinned Quailfinch. R? One at Iboubikro ponds, 1 Jun 2006.

*Lonchura c. cucullata* Bronze Mannikin. R. Flocks abundant in grassland throughout. Nest-building Jan–Feb. At nest Dec, Feb. Juveniles Feb–May, Sep. Group of seven juveniles without adults, Feb 2007. Five netted, primary moult Apr, Jul: mass 8–9 ( $8.4 \pm 0.5$ ); wing 47–49 ( $47.4 \pm 0.9$ ); tail 25–33 ( $30.0 \pm 3.0$ ).

[*L. bicolor* Black-and-white Mannikin. R? Tall grassland (Dowsett-Lemaire 1997a).]

### **Viduidae**

*Vidua macroura* Pin-tailed Whydah. R. Common in grassland on plateau; rarely in reserve except non-breeding birds at camps. Breeding plumage Nov–Apr, non-breeding plumage Sep–Nov. One adult netted, non-breeding plumage, in primary moult, Iboubikro, 4 Nov 2006: mass 13; wing 70; tail 50.

### **Fringillidae**

*Serinus atrogularis* Black-throated Seedeater. R. Pairs and small flocks frequent in wooded grassland throughout. Carrying nest material Feb. Eleven netted: many in primary moult Nov–Dec: mass 9–11 ( $10.2 \pm 0.6$ ); wing 65–70 ( $66.4 \pm 1.6$ ); tail 40–45 ( $41.3 \pm 1.5$ ).

\**S. mozambicus* Yellow-fronted Canary. R. Mt Blanc: small group, 15 Jan 2004; single, 11 Feb 2005.

### **Emberizidae**

*Emberiza t. tahapisi* Cinnamon-breasted Rock Bunting. M. Singles, pairs and small groups in wooded grassland and camps with bare ground, Oct–Apr (earliest 16 Oct 2004, latest 9 Apr 2007). Seven netted (including at least six females), primary moult Mar: mass 12–16 ( $14.3 \pm 1.6$ ); wing 72–78 ( $74.6 \pm 2.2$ ); tail 56–62 ( $59.2 \pm 2.2$ ,  $n = 6$ ).

*E. cabanisi cognominata* Cabanis's Bunting. R. One adult netted, Camp des ecogardes, 5 Nov 2005: mass 23, wing 76, tail 64.

## **Discussion**

In total, I recorded 264 species during the study period. Fifty of the species given by Dowsett-Lemaire (1997a) were not recorded, mainly due to differences in survey

effort and observer experience, although ten of these were based on observations other than her own (Wood Sandpiper, Long-crested Eagle, Montagu's Harrier, Western Grey Plantain-eater, Black Wood-hoopoe, Blue-cheeked Bee-eater, Namaqua Dove, Red-headed Lovebird, Congo Sunbird, Common Waxbill). Fifty-nine species are newly published here, giving a total of 317 species now known from the two reserves (240 given by Dowsett-Lemaire 1997a, 16 more by King *et al.* 2004, King 2007, 2008a, King & Chamberlan 2007 and Rainey *et al.* 2009, and two more in an unpublished 1996 report by K. Bailey, D. Daramani, R.J. Dowsett and F. Dowsett-Lemaire). Sixty-three families are represented, the most species-rich being Sylviidae and Accipitridae (23 species each), followed by Nectarinidae (16), Estrilidae (16) and Ploceidae (15). At least 217 of the species are resident, and another 37 probably are, accounting for 80 % of the species. The remaining species are intra-African migrants (*c.* 4 %), Palaearctic migrants (*c.* 7 %), rare visitors (*c.* 3 %) and undetermined (*c.* 6 %). Four species constitute first records for Congo, details of which have been published elsewhere: Miombo Pied Barbet, Yellow-fronted Tinkerbird, Sladen's Barbet (King & Chamberlan 2007) and Martial Eagle (Rainey *et al.* 2009). One subspecies also represents a new record for Congo, and is newly reported here: the intra-African migrant African Pygmy Kingfisher *Ceyx pictus natalensis*, which occurs sympatrically with the resident subspecies. The Common Kestrel may also be represented by two subspecies, a resident and possibly the Palaearctic migrant *F. t. tinnunculus*. The Grey-headed Kingfisher is represented mostly by the migratory ssp. *pallidiventris*, but there may also be a resident subspecies.

### **Possible additional species**

Staff of the Lesio-Louna management project claim at least another five species for the reserves, which are not included in the present list as they require confirmation: Goliath Heron *Ardea goliath* (Lefini River: F. Ikoli), Saddle-billed Stork *Ephippiorhynchus senegalensis* (Iboubikro ponds, *c.* 2005: P. Mobie), Marabou Stork *Leptoptilos crumeniferus* (Etsotso marsh: B. Ngamouno), Crowned Eagle *Stephanoaetus coronatus* (no specific record but local people have a Téké name for a large, forest-dwelling eagle that eats monkeys: P. Mobie & B. Ngamouno pers. comm.) and Black-casqued Hornbill *Ceratogymna atrata* (Lefini gallery forest: L. Okandza). Additionally, there are surely some species that remain overlooked. The undescribed "Téké Cisticola", known only from the Batéké Plateau region of Gabon (Borrow & Demey 2001), is likely to be present in the reserves, and should be searched for by someone familiar with its distinctive song. Similarly, the locally distributed Dambo Cisticola *Cisticola dambo* may occur in appropriate habitat (rank grass in valley bottoms, F. Dowsett-Lemaire *in litt.*), but also requires expert identification.

The observations presented here are to a large extent restricted to areas at or near the base camps of the reserves management project. Large areas of the reserves remain unsurveyed and some habitats have received little attention. Future work



**Figure 14.** Left: male Village Weaver, Lesio-Louna Reserve, Dec 2005 (photo: C. Chamberlan). Right: Zebra Waxbills, Lesio-Louna Reserve, Dec 2006 (photo: T. King).

focussing on such areas is likely to discover further species. Palaearctic migrants appear to be under-recorded, and careful observation of raptors during migration periods may also reveal additional species.

### **Biogeographical considerations**

The list of 317 species presented here for the two reserves includes 74 Guineo-Congolian and five Zambezan biome species (following Fishpool & Evans 2001), reinforcing the categorisation by Dowsett-Lemaire (2001) of the Batéké Plateau as the northern limit of the Guinea-Congolian/Zambezan transition zone of White (1983) (King & Chamberlan 2007, Dowsett *et al.* 2008). The five Zambezan biome species recorded from the reserves are Black-backed Barbet, Miombo Pied Barbet, Red-throated Cliff Swallow, Sousa's Shrike and Red-capped Crombec. Additionally, several other species recorded in the reserves are also distributed primarily in south-central Africa, either with apparently isolated populations in the Batéké Plateau, such as Pale-crowned, Tinkling and Piping Cisticolas, or which reach their northern limit in the Batéké Plateau through apparently continuous distributions, such as Short-tailed Pipit, Grey Penduline Tit, Green-capped Eremomela and Orange-winged Pytilia.

### **Conservation and management**

The mixing of these two major African avifaunas provides a varied bird community, although overall species richness is poor when compared to other sites in Congo with more complete forest avifaunas. For example, of the six IBAs recognised in Congo, the present site is the only one to support less than half of the 200 Guinea-Congolian biome species known from the country (Dowsett-Lemaire 2001). Therefore it is the savanna avifauna of the reserves which is of higher conservation value than that of the forest. As elsewhere on the Batéké Plateau (Christy 2001, Dowsett-Lemaire 2001),

the reserves are an important refuge for Black-chinned Weaver, Finsch's Francolin and Congo Moor Chat. Finsch's Francolin presumably suffers from hunting, although the species most frequently observed for sale in villages were Red-necked Francolin, African Crake, and Little Buttonquail. The other major threats to the birds of the reserves appear to be the excessive burning of savanna areas, often four or five times a year, which surely disrupts grassland nesting activities and perhaps also availability of arthropod and seed food sources, and deforestation of the cliff forests along the eastern boundary of the Lesio-Louna Reserve for charcoal and crop plantations. The joint management project for the reserves (Mathot *et al.* 2006) is tackling deforestation and to some extent the excessive burning of the savannas, but hunting of birds is not generally regarded as a management concern, certainly not to the same extent as hunting of large mammals. With none of the game birds known from the reserves currently considered of global conservation concern, it is debatable whether efforts to reduce hunting of birds would be useful or justifiable. Conservation recommendations for the birds of the area would therefore simply be to continue to assure sustainable management of the various ecosystems of the Lefini watershed, while investigating the impacts of excessive grassland burning on birds and other fauna and flora. Such information would help in developing an extensive fire management strategy for the area, although any such strategy would be extremely difficult to implement in most areas given the high level of human activity within and around the reserves.

### Acknowledgments

I thank the Ministère de l'Economie Forestière et de l'Environnement of the Republic of Congo, and The Aspinall Foundation of the U.K., for their long-term and continued support of the joint management project for the Lesio-Louna and south-west Lefini Reserves. I also thank the Conservateur of the Lesio-Louna Reserve, Florent Ikoli, and his predecessor Mbani Akangala Mankarika, Christelle Chamberlan, Simon Tyler, Martin Dallimer, David Hayman, Rupert Horsley, Jean Bafinga, Joachim Ombani, Prime Mobie, Ghislain Mvila, Paco Yoka, Gervais Mviri and all the project staff for their help with the field work, Gilbert Nsongola for help with botanical identifications, Richard and Phyllis King for their help with the literature search, Robert Prÿs-Jones and the staff of the British Museum (Tring) for providing access to their specimen collection and library, Michel Louette and the staff of the Royal Museum for Central Africa at Tervuren, Belgium, for access to their specimen collection and library, Christelle Chamberlan, David Hayman, Phyllis King and Andrew Sully for use of their photos, Françoise Dowsett-Lemaire, Robert Dowsett, Patrice Christy, Bob Cheke, Hilary Fry, Bill Clark, Dick Forsman, Ron Demey, Jean Marc Thiollay and Alan Tye for their expert opinions on numerous difficult identifications, Martin Dallimer, Hugo Rainey and Peter Jones for providing valuable

background information and advice, and an anonymous referee for comments on a previous draft.

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