

**The birds of southern Bénin,  
January-February 2009,  
with notes on vegetation and larger mammals**

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## The birds of southern Bénin, January-February 2009, with notes on vegetation and larger mammals

by Françoise Dowsett-Lemaire & Robert J. Dowsett

### Résumé.

Ce rapport détaille les observations de quelque 335 espèces d'oiseaux réalisées au cours d'un séjour de 6 semaines effectué au sud du Bénin, du 20 janvier au 2 mars 2009. Nous avons visité les trois forêts semi-décidues principales du pays (Niaouli, Lama, et Pobè) et la forêt marécageuse de Lokoli, le cordon littoral et la Forêt Classée de Ouari Maro (Bétérou) dans le centre.

La composition floristique des principales zones d'étude est décrite. La plus grande des forêts est de loin la Forêt Classée de la Lama (c. 3800 ha), un mélange de forêt dense sèche (dominée par *Diospyros mespiliformis*, *Dialium guineense* et *Mimusops andongensis*) et de forêt claire de transition (à *Anogeissus leiocarpus* et *Lonchocarpus sericeus*). La forêt de Niaouli a été en partie reconstituée à l'aide de plantations de *Senna siamea*, et la forêt de plateau (env. 60 ha) régénère bien autour d'un petit noyau naturel dominé par *Antiaris toxicaria* et *Ceiba pentandra*; la forêt de bas-fond, plus petite, est assez dégradée et perturbée par les plantations et les habitants. La forêt marécageuse de Lokoli, qui fait localement 500-800 m de large, est en partie inondée; la section la plus intacte se trouve sur la rive orientale (près du village de Lokoli) avec une dominance de *Syzygium owariense* et *Ficus trichopoda*. La forêt de Pobè, à la frontière du Nigeria, ne fait qu'environ 100 ha, et a une voûte très ouverte (dominée par *Antiaris*, *Terminalia superba* et *Triplochiton scleroxylon*), dégradée par l'action des ouragans notamment. La Forêt Classée de Ouari Maro se trouve en zone soudanienne, avec une dominance de forêt claire à *Pterocarpus erinaceus* et *Isoberlinia*, outre de petites forêts sèches dans les dépressions ou le long des affluents de l'Ouémé.

L'avifaune du Bénin restait mal connue, et 20 espèces observées sont "nouvelles" pour le Bénin (encore que deux ou trois avaient été vues auparavant mais les détails n'avaient pas été publiés). Parmi celles-ci, l'Autour à longue queue *Urotriorchis macrourus* (un oiseau non fixé à Lokoli), l'Aigle de Cassin *Spizaetus africanus* (cantonné à la Lama), le Coucal à ventre blanc *Centropus leucogaster* (très commun dans toute la zone forestière), la Chouette-pêcheuse de Bouvier *Scotopelia bouvieri* (plusieurs chanteurs dans la forêt marécageuse de Lokoli), le Barbican hérissé *Tricholaema hirsuta* (forêts de Lokoli et Pobè), l'Indicateur de Willcocks *Indicator willcocksi* (forêt ripicole près d'Agbassa, forêt de Niaouli), le Pic à dos vert (ou de Cailliaud) *Campethera cailliautii* (Lokoli), le Pic tacheté *C. nivosus* (enregistré à Pobè, mais déjà capturé à la Lama par M. van den Akker), le Bulbul de Baumann *Phyllastrephus baumanni* (très commun dans les forêts de transition à la Lama), le Stizorhin de Finsch *Stizorhina fraseri finschii* (Lokoli), la Rousserolle des cannes *Acrocephalus rufescens* (marais côtiers), la Cisticole rousse *Cisticola rufus* (forêt claire de Ouari Maro), le Pririt de Blisset *Dyaphorophya blissetti* (forêt de transition à la Lama), le Souimanga de Seimund *Nectarinia seimundi* (Niaouli), le Souimanga minule *Nectarinia minulla* (petite population cantonnée dans la forêt de Pobè), le Tisserin de Pelzeln *Ploceus pelzelni* (marais côtiers) et la Nigrette à front jaune *Nigrita luteifrons* (Pobè).

L'avifaune guinéo-congolaise des forêts du sud comprend surtout des espèces largement répandues dans ce biome, mais trois espèces typiques de l'Afrique Centrale atteignent au Bénin la limite occidentale de leur distribution: la Chouette-pêcheuse de Bouvier, l'Apalis à gorge rousse *Apalis rufogularis* (très commune à la Lama, et assez commune ailleurs dans le sud) et le Choucador à tête pourprée *Lamprolornis purpureiceps* (d'abord découvert à la Lama par Waltert & Mühlenberg 1999, mais aussi présent à Lokoli).

La littérature récente sur les forêts du sud et du centre est discutée et semble contenir quelques confusions: par exemple le loriot présent dans toutes les forêts sèches du sud est le Loriot à ailes noires *Oriolus nigripennis* et non le Loriot à tête noire *O. brachyrhynchus* (cf. Waltert & Mühlenberg 1999, van den Akker 2003a); le barbion répandu dans la forêt de Niaouli est le Barbion à gorge jaune *Pogoniulus subsulphureus*

et non le Barbion à croupion jaune *P. bilineatus* (cf. van den Akker 2003a). Il nous paraît aussi peu vraisemblable que certaines espèces guinéo-congolaises de forêt humide aient pu être observées dans la zone soudanienne de Ouari Maro/Bétérou (Claffey 1995, 1999a, b), tandis que beaucoup d'espèces communes et caractéristiques de la végétation de cette région n'ont pas été mentionnées par les observateurs qui y ont séjourné. Même les forêts du sud sont plus sèches et ouvertes que les autres forêts du Dahomey Gap (Couloir dahoméen) que nous connaissons de l'est du Ghana. Un signe évident est l'abondance du Bulbul des jardins *Pycnonotus barbatus*, du Merle africain *Turdus pelios*, du Cossyphé à calotte neigeuse *Cossypha niveicapilla* et du Drongo brillant *Dicrurus adsimilis*, même à l'intérieur de ces forêts. Ailleurs dans le biome guinéo-congolais, ces espèces ne pénètrent pas en forêt.

Parmi les mammifères observés, la découverte la plus intéressante concerne le petit galago de forêt, qui a été identifié (par la voix) comme le Galago de Thomas *Galagoides thomasi*: il est répandu dans les forêts de Niaouli (et Drabo Gbo au sud), Lama et Lokoli. Le daman commun partout en forêt (Niaouli, Lama et Lokoli) n'est pas le Daman des arbres *Dendrohyrax dorsalis* mais une espèce à la voix très différente.

Le statut de conservation des différentes forêts est très variable: la Forêt Classée de la Lama est de loin la mieux protégée, et les fragments de forêt claire (présents sur d'anciennes cultures) se transforment progressivement en forêt dense. La Lama abrite la population la plus importante de la Pintade de Pucheran *Guttera pucherani* et aussi la plus grosse population du Singe à ventre rouge *Cercopithecus erythrogaster* au Bénin; ce singe est endémique au Dahomey Gap. A Niaouli, la forêt de plateau est également bien protégée (dans le périmètre de la station de recherche agronomique), mais pas celle du bas-fond, où le sous-bois a été remplacé ici et là par des pépinières ou plantations. La Forêt de Pobè est protégée au sein de la station de recherche agronomique de Pobè sur les Palmiers à huile, mais cette forêt très isolée semble souffrir plus des ouragans et se dégrade. La forêt de Lokoli est la plus menacée, comme les habitants viennent de décider de défricher la forêt de la rive droite pour planter des légumes. Aucune des forêts marécageuses du bassin du bas-Ouémé n'est à l'abri, et l'avenir du Singe à ventre rouge et de beaucoup d'autres espèces dans cette zone est très incertain. La Forêt Classée de Ouari Maro est dégradée dans les environs immédiats du village de Ouari Maro (où niche encore le vautour *Necrosyrtes monachus*, mais pour combien de temps?), mais la section que nous avons visitée entre Agbassa et la rivière Ouémé est vide d'habitants et relativement intacte.

Beaucoup de travail de prospection reste à faire au Bénin, et les forêts du sud devraient être revisitées en saison des pluies, afin de détecter certaines espèces d'oiseaux silencieuses en saison sèche.

## INTRODUCTION

In early 2009 we drove across Togo from Ghana to spend 6 weeks in Bénin (20 Jan to 2 Mar). This was mainly to supervise the field work carried out by a local student (Toussaint Lougbegnon) in the principal remnants of dry rain forest in the south of the country, and in some secondary habitats or plantations in the same area. Five weeks were thus spent in the forest transition zone of the south, and also a few days further north in Ouari Maro Forest Reserve near Bétérou, at the suggestion of Prof. Brice Sinsin (Cotonou University). Patrick Claffey, an amateur ornithologist based at Bétérou for some years, had published bird records from Ouari Maro and adjacent areas (Claffey 1995), and it seemed appropriate to revisit the area. The forests of the south were the object of two recent publications: Waltert & Mühlenberg (1999) for the Lama forest, and van den Akker (2003a) for the Niaouli forest. Anciaux (1996) published a list of 124 species observed in various habitats on the Allada plateau (including Niaouli forest), but using an incomplete field guide (Serle & Morel 1988) she left out forest bulbuls, illadopsis and some other difficult groups. A few recent short notes (Claffey 1999a, b, van den Akker 2003b, van den Akker & Claffey 2004, Jones 2008) deal with a few species new for the country.

Before the mid-1990s, one has to go back to Brunel's (1958) paper to find some information on the birds of southern Bénin; he dealt with between 160 and 170 species, as he was not sure about the identity of some. Brunel was collecting specimens, but also included field notes.

In all we recorded some 335 bird species, of which some 20 are new for the country, although a few

may have been seen previously but the records remained unpublished. Habitats are mentioned in the section below, but more detailed descriptions are presented separately.

Coordinates of localities of study sites are given in Appendix 1. Appendix 2 lists the species tape-recorded by FD-L and Appendix 3 gives details of birds ringed by RJD.

### ITINERARY AND TIMETABLE

- 19 Jan 2009: crossing of Togo from Liati Wote (Afadjato) in Ghana, via the border posts of Klouto and Tohoun (officials all very pleasant). Reached Bohicon (Bénin) at nightfall (Hôtel des Princes, recommended).
- 20 Jan: arrived at Cotonou (University of Abomey-Calavi) in late morning. Met Prof. Brice Sinsin who kindly delivered us with a research permit. Toussaint guided us late afternoon to the house of Peter Neuenschwander north of Togba, near **Ouèga (Drabo Gbo)**, where we stayed overnight.
- 21 Jan: early morning walk in Peter's forest "Drabo Gbo" (13 ha of dry forest, a monkey sanctuary, especially for Red-bellied Monkey *Cercopithecus erythrogaster*) and farmbush beyond. Established research programme with T. Lougbegnon for the next few weeks.
- 22 Jan: University in the morning; midday transfer to small hotel on the coast. Until 24 Jan observations in coastal habitats along the 30-km sand track **between Cotonou and Ouidah**. 24 Jan: afternoon return to Ouèga (Drabo) for the night.
- 25 Jan: morning drive from Akassato to Sô-Ava, in "**Plaine du Sô**", a marsh dominated by *Paspalum* flooded grassland. Midday drive to **Niaouli** (via a good roadside restaurant at Allada, "Le Terminus"), using the forest rest house as our base for 5 nights.
- 25-29 Jan: observations in **Niaouli forest**, including both plateau and "bas-fond" humid forest, the two blocks being separated by c. 2 km of secondary forest, gardens and habitations (the Niaouli Agricultural Research Station); some mist-netting by RJD in bas-fond forest.
- 30 Jan: left Niaouli for **Ouègbo** (also spelt Houègbo) to look at a large *Elaeis* palm plantation overgrown with thickets of *Chromolaena* and tree saplings several m high. Midday drive to **Lama Forestry Station**. Afternoon: established camp in shade on the edge of natural forest, just behind "layon 15", for 6 nights.
- 30 Jan-5 Feb: explored mostly the natural forest (especially "layon 12", area of densest forest, also layons 13 and 14), then some of the Teak plantations (some with natural understorey), and the wide firebreak giving onto derived savanna outside the station.
- 5 Feb: midday move to **Lokoli forest** on the western (right) bank of the river, near the village of **Dèmè**; camp next to the forest.
- 5-8 Feb: visited **Lokoli swamp forest**, including one short afternoon trip by pirogue on the river and narrow tributaries, and on the morning of 8 Feb an area of transition woodland near the village of Egnonhlê.
- 8 Feb: afternoon drive to the eastern (left) bank of the river, to the village of **Lokoli** itself, which by road involves quite a detour (via Zogbodomè and Koussoukpa). Camp on the edge of the forest for 3 nights.
- 8-11 Feb: two full days in swamp forest, with some netting by RJD, and morning of 11th visited some secondary transition woodland near Lokoli.
- 11 Feb: late morning drive to Bohicon for lunch and e-mails, before heading to **Pobè Agricultural Research Station** (with research plots of *Elaeis* oil palms); camp established just inside the forest reserve, next to a watchmen's hut, for 5 nights.
- 12-15 Feb: 4 full days in Pobè forest, quick look at *Elaeis* plantations nearby. RJD put up mistnets on two days.
- 16 Feb: left Pobè, brief stop at bridge on the Ouémé, and bridge over the Zou marsh, before reaching Bohicon for lunch. Toussaint returned to Cotonou while we headed for the north, stopping overnight at **Savè**.
- 17 Feb: drove to the village of **Ouari Maro**, via Bétérou. Camped in cashew nut plantation right on the edge

of the forest reserve for 2 nights. From Tchaourou to Bétérou we came across several road blocks established by friendly villagers to check on security (each time we were asked whether we had encountered problems), there are problems with “coupeurs de route” in the area, but we never met any. Visited patches of dry forest and rocky woodland for 2 days.

- 19 Feb: midday move to Bétérou and on to Agbassa (south-west of Alafiarou). We re-entered the **Ouari Maro Forest Reserve** from Agbassa, along a very rough track leading down to the river Ouémé. The road was so rough that we camped on the ridge in tall rocky woodland 2 km from Agbassa.
- 20 Feb: walked down 8 km to the Ouémé before dawn, spending whole day in gallery forest; walked back just before dusk. This path was used by quite a few people on motorcycles carrying spare parts and other stuff for sale in Togo 75 km to the west!
- 21 Feb: early morning walk down the escarpment from our camp to an area of bovals (or “bowé” in White 1983) and evergreen riparian forest along a spring (c. 3 km south-west of Agbassa). Afternoon drive to Tchaourou and south to **Dassa** (Chez Madeleine), opposite a rocky hill.
- 22 Feb: Dassa, early morning walk up the hill opposite the auberge (secondary growth, little transition woodland). Drove on to Bohicon for lunch and e-mails, then on to **Niaouli forest** for 4 nights.
- 23-26 Feb: revisited bas-fond forest on morning of 23, otherwise rest of time spent in plateau forest; RJD put up some nets near the watch tower.
- 26 Feb: afternoon drive to **Lama forest**, camping again near layon 15 for 4 nights.
- 27 Feb-1 Mar: RJD set up nets on layon 15 for 2 days; visited layon 11, 12 and 15, and drove around the whole block of “noyau central”.
- 2 Mar: left at 8h30 for border crossing via Bohicon at Tohou. Had to buy new visas at Togo border, which was straightforward. Arrived at Kpalimé in Togo for the night (Hôtel Royal). Excellent Austrian cuisine, highly recommended.
- 3 Mar: crossed Togo/Ghana border at Klouto to reach Amedzofe.

*Weather conditions.* Late Jan was very dry, with Harmattan reaching the coast. There was a change of wind (from north to south) overnight at Niaouli on 26/27 Jan, and with increasing humidity birds called far more on the 27th (especially Black-winged Oriole). Thunder and drops of rain twice (late Jan-early Feb) at the Lama; storm near Lokoli on evening of 10 Feb, and a light storm at Pobè on 13 Feb afternoon. Big storm overnight at Ouari Maro late on 17 Feb (following which several cuckoos called the next day). Big storm at Niaouli at 1 a.m. on 26 Feb (first for the area), but rainfall higher at the Lama, as by the time we got back there on 26 Feb, the station had recorded three storms in that month, of 7 to 29 mm (total 59 mm). Short storm evening of 27 Feb; local storm on 28th (layon 11).

## HABITAT DESCRIPTIONS OF SELECTED SITES

### 1. COASTAL BELT

The “beach” on the coast of Bénin has disappeared following the rise in sea levels in the last few decades; today it is limited to a very narrow area of wet sand dropping sharply into the sea. We saw no waders on the few metres of wet sand, and terns can be seen mainly when a boat comes in to offload its catch of fish. A high dune protects the coastal plain from floods most of the time, but the continual rise in sea levels means that the whole area is under risk of more permanent damage; hotel development along the coastal track near Togbin (immediately behind the dune) does not seem to take this into account. Most of those new hotels were totally empty of clients.

Between Cotonou (Togbin) and Ouidah coastal habitats include a belt of coconut plantations up to 400 m wide growing immediately behind the dune, behind which are found small lagoons and marsh (*Paspalum*, *Typha*) with also strips of *Raphia vinifera*, patches of *Avicennia* mangrove and open water. Between Ouidah town and the beach stretches the big Ouidah lagoon, with open water, marsh (flooded *Paspalum vaginatum* grassland with clumps of the large fern *Acrostichum aureum*, small beds of *Typha* or *Phragmites*), *Raphia* swamp and mangrove. Following unchecked urban development behind the beach,

very little natural coastal shrubland remains underneath the coconuts: the biggest clump (about 2 ha) of low thicket near Togbin is dominated by *Syzygium guineense littorale* and *Chrysobalanus icaco* 1-2 m tall, with also *Zanthoxylum zanthoxyloides*. Some other small clumps of thicket may be dominated by exotics such as Neem *Melia azadirachta*.

The Plaine du Sô near Akassato is a mixture of fields, small tree clumps and marsh, mainly flooded *Paspalum* grassland and some open water. There is a lot of disturbance by fishermen.

## 2. NIAOULI

The forest at Niaouli has been protected since 1997 within the limits of the Niaouli Agricultural Research Station (“Station de Recherche sur les Cultures Vivrières de Niaouli”) near the village of Attogon (see also van den Akker 2003a). Most of the station property is occupied by large fallow fields and experimental plots. The plateau forest has a good system of wide tracks and a watch tower or mirador 12 m tall in the “noyau central”, ideal for canopy watching.

The **plateau forest** covers c. 60 ha, of which natural forest covers at most 30 ha (“noyau central” around the watch tower); the rest has been reforested with the help of *Senna* (ex-*Cassia*) *siamea*, a yellow-flowered Caesalpiniaceae of Asian origin. *Senna* is useful as it is fast-growing and allows saplings of native species to take over within a decade or two. It is also host to native Loranthaceae species (*Tapinanthus*), to the benefit of sun-birds and tinkerbirds.

The remnant of native forest in the centre is dominated by *Antiaris toxicaria*, an emergent reaching 40-45 m; it is followed in order of decreasing abundance by *Ceiba pentandra* and *Celtis mildbraedii*; all are trees characteristic (and seasonally deciduous) of dry semi-evergreen rain forest of the Dahomey Gap. Percentage cover of emergents is c. 50%, and there are few, very scattered medium-sized trees (*Albizia adianthifolia*, *Draecena mannii*, *Pouteria* (*Malacantha*) *alnifolia*, *Millettia thonningii*, young *Celtis*...) often smothered by a climbing Marantaceae (*Hypselodelphis violacea*), which also smothers the understorey, forming thickets 2-3 m high. Another common vine or liane is *Baissea axillaris*. From the watch tower one can see the limits of this impoverished but natural forest, the *Senna* canopy appearing c. 250 m to the north and east, 200 m to the south-east, whereas the western edge of the forest is about 500 m away.

The reconstituted *Senna* forest is more extensive than the “noyau central” and has reached various stages of recolonization by native trees, depending on the age of the plantations (which started in 1997). The canopy at 15-25 m is still dominated by *Senna* (some dying), with *Albizia adianthifolia*, *A. zygia*, *Ceiba*, and smaller trees of *Funtumia africana*, *Zanthoxylum* sp., etc. The understorey is rather dense; in the younger patches *Chromolaena* may still dominate but is gradually giving way to native woody plants. Teak trees *Tectona grandis* have been planted along some of the boundaries.

The **bas-fond forest** is around 20-30 ha in size, in the valley some 2.5 km to the north-east of the “plateau”, with a small stream crossing it from east to west and spreading into an open marsh. The forest here is also secondary and disturbed; 2 ha of understorey were recently cleared near the stream for an *Elaeis* palm nursery, and there is a cocoa plantation under native trees next to the stream, and some exotic bamboos (*Bambusa vulgaris*). One side of the forest has been replanted with *Acacia auriculiformis* (native of Australia), now mixed with native vines and small trees. The forest occurs in small patches around and above the stream - some of it is swampy, some is slightly raised, on dry ground. It is also crossed by two main paths used by people to get water in the stream or to wash clothes, and by a track used by motorcycles to reach further villages. There is almost continuous disturbance from families on foot and motorcycles, except where the stream exits the forest.

Important large trees in the swampy area are above all *Hura crepitans* (an exotic Euphorbiaceae, subspontaneous, with spiny trunk, up to 35-38 m tall), and emergent *Hymenaea courbaril* (also introduced, from tropical America, close to the African genus *Cynometra*) reaching 45 m. *Nauclea diderrichi* is also present, *Cleistopholis patens* is widespread and there is a more distant patch of proper swamp forest (with *Hallea stipulosa*) next to the marsh, which was inaccessible. Forest on dry ground is 30-40 m high and is characterized by *Antiaris*, *Ceiba*, *Celtis mildbraedii*, *Musanga cecropioides*, *Myrianthus arboreus*, *Parkia bicolor*, *Pentaclethra macrophylla*, *Piptadeniastrum africanum* (up to 60 m in height), *Pycnanthus angolensis* (several fruiting in Jan-Feb) and *Triplochiton scleroxylon*. There is a single *Entandrophragma angolense* (over 50 m tall, with 2 m

DBH), which was planted by French colonials (a fact van den Akker (2003a) did not mention, nor Cheke (2001), but *Entandrophragma* does not occur naturally in the Dahomey Gap. Akoègninou *et al.* (2006) list many exotic trees in the Flore du Bénin, but curiously forgot this one). Despite the presence of exotics (even some *Hevea* rubber trees), the forest is more luxuriant and of varied structure than on the plateau, but its small size and the heavy disturbance by people limit the interest of birding here.

Bush around the bas-fond forest includes *Elaeis* palm plantations, overgrown with *Chromolaena* and other shrubs. The open marsh is dominated by Cyperaceae and ferns (*Cyclosorus*).

### 3. THE LAMA

The forest is 25 km north of Niaouli, in the Lama depression, a large valley running east-west at an altitude of 20-60 m. At nearly 4000 ha, this is the largest remnant of dry semi-evergreen forest in the whole of southern Bénin. It is now completely and efficiently protected within the limits of the "Station Forestière de la Lama", itself surrounded by a very wide firebreak. Until 1987-88 the natural forest was being eaten into by shifting cultivation, and it is estimated that about 300 ha were disappearing yearly from 1977-1988 (pers. comm. by Mr H. Hodonou, head of research at the Lama). In 1985, Teak plantations were started in the area, eventually covering 7169 ha; in 1988, farmers of different communities were moved out of the forest and regrouped in villages outside the boundaries of the station. Villagers are allowed to collect firewood in the plantations (i.e. fallen branches and left-overs from forestry maintenance work).

The Lama is unique in several respects, first the soil, which is a heavy dark clay called vertisol, with large earthworms living in the top soil in large quantities. They become active in the rainy season and form numerous little bumps; this and the drying out of the clay soil in the dry season make it very difficult to walk on the uneven ground. The only place elsewhere in West Africa where we saw this soil formation is in Faro N.P. of northern Cameroon. The Lama has no streams or swamp forest *sensu stricto*, but the soil gets water-logged in the rainy season, and small depressions and many ditches fill up with water in the shade of the forest. Toussaint Loubegnon showed us what he reckoned was the largest seasonal pool in the forest (between layon 12 and 11): this one fills up between the months of May and November and the edges are clearly marked; it is 30 to 40 m across under closed canopy except for a grassy gap 10 m wide.

The natural forest is in one block crossed by 7 parallel trails or "layons", numbered 9 to 15, and evenly spaced 900 m apart (see map in Waltert & Mühlenberg 1999: 83); numbered pegs are planted every 50 m along each trail, and there are some perpendicular paths in places, for research purposes. The longest trails are between 7-8 km long (layons 14 & 15) or just under 7 km (layons 11, 12 & 13). The block of natural forest is surrounded mainly by Teak plantations.

Teak *Tectona grandis* represents about 80% of species planted; there are also some *Ceiba* and *Terminalia superba*, both native trees. In addition, the understorey is frequently invaded by saplings of native trees and lianes, as well as by *Chromolaena*. The monotony of artificial forest is locally interrupted by small patches of natural forest or thicket left untouched; thus the plantations are not the ecological desert they might seem to be. Moreover, Teak trees are heavily parasitized by the mistletoe *Tapinanthus bangwensis*, planted by tinkerbirds.

**Dense forest.** Part of the Lama forest consists of dense forest with a canopy cover of 80-90%. As indeed Waltert & Mühlenberg (1999) remarked, few tree species can cope with the special soil conditions, but the list of dominant tree species they give is incorrect, and these errors are repeated by Cheke (2001). There are no *Parinari excelsa* at all at the Lama (we never saw one, and the head of research, H. Hodonou confirms they do not exist here), and practically no *Bombax buonopozense* (just one, to be precise: H. Hodonou pers. comm.). *Azelia africana* and *Ceiba* occur but are not dominant. There are very clearly three dominant species of canopy trees: *Dialium guineense*, *Diospyros mespiliformis* and *Mimusops andongensis* (the last is missing from the Flore du Bénin which mentions only *M. kummel*, found in drier forest: Aristide Adomou *in litt.*). They reach a height of 25-30 m, with the occasional taller tree (c. 40 m), usually a *Ceiba*. Understorey trees include many *Celtis philippensis* (called *C. prantlii* in the Flore du Bénin, but *C. philippensis* in Hawthorne & Jongkind 2006, and *C. wightii* or *C. brownii* in earlier works!) and *Drypetes floribunda*, as well as *Cassipourea congoensis*, *Memecylon afzelii*, *Uvaria chamae*, a few Rubiaceae etc. *Cynometra megalophylla* (25 m tall) is dominant on the edge of the large seasonal pool mentioned above,

with an understorey of *Cleistanthus polystachyus*.

**Transition woodland or forest.** An important proportion of the noyau central is occupied by an open type of forest, best called transition woodland (following White 1983). Open formations exist where the forest was cultivated, and were initially invaded by *Chromolaena odorata* and saplings. The dominant trees in the more open areas today are *Anogeissus leiocarpus* and *Lonchocarpus sericeus*, often about 20-25 m tall. The more open section on layon 12 that we visited had a canopy cover of 50%, and in a radius of about 100 m we counted 25 *Anogeissus*, 18 *Lonchocarpus*, 1 *Ficus sur*, 1 young *Antiaris*, and among smaller trees two guava *Psidium guajava*, several *Lecaniodiscus cupanioides* and *Elaeis* palms. A denser variant (with open canopy, but denser mid-stratum) visited off layon 9 had 12 *Anogeissus*, 7 *Ceiba*, 4 *Dialium guineense* reaching 15-22 m, with medium-sized trees belonging to *Lonchocarpus*, *Ficus sur* (10 in a small radius) and a big *Lecaniodiscus*. The ground under canopy gaps was covered by *Chromolaena* shrubs and *Hyparrhenia* grass.

Along layon 15 the situation is exactly intermediate between transition woodland and forest, with larger thickets under *Anogeissus* alternating with small patches of dense forest; by the end of February *Anogeissus* and *Lonchocarpus* were leafless, while *Ceiba* had new leaves and *Albizia glaberrima* were flowering.

**The relative proportion of dense forest** (“forêt dense”) and transition woodland (“forêt claire”) has not been calculated accurately and is in any case changing with time, as the dense forest is slowly extending. Along layon 12, measurements starting at peg 139 (main entrance on the western boundary) gave the following proportion of each forest type: 240 m of FC (forêt claire), under planted *Ceiba* (a policy of forest regeneration undertaken locally), followed by 750 m of FD (forêt dense), then 150 m of FC, 250 m of FD, 400 m of FC, 310 m of FD, 420 m of FC, 330 m of FD (until peg 82). Thus, along 2850 m, the proportion of dense forest is 57%. It is somewhat below this on other trails such as layons 11 or 15.

In 1999 Waltert & Mühlenberg wrote “the Noyau Central contains about 1800 ha of (...) dense forest (...), while the rest is very degraded forest (about 200 ha) and open bush with dominance of the invasive pioneer *Chromolaena odorata*“. In 10 years, recovery is striking: there is no longer any open bush, and *Chromolaena* has acted as an efficient protector for the regeneration of forest species. All this happened also thanks to an efficient policy of fire prevention by the Forestry Department.

#### 4. LOKOLI

Situated on a tributary of the Ouémé river (the Hlan), the **Lokoli swamp forest** is only about 12 km north-east of the Lama (measured from Koto centre to the western bank). The exact size is unknown; at the place we visited, the width of the forest is between 500 and 800 m. It is perhaps a few km long north-west to south-east, but may narrow down to a strip of *Raphia* or secondary growth to the south of Lokoli village. It is not protected in any way, and farmers are busy cutting down patches of forest to grow vegetables (mainly taro, an Araceae). The local village communities have apparently decided to clear the wetter forest on the western bank near Dèmè, while preserving (for the time being) the closed-canopy forest on the eastern bank. Dèmè village is 2-3 km distant from the western bank, while the village of Lokoli is very close to the eastern bank and edge of the forest. The river itself is only a few metres wide and very twisty; the crossing from the Dèmè embarcadère to the other side takes about 15 minutes.

On the western bank the forest is flooded at all times, and it is difficult to walk, although one can try to hop around roots or raised mounds at the basis of trees. Larger trees belong to *Alstonia congensis*, *Hallea stipulosa* and especially the stilt-rooted *Xylopia rubescens*, with fewer *Ficus trichopoda* (ex *F. congensis*); they form an open canopy (c. 50% cover) at 20-25 m. There is no mid-stratum as such, but scattered medium-sized trees belonging mainly to *Spondianthus preussii*, with also *Anthocleista vogelii*, *Cleistopholis patens*, *Psychotria articulata*, *Raphia hookeri* (up to 15 m tall), and young trees of *Alstonia* and *Hallea*. The understorey is rather open, with pools of water and a modest scattering of saplings and tall herbs, an Araceae (*Cyrtosperma senegalense*, called *Lasimorpha senegalensis* in Flore du Bénin) and a fern (*Cyclosorus striatus*, syn. *Thelypteris striata*).

The forest on the eastern bank is much less wet; although the ground is spongy it is possible to walk in the dry season without sinking in too much. The canopy is taller (from 25-30 m near the edge to 30-35

m further inside) and more closed, with cover around 80 to 90%. Dominant trees are *Ficus trichopoda* and *Syzygium owariense*, followed by *Alstonia congensis*; medium-sized trees are *Anthocleista vogelii*, *Spondianthus preussii* and more *Ficus*; the ground is largely bare, with few saplings and a scattering of *Cyrtosperma* and *Cyclosorus* ferns.

The edge of the forest near Lokoli village is sharply defined, with a belt of *Alchornea cordifolia* 3-4 m tall giving way to grassland (some grazed by cattle). Further south, the forest changes to a *Raphia* swamp (*R. hookeri*), with some *Ficus trichopoda*. On the western side, the edges are less clearly defined, but there is also much encroachment by gardens, and the path to the embarcadère crosses an area of low bush and thicket (largely burnt when we visited).

**Transition woodland.** A few km west of Dèmè, the countryside is partly cultivated. Fields abandoned a long time ago are recolonized by transition woodland, and a good example can be seen near Egnonhlê: scattered trees (10- 20% cover) belong to a mixture of woodland and dry forest species (*Albizia adianthifolia*, *Anogeissus*, *Entada abyssinica*, *Lannea acida*, *L. barteri*, *Lonchocarpus sericeus*, *Morinda lucida*). Shrubs (*Chromolaena* and others) and lianes (e.g. *Caesalpinia benthamiana*) cover about 50% of the ground, the rest being taken up by *Hyparrhenia* and other grasses. Near Lokoli village, trees are mainly *Morinda lucida*, the largest belong to *Adansonia digitata* (Baobabs) and *Cola gigantea*; *Elaeis* palms are present.

## 5. POBÈ

Pobè is 50 km east-south-east of Lokoli, and 40 km west of Ilaro Forest Reserve in Nigeria (Button 1967-68). It is close to the Nigerian border, and the forest is indeed crossed by a sand track used daily by hundreds of pedestrians and motorcycles carrying goods from Nigeria to sell in Bénin. The forest is about 100 ha and is protected within the Pobè Agricultural Research Station ("Station de Recherches sur le Palmier à huile de Pobè"), which carries out research on the genetics of *Elaeis* palms. Palm plantations are rather bare here so as to make access to study plants as easy as possible; grass and shrubs are regularly cut back and also grazed by cattle. There are several watchmen's huts scattered around the plantations and along one side of the forest reserve; they are manned day and night, but mostly to protect the plantations. The forest itself is somewhat disturbed by illegal wood collecting; hurricanes are also responsible for the felling of several large trees recently. The forest is surrounded by a well-marked trail, and there are two other main paths crossing the forest in addition to the much used track from the border. A stream crosses the forest and spreads into a small area of swamp forest itself crossed by the track from the border.

Other patches of secondary forest can be seen in two places beyond the confines of Pobè station, some planted with *Acacia auriculiformis* and mixed with native plants.

The main part of the forest is very open, with large scattered trees reaching heights of 40-50 m or even 55 m. The most numerous species are *Antiaris*, *Terminalia superba* and *Triplochiton scleroxylon*, followed by *Bombax buonopozense*, *Ceiba*, *Celtis zenkeri*, *Cola gigantea*, *Khaya grandifoliola*, *Piptadeniastrum africanum* and *Zanthoxylum gillettii*; they cover mostly around 30-40%. A line of *Hymenaea courbaril* (now 40-45 m tall) has been planted along one of the paths. There are few medium-sized trees except near the edges or near the stream (e.g. *Albizia adianthifolia*, *A. glaberrima*, *Anthonota* sp., *Celtis philippensis*, *Cleistopholis patens*, *Dialium guineense*, *Ficus mucoso*, *Iringia gabonensis*, *Lannea barteri*, *Myrianthus arboreus*, *Trilepisium madagascariense*, *Zanthoxylum leprieurii*, the strangler *Ficus thonningii*). *Elaeis* palms occur, but not *Raphia*, except outside the forest in farmbush along a stream. Smaller trees 6-8 m tall form a denser layer, and include *Microdesmis keyana* (common, and fruiting in February), *Rothmannia whitfieldii* (also common) and other Rubiaceae, as well as *Cola millenii*, *Leptonychia pubescens*, *Newbouldia laevis*, *Olex subscorpioidea*, etc.

The densest fragment of forest (with also more lianes) is in the swampy section and covers a few ha, but disturbance by the almost incessant traffic is a problem in that area.

## 6. OUARI MARO FOREST RESERVE

**Ouari Maro.** The main vegetation type around Bétérou is Sudanian *Isoberlinia-Pterocarpus* woodland. Close to the village of Ouari Maro the landmark is the rocky hill of Soubakpérou, rising to 620 m above a plateau lying

at 300- 400 m. The hill is still a tourist attraction, although the project that tried to protect the patches of forest and develop ecotourism in the reserve is now defunct through lack of funding. The tourist path is well marked, and a number of trees still bear signs with names on, while others have been cut down. Rocky woodland is characterized by *Bombax costatum*, *Burkea africana*, *Pterocarpus erinaceus*, *Vitellaria paradoxa*, etc. Many *Pterocarpus* and at least one *Khaya* had been cut down for planks, some collected, others left lying about.

We visited small patches of dry forest along a stream at the foot of the hill, most of it now cut down to be replaced by banana gardens. The main trees in the valley bottom are or were *Diospyros mespiliformis*, *Manilkara multinervis* and *Dialium guineense*; we also noted a few *Khaya senegalensis*, *Ceiba pentandra*, *Celtis roka* (syn. *C. integrifolia*) in a gully, a strangling *Ficus polita*, some *Lecaniodiscus cupanioides*, and tangles of the spiny creeper *Acacia ataxacantha* (or *pentagona*). *Anogeissus* is widespread in transition woodland around, with also several *Ficus ingens* and *F. umbellata*.

**Agbassa.** The woodland in this part of the reserve is less damaged than around Ouari Maro. One big *Isobertia tomentosa* had been cut down for planks, but otherwise there is little exploitation. The gallery forest along the Ouémé is 10 km north-west of Agbassa by road (less in a straight line). The vegetation between Agbassa and the river is mostly dry woodland, some *Anogeissus* deciduous forest, with narrow strips of riparian forest along tributaries (with *Raphia sudanica* and even *Elaeis* palms). On the Ouémé the gallery forest is patchy but with some broad segments 15-20 m tall (*Cola laurifolia*, *Dialium guineense*, *Synsepalum brevipes*, *Syzygium guineense*, the odd big *Parinari congensis*). There are also small sand beaches and rocks. Some high-clearance lorries manage to cross the river, driving over small rocks. Woodland in the valley bottom on the outer edge has *Acacia sieberiana*, *Azelia africana*, *Anogeissus*, *Daniellia oliveri*, *Isobertia*, *Lonchocarpus sericeus*, *Parkia biglobosa*, *Pterocarpus erinaceus*, *Terminalia* sp. and *Vitellaria*.

On the escarpment just below our camp site, riparian strips along a flowing spring had *Cola gigantea*, *C. millenii*, *Khaya senegalensis*, *Syzygium guineense*, with 25-30 m tall *Anogeissus*, *Bombax costatum* and *Parkia biglobosa* on the edges. A striking small, branched *Euphorbia (poissoni)*, 2-3 m tall, grows on rocky slopes.

## ANNOTATED BIRD LIST

Vernacular names usually follow Borrow & Demey (2001) and scientific nomenclature Dowsett & Forbes-Watson (1993), with a few modifications. An \* indicates species new for Bénin.

\*Little Grebe *Tachybaptus ruficollis* (Grèbe castagneux). One on a lagoon at Togbin, 22 Jan. No previously published record for Bénin.

Long-tailed Cormorant *Phalacrocorax africanus* (Cormoran africain). Singles in coastal lagoon at Togbin, in plaine du Sô, in the Zou marsh and on the Ouémé river near Agbassa.

Little Bittern *Ixobrychus minutus* (Blongios nain). One of the African race watched at close range in the marsh at Ouidah, perched in a clump of *Acrostichum* ferns.

White-crested Tiger Heron *Tigriornis leucolopha* (Butor ou Honoré à huppe blanche). Two birds singing just before dawn (at 6h30) in Lokoli flooded forest, 7 and 8 Feb. First records for this locality; only one published record for Bénin (Anciaux 1996) from Niaouli bas-fond. Today the bas-fond area is probably too heavily disturbed by people for this species to survive there.

Black-crowned Night Heron *Nycticorax nycticorax* (Bihoreau gris). One flying over the Lama forest, 3 Feb, calling at 22h. Frequently heard at night at Lokoli.

Squacco Heron *Ardeola ralloides* (Crabier chevelu). A few in flooded grass at Togbin and Zou marsh.

Cattle Egret *Bubulcus ibis* (Héron garde-boeufs). Common in marsh, fallow fields, open ground under plantations, usually following cattle.

Green-backed Heron *Butorides striata* (Héron strié). A few in coastal swamps, and on the Ouémé near Agbassa. One on the small stream in Pobè, inside forest.

Little Egret *Egretta garzetta* (Aigrette garzette). A few in Zou marsh.

Western Reef Egret *Egretta gularis* (Aigrette des récifs). One (white phase) in Ouidah lagoon.

- Great Egret *Egretta alba* (Grande Aigrette). One in Ouidah lagoon.
- Grey Heron *Ardea cinerea* (Héron cendré). One in Ouidah lagoon.
- Hamerkop *Scopus umbretta* (Ombrette). One on Ouémé river near Agbassa, and one by pool on the road near Tchaourou.
- African Openbill Stork *Anastomus lamelligerus* (Bec-ouvert africain). Three in flight over lagoon at Togbin.
- White-faced Whistling Duck *Dendrocygna viduata* (Dendrocygne veuf). About 20 in Zou marsh.
- African Pygmy Goose *Nettapus auritus* (Anserelle naine). Eight in Zou marsh.
- African Cuckoo Hawk *Aviceda cuculoides* (Baza coucou). Recorded at all four forest sites, first birds singing on 31 Jan-3 Feb (Lama), then on 7 Feb (Lokoli). One territory at the Lama included open forest on layon 15 and adjacent Teak plantations; another was off layon 9. At Niaouli not recorded on Jan visit but only in Feb (in display flight over bas-fond).
- Black-shouldered Kite *Elanus caeruleus* (Elanion blanc). Widespread in open habitats, from coastal belt to Dassa, and to the eastern (Pobè) and western (Tohoun) borders.
- Yellow-billed Kite *Milvus migrans* (Milan noir). Small numbers throughout: marsh, villages, fields, plantations and forest edges. An occupied nest in a big *Ceiba* in the middle of Teak plantation (Lama), 5 Feb. One nest-building near Ouari Maro, 18 Feb.
- Palm-nut Vulture *Gypohierax angolensis* (Vautour palmiste ou Palmiste africain). Occasional at the Lama (e.g. layon 12, rainwater pool near layon 15), Lokoli and near Agbassa (one adult on the river). In savanna areas normally associated with *Raphia sudanica*, which is common near Agbassa.
- Hooded Vulture *Necrosyrtes monachus* ("Vautour charognard" in Borrow & Demey, but "Percnoptère brun" in Dowsett & Forbes-Watson is surely a better name). Over a dozen birds at Ouari Maro around the hill of Soubakpérou; one pair with an occupied nest in a tall *Ceiba* (18 Feb).
- African White-backed Vulture *Gyps africanus* (Vautour africain). One at Ouari Maro.
- Beudouin's Snake Eagle *Circaetus beaudouini* (Circaète de Beudouin). One perched in a bare tree by the Ouémé river (Agbassa).
- Brown Snake Eagle *Circaetus cinereus* (Circaète brun). One at Ouari Maro, one near Agbassa.
- Western Banded Snake Eagle *Circaetus cinerascens* (Circaète cendré). One singing over Lokoli forest, 6 Feb (12h). One calling and singing over layon 15, Lama, on 27 Feb (10h30) and 28 Feb. One singing at Ouari Maro on 18 Feb (12h45) and near Agbassa on 21 Feb (12h05).
- Bateleur *Terathopius ecaudatus* (Aigle bateleur ou Bateleur des savanes). Several near Ouari Maro and Agbassa-Ouémé, also one between Alafiarou and Bétérou.
- [Congo Serpent Eagle *Dryotriorchis spectabilis* (Serpentaire du Congo). Possibly one heard on the edge of Lokoli forest evening of 8 Feb, singing for 2-3 minutes at 18h. Unfortunately we were some way inside forest and the sound was not carrying clearly enough to be certain. As we established camp in that area the same evening for 3 nights, we thought we might hear it again, but that did not happen. If indeed it was this species, then the bird did not stay (this raptor is very vocal in the dry season). Never recorded in Bénin before, but worth looking out for.]
- African Harrier Hawk (Gymnogène) *Polyboroides typus* (Gymnogène d'Afrique). Widespread at all forest sites, also at Ouari Maro, Agbassa and west of Abomey. Some singing or displaying, all hours of the day although more often in the mornings (Feb).
- Eurasian/Western Marsh Harrier *Circus aeruginosus* (Busard des roseaux). One male in Plaine du Sô, 25 Jan. One male at the Lama over savanna outside firebreak, 4 Feb. One male in savanna between Dèmè and Egnonhlê, 8 Feb. One male drifting over Pobè forest in strong wind, 14 Feb. One female/immature in open woodland near Ouari Maro, 18 Feb.
- Pallid Harrier *Circus macrourus* (Busard pâle). One male between Pobè and Kétou, 16 Feb.
- Gabar Goshawk *Melierax gabar* (Autour gabar). One near the Ouémé (Agbassa).
- Black Sparrowhawk (Goshawk) *Accipiter melanoleucus* (Autour noir). Widespread in the forest zone: at Niaouli "plateau" one adult visited its old nest on 29 Jan, causing panic in bulbuls and other small birds around. The nest is in a tall *Antiaris* close to the watch tower, and has been occupied for several years (T. Lougbegnon pers. comm.). At Lokoli, one left the forest flying into Lokoli village and came back within minutes with a chicken (6 Feb). One seen on layon 11 at the Lama, 1 Mar.

- Ovambo Sparrowhawk *Accipiter ovampensis* (Epervier de l'Ovambo). Three sightings in woodland near Ouari Maro and Agbassa-Ouémé; one chased by a pair of African Golden Orioles.
- Red-thighed (Western Little) Sparrowhawk *Accipiter erythropus* (Epervier de Hartlaub). Widespread in the forest zone: singles seen at the Lama, Lokoli, Pobè and a pair at Niaouli (flying through the open canopy late evening on the plateau, with high-pitched calls, 25 Feb). Usually in open understorey or forest edges; at the Lama, one flying across road between plantation and forest; near Egnonhlê, one perched in a *Lonchocarpus* in transition woodland.
- African Goshawk *Accipiter tachiro* (Autour tachiro). Widespread in the forest zone (all 4 main localities), and more easily located than other *Accipiter* species as very vocal, singing perched or in flight in the early morning. Also in the dry forest at Drabo Gbo, near Ouèga (seen, also singing on 25 Jan).
- Shikra *Accipiter badius* (Epervier shikra). Widespread, from the coast to Dassa and Agbassa. In savanna woodland, coconut plantations (Togbin), *Elaeis* plantations (Ouègbo), Teak plantations (Lama), ecotone of fields and forest edges (Niaouli plateau). At Pobè, one seen perched (and calling) in open canopy 50 m from the edge. One attacked (unsuccessfully) a White Helmet Shrike in a recently felled Teak plantation.
- \*Long-tailed Hawk *Urotriorchis macrourus* (Autour à longue queue). One sang a few times while flying through forest at Lokoli (opposite Lokoli village), 9 and 10 Feb, 7h30 on both days. By the 10th it was calling in degraded *Raphia* forest further south, and was not heard in the area on the 11th. First record for Bénin (tape-recorded), but this bird was probably no more than an unsettled wanderer. It is known from Ilaro, 40 km east of the Nigerian border (Button 1967-68). Although Cheke (2001) lists this species in the Guineo-Congolian biome table for Bénin, he gave no locality and we are not aware of any earlier record.
- Lizard Buzzard *Kaupifalco monogrammicus* (Buse ou Autour unibande). Almost throughout (all localities except coastal belt). A common and noisy species of savanna woodland, farmbush and forest edges.
- Red-necked Buzzard *Buteo auguralis* ("Buse à queue rousse" in Dowsett & Forbes-Watson is better than "Buse d'Afrique" in Borrow & Demey). One near Ouidah lagoon; a few in Ouari Maro F.R., both sites.
- Tawny Eagle? *Aquila ?rapax* (Aigle ravisseur). One large brown *Aquila* in savanna near Egnonhlê (near Dèmè) on 8 Feb, and another on the road to Pobè on 12 Feb, were probably this species.
- African Hawk Eagle *Hieraaetus spilogaster* (Aigle fascié). One adult near the hill of Soubakpèrou, calling (19 Feb), and an immature on the Ouémé (Agbassa).
- \*Cassin's Hawk Eagle *Spizaetus africanus* (Aigle de Cassin). At Lama one singing 3-4 times near layon 12 on 31 Jan (9h) and one singing over forest along layon 11, on 1 Mar (at 9h55) - the characteristic "ku-ku-wee, ku-ku-wee". A big nest in a 30-m tall *Ceiba* nearby might belong to this eagle. The nest is at a height of 22-23 m and is about 1 m in diameter. First record for Bénin, this species is common in the forests of the Dahomey Gap on the Ghana/Togo border (pers. obs.), and it is known from Ipake (Ilaro), 40 km east of the Nigerian border (Elgood *et al.* 1994).
- Long-crested Eagle *Lophaetus occipitalis* (Aigle huppé ou huppard). One in a cassava field near the Koto station at the Lama; two sightings at Lokoli, including one circling high over the forest.
- \*Crowned Eagle *Stephanoaetus coronatus* (Aigle couronné). One seen and heard singing briefly by RJD near layon 15 on 4 Feb, at 15h, is a first record for the area and probably for the country (Dowsett *et al.* in prep.). The Lama forest is the only block of sufficient size in southern Bénin to support a pair of this large monkey-eating eagle. Not re-contacted during our second visit; perhaps a vagrant from Nigeria.
- Martial Eagle *Polemaetus bellicosus* (Aigle martial). A subadult perched on a large tree near the Ouémé river, Agbassa, 20 Feb.
- Osprey *Pandion haliaetus* (Balbuzard pêcheur). Togbin on the coast: one perched in a tall *Avicennia*, eating fish, attacked by a pair of Shikra, 23 Jan.
- Common Kestrel *Falco tinnunculus* (Faucon crécerelle). A noisy pair at the hotel near Togbin. One at Niaouli, on a road outside forest. Conspicuous at Pobè, with a pair calling around the station build-

ings, and another strongly territorial (calling, chasing other birds) in an *Elaeis* palm plantation, probably with a nest. The mown lawns under *Elaeis* are optimal habitat for this species.

- Grey Kestrel *Falco ardosiaceus* (Faucon ardoisé). Widespread. A noisy pair in the plateau forest at Niaouli, seen mating on morning of 26 Jan. (Probably does most of its hunting in the open grounds outside the forest). Ouègbo (in *Elaeis* plantation). Seen outside forest at the Lama, in savanna near the fire-break. Pobè, encountered once in open canopy. In woodland at Ouari Maro.
- Eurasian Hobby *Falco subbuteo* (Faucon hobereau). One near Agbassa, 21 Feb.
- African Hobby *Falco cuvierii* (Faucon de Cuvier). Singles, outside forest, at Niaouli and Lama.
- Lanner Falcon *Falco biarmicus* (Faucon lanier). Two in a large tree on the edge of bas-fond forest at Niaouli, one calling and interfering with the other, suggests possible breeding in the area. Also at Lama (off layon 9), Ouari Maro (rocky hill), Dassa (rocky hill).
- Double-spurred Francolin *Francolinus bicalcaratus* (Francolin à double éperon). Throughout the country, in farmbush and any rank grass (including Togbin), and woodland.
- Ahanta Francolin *Francolinus ahantensis* (Francolin d'Ahanta). Heard once at night at Drabo Gbo (Ouèga), but extinct in the grounds of Niaouli station, and absent from Lokoli (swamp forest is not suitable habitat). Very rare now at Pobè (one or two heard in the densest section), where nearly hunted out. Common only in the Lama forest: in the dry season calling mostly at night, as at 5 a.m. (two hours before dawn) near our tent! After some rain calling also in the morning (even 9 a.m. on 28 Feb). Heard at night in transition woodland at Ouari Maro, and one flushed from a patch of dry forest.
- Stone Partridge *Ptilopachus petrosus* (Poulette de rocher). Common in Ouari Maro, in rocky woodland and gallery forest. Also on rocky hill at Dassa.
- Crested Guineafowl *Guttera pucherani* (Pintade huppée ou de Pucheran). Groups or individuals encountered several times in the Lama forest. Some singing in early Feb; more on 1 Mar, even in mid-afternoon. Population of the order of a few hundreds. Although van den Akker (2003a) does not refer to this species for Niaouli, it used to occur, and the last one was shot at bas-fond in 2000 (hunter and body seen by forest guards).
- [Nkulengu Rail *Himantornis haematopus* (Râle à pieds rouges). Several of the forest guards or local inhabitants appear to be familiar with the nocturnal song of the species. Vincent Gbédiga at the Lama told us he was familiar with the species which he and colleagues often hear at night; fishermen at Dèmè seem to know the calls, which they hear when they go hunting for snails in Lokoli forest. This species is common in all secondary forests of the Dahomey Gap in eastern Ghana (pers. obs.), and could well occur in southern Bénin. Calling can be seasonal, and tends to stop in very dry conditions.]
- White-spotted Flufftail *Sarothrura pulchra* (Râle perlé). Common in forest understorey at Niaouli, Lokoli and Pobè, probably so at the Lama, but still largely silent. Was singing a lot already at Niaouli end of Jan, even in plateau forest; whereas at the Lama, not singing at all in early Feb, and heard only twice on our second visit (layon 15, layon 11), 26 Feb and 1 Mar.
- Black Crake *Amaurornis flavirostra* (Râle à bec jaune). Not a forest species, seen/heard in coastal marsh (Togbin, Ouidah), grass marsh on the Zou river, and on the banks of the Ouémé river (Agbassa).
- Common Moorhen *Gallinula chloropus* (Poule d'eau). Seen in the herbaceous marsh on the Zou.
- African Finfoot *Podica senegalensis* (Grébifoulque). One flushed from an arm of the river at Lokoli. One on the Ouémé river near Agbassa.
- African Jacana *Actophilornis africanus* (Jacana à poitrine dorée). A few in open marsh (*Cyclosorus* and *Cyperaceae*) at Niaouli, below the bas-fond forest. One or two pairs in taro gardens cleared from swamp forest at Lokoli, seen from the boat. Common in coastal marsh (Togbin, Plaine du Sô), and on the Zou.
- Greater Painted Snipe *Rostratula benghalensis* (Rhynchée peinte). One edge of lagoon at Togbin.
- Black-winged Stilt *Himantopus himantopus* (Echasse blanche). A few in coastal lagoons.
- Senegal Thick-knee *Burhinus senegalensis* (Oedicnème du Sénégal). One calling at dusk on the beach at our hotel near Togbin. Heard overnight at Lokoli (10/11 Feb).
- Common Pratincole *Glareola pratincola* (Glaréole à collier). Common in Plaine du Sô.

- Common Ringed Plover *Charadrius hiaticula* (Grand Gravelot). A few in coastal lagoons and Plaine du Sô.
- Spur-winged Lapwing (Plover) *Vanellus spinosus* (Vanneau éperonné). One pair in Plaine du Sô, and one in Zou marsh.
- Common Snipe *Gallinago gallinago* (Bécassine des marais). One in wet grass in Plaine du Sô.
- Whimbrel *Numenius phaeopus* (Courlis corlieu). Three at Ouidah lagoon.
- Common Greenshank *Tringa nebularia* (Chevalier aboyeur). A few in coastal lagoons.
- Green Sandpiper *Tringa ochropus* (Chevalier culblanc). On the Ouémé river (Agbassa), 20 Feb.
- Wood Sandpiper *Tringa glareola* (Chevalier sylvain). Some in coastal lagoons, Plaine du Sô and Zou marsh.
- Common Sandpiper *Actitis hypoleucos* (Chevalier guignette). A few in coastal lagoons, Zou marsh and on the Ouémé river (Agbassa).
- \*Royal Tern *Sterna maxima* (Sterne royale). About 15 following the landing of a fishing vessel at Togbin, 23 Jan. There are some unpublished records from the coast (Claffey MS; T. Lougbegnon pers. comm.).
- Sandwich Tern *Sterna sandvicensis* (Sterne caugek). At least one in a flock of terns following the arrival of a fishing vessel on the beach, Togbin, 23 Jan.
- [Western Bronze-naped Pigeon *Columba (delegorguei) iriditorques* (Pigeon à nuque bronzée). This frugivorous pigeon must be subject to local movements, as we saw and heard none at the Lama, where reported as “frequent” in the rains by Waltert & Mühlenberg (1999). Indeed, there were virtually no fleshy fruits in the Lama in Feb. One pair of pigeons, almost certainly this species, seen flying away over the canopy at Niaouli, 24 Feb. One possibly at Pobè, but requires confirmation. Easily overlooked when not calling. At Ilaro 40 km east of the Nigerian border, Button (1967-68) remarked that the birds sang mainly in the rainy season.]
- Laughing Dove *Streptopelia senegalensis* (Tourterelle maillée). Commensal species, recorded throughout in villages and fallow fields.
- Vinaceous Dove *Streptopelia vinacea* (Tourterelle vineuse). Dominant species in the woodlands of Ouari Maro. Rarer in the south (probably just a dry-season visitor, see also Anciaux 2000, 2002): a few at Togbin, in coconut plantations with *Tephrosia* etc. ground layer (22-23 Jan); Plaine du Sô; one near Dèmè village (6 Feb); one singing next to Zou marsh.
- Red-eyed Dove *Streptopelia semitorquata* (Tourterelle à collier). Common in rich woodland in Ouari Maro F.R. (transition woodland, *Anogeissus*, riparian vegetation). Widespread in the south, including the coast, normally outside forest, but no observation at Niaouli, and rare at Lama (1-2 flying over), except in the garden of the station at Koto. Common in transition woodland near Lokoli, heard once or twice in swamp forest.
- Black-billed Wood Dove *Turtur abyssinicus* (Emerauldine à bec noir, ou Tourtelette d’Abyssinie!). Present in Ouari Maro, but less common than *T. afer*. Very rare in the south: one heard in dry bush with Mango trees near Dèmè.
- Blue-spotted Wood Dove *Turtur afer* (Emerauldine à bec rouge, ou Tourtelette améthystine!). Throughout, in farmbush, at forest edges and in transition woodland; also in *Senna* forest at Niaouli.
- Tambourine Dove *Turtur tympanistris* (Tourtelette tambourette). Seen in dry forest at Drabo Gbo (not singing in Jan), and widespread at all forest sites. One or two singing at Niaouli from 27 Jan; but none singing at Lama nor Lokoli (sight records only), some singing a little in Pobè mid-Feb, but no more song in Niaouli and Lama late Feb. One possible (brief) sight record near Ouari Maro.
- African Green Pigeon *Treron calvus* (Colombar à front nu, ou Pigeon vert). Widespread, all localities except on the coast. Small numbers, with little fruiting in forest in Jan-Feb. Seen feeding on fruit of *Ficus exasperata* (Lama, Niaouli, outside main forest), *F. ingens* (Ouari Maro), *F. trichopoda* (Lokoli) and *Antiaris* (Niaouli, late Feb). In the absence of ripe *Antiaris* or *Celtis* fruit, the “noyau central” at Niaouli has little to offer.
- Senegal Parrot *Poicephalus senegalus* (Perroquet youyou). Common in Ouari Maro, otherwise very small numbers elsewhere (Togbin, Drabo Gbo, Lama).
- Rose-ringed Parakeet *Psittacula krameri* (Perruche à collier). A pair and a group of 3 near Togbin.

Green Turaco *Tauraco persa* (Touraco vert). In small numbers in all forest localities from Niaouli north to Ouari Maro, but apparently absent from Pobè on the Nigerian border. Near Agbassa occupies strips of riparian forest at springs (not recorded on the Ouémé itself). The absence of turacos at Pobè may mean that this forest was in the past occupied by Yellow-billed Turaco *T. macrorhynchus*, as this species occurs in south-west Nigeria (e.g. the Lekki peninsula, pers. obs. in Elgood *et al.* 1994). Brunel (1958) wrote that he collected one *T. persa* at Pobè; J. Berlioz remarked (in *Bull. Mus. Natl. Hist. Nat.* 1956, 28: 262) that the long feathers of the crest ended with red spots, “rappelant un peu ce caractère du *T. verreauxi*”.

Green Turacos were not very vocal in Jan-Feb, singing occasionally but taking no part in dawn or dusk chorus. Seen taking fruits of *Dialium guineense* at the Lama.

Violet Turaco *Musophaga violacea* (Touraco violet). Present in a strip of riparian woodland or forest near Egnonhlê. In the north very common in gallery forest on the Ouémé (Agbassa), and next to Green Turacos in dry forest and thickets near Ouari Maro. Heard near Alafiarou.

Western Grey Plantain-eater *Crinifer piscator* (Touraco gris). Widespread in woodland (Dassa to Ouari Maro) and transition woodland (Lokoli), to coastal bush and mangrove. Uncommon in Teak plantations with some native vegetation (Lama), and in strips of secondary forest or *Senna* plantations edge of fields (Niaouli).

Levaillant's Cuckoo *Clamator levaillantii* (Coucou de Levaillant). One in mangrove near Togbin. In the forest zone likely to be no more than a non-breeding visitor: singles or a few adults and immatures at Drabo Gbo (forest), Ouègbo (*Elaeis* plantation, Jan), Niaouli (forest edges, Jan), Lama (several on both visits, as many as 3 adults together on 27 Feb, one adult on 1 Mar, and an immature 26 Feb) and Pobè (even in canopy, in *Antiaris*). May give brief snatches of song in the winter quarters. Not yet active in the north (Ouari Maro), but one singing at 21h on 18 Feb was possibly prompted by rain the previous night.

Thick-billed Cuckoo *Pachycoccyx audeberti* (Coucou d'Audebert). Niaouli: one singing in flight over bas-fond, 28 Jan (10h35), and one singing edge of plateau forest, 25 Feb (9h5). Lama: one singing over layon 12, 1 Feb (c. 8h), and forest edge near layon 15, 2 Feb; one singing layon 12 on 1 Mar (7h50-8h).

Black Cuckoo *Clamator clamosus* (Coucou criard). A very early song on 18 Feb at Ouari Maro, probably prompted by recent rain. The rolled call of this cuckoo is imitated by the local Snowy-crowned Robin Chats. Not yet singing in the forests of the south, where known to occur (Waltert & Mühlenberg 1999, van den Akker 2003a). Another cuckoo that should be widespread but is completely silent in the dry season is Red-chested Cuckoo *C. solitarius*. It is common on the Nigerian side of the border (Button 1967-68).

African (Grey) Cuckoo *Cuculus gularis* (Coucou gris africain). Two in Plaine du Sô, taking caterpillars on the ground, 25 Jan. One singing on 18 Feb at Ouari Maro, but not yet singing near Agbassa. One singing outside firebreak near the Lama, in degraded savanna, 28 Feb.

African Emerald Cuckoo *Chrysococcyx cupreus* (Coucou foliotocol). Not yet singing in the dry season, but at the Lama its song can be heard imitated by Fraser's Forest Flycatcher, a resident species. Indeed the cuckoo was noted in the rains there by Waltert & Mühlenberg (1999).

Klaas's Cuckoo *Chrysococcyx klaas* (Coucou de Klaas). Noted at all forest localities from Drabo Gbo to Ouari Maro F.R. (there mainly in riparian vegetation). Not yet in full song. At the Lama, in open forest as well as in neglected Teak plantations.

Didric Cuckoo *Chrysococcyx caprius* (Coucou didric). Still vocally inactive in Jan-Feb; one seen feeding near the ground in a old maize field, Ouègbo, 30 Jan.

Yellowbill (Green Coucal) *Ceuthmochares aereus* (Malcoha à bec jaune). Widespread and fairly vocal, all forest localities in the south, including Drabo Gbo.

Black Coucal *Centropus grillii* (Coucal noir). One (in non-breeding dress) in *Eleocharis* marsh near Ouidah, 24 Jan.

\*Black-throated Coucal *Centropus leucogaster* (Coucal à ventre blanc). Widespread at all forest localities, from Drabo Gbo to Lokoli. New for Bénin (tape-recorded), and presumably confused with Senegal

Coucal by earlier observers. Far more often heard than seen (seen once at close range at the Lama), this coucal has a deep, slow song and especially a contact call (rapid “doukdoukdoukdoukdouk...”) for which there is no equivalent in Senegal Coucal. Heard several times daily, often in twilight hours. Especially common in Niaouli plateau forest, more scattered in Lama transition woodland and Pobè, uncommon at Lokoli (understorey generally too open for this species). This bird is common in the forests of the Dahomey Gap in Ghana and Togo, and on the Nigerian side of the border (Button 1967-68).

Blue-headed Coucal *Centropus monachus* (Coucal moine). One seen at close range on muddy ground close to marsh, Plaine du Sô; heard in *Raphia* swamp near Ouidah. A few at forest edges and in *Raphia* at Lokoli.

Senegal Coucal *Centropus senegalensis* (Coucal du Sénégal). Throughout, in (transition) woodland, farm-bush, thicket clumps, and sometimes at forest edges (Lokoli), but never inside forest. The black morph was seen several times on the coast and occasionally elsewhere, north to Lama and Pobè.

Barn Owl *Tyto alba* (Chouette effraie). Widespread in open habitats, from Drabo Gbo to Dassa. With begging young at Drabo Gbo (21-26 Jan); along roads at the Lama; fields and garden near the rest house at Niaouli; derived savanna at Lokoli; *Elaeis* plantations at Pobè.

African Scops Owl *Otus senegalensis* (Petit-duc africain). Common in Ouari Maro F.R. (woodland). Also heard in degraded savanna woodland outside the firebreak at the Lama.

Northern White-faced Owl *Ptilopsis leucotis* (Petit-duc à face blanche). One near Drabo Gbo. Common in Ouari Maro F.R., including Agbassa (woodland and thickets); more local in transition woodland at the Lama (layon 15), but common in degraded transition woodland near Lokoli, and heard at ecotone of secondary forest and fallow field at Niaouli (close to the rest house), and ecotone of *Elaeis* plantation and thicket at Pobè. At several localities both song types have been heard, the 2-note plain song and the purred song (second song type in Chappuis 2000). The latter form has also been heard frequently in Ghana in Mar-Apr. We have heard it in different individuals distant enough to be territorial neighbours, but more often within a pair of birds (one bird giving the normal song, the other only the purred song, which is also softer), and it may be given mainly by the female, and particularly during the mating season.

Spotted (Greyish) Eagle Owl *Bubo africanus cinerascens* (Grand-duc africain). Heard at Ouari Maro (rocky woodland).

\*Vermiculated Fishing Owl *Scotopelia bouvieri* (Chouette-pêcheuse de Bouvier). Apparently common in Lokoli swamp forest. New for Bénin (tape-recorded), at the western limit of its range (a specimen is known from as far west as the Lagos area at 3°28'E, Elgood *et al.* 1994). A full song (7 notes) was heard at 6h30 (before dawn) in flooded forest on the western bank on 7 Feb; two different birds (including an immature, with descending call) were heard the next morning further away. After moving to the eastern bank later on 8 Feb, we heard two birds counter-singing from 5h30 to 6h40 in the morning of 9 Feb, in wet forest (with *Raphia*) south of Lokoli village. Full songs (tape-recorded) included the typical introductory hoot followed by a series of 5-8 even notes, and the ending of one or two hoots (cf. Chappuis 2000). This species can survive in degraded swamp forest, but nevertheless an effort should be made to protect its habitat in Bénin.

Pearl-spotted Owlet *Glaucidium perlatum* (Chevêchette perlée). Heard near Lokoli in riparian woodland (Egnonhlê); on the edge of town at Dassa; near Ouari Maro in *Anogeissus*. Sometimes calls by day.

African Wood Owl *Strix woodfordii* (Hulotte africaine). Common in the main forest sites (Niaouli, Lama, Lokoli and Pobè).

Black-shouldered Nightjar *Caprimulgus pectoralis nigriscapularis* (Engoulevent à épauettes noires). The most common nightjar of the forest transition zone, very vocal in Jan-Feb, in transition woodland (Lama, Lokoli), forest edges (Pobè, Niaouli), neglected Teak plantations (Lama). A nightjar seen flying through the open forest canopy at dusk from the watch tower on the Niaouli plateau was probably this species. In transition woodland at the Lama, one bird took off at dusk from a lateral branch of a large tree; some birds near our camp site held territories in both transition woodland and Teak on either side of the road. This species and Long-tailed Nightjars were seen making short flights

from the track at dusk to eat flying ants (Lama, end Feb). Also heard at Ouari Maro and Drabo Gbo (where one seen at a distance of 3-4 m in front of Peter Neuenschwander's house). The captive Grey Parrot living in Peter's garden frequently reproduced the first note of the song of this nightjar! Given its wide range and loud, beautiful song, it is surprising that it took until 2002 for this species to be discovered in the country (van den Akker 2003a). However, Waltert & Mühlenberg (1999) may have missed them in Apr-Aug 1998 as these nightjars tend to stop singing for about 3 months after breeding. In the transition zone of Ghana, birds shut up in early Apr, and sing again (with increasing frequency) from about mid-Jul (pers. obs.).

Plain Nightjar *Caprimulgus inornatus* (Engoulevent terne). One well seen, resting on the track near our camp site at the Lama, on both Feb visits (last seen, a male, on 1 Mar). Local status of this intra-African migrant unknown; a tape of the species' song was played at dawn on 2 Feb (where the bird was seen) and elicited no reaction.

Freckled (Rock) Nightjar *Caprimulgus tristigma* (Engoulevent pointillé). Heard near Ouari Maro and a female was flushed from a clutch of two eggs on 18 Feb: this was on bare earth among large rocks.

Long-tailed Nightjar *Caprimulgus climacurus* (Engoulevent à longue queue). Widespread in open habitats, on roads and edge of Teak plantations (Lama), short grass fields (Niaouli, also at the rest house), tracks and open *Elaeis* plantations (Pobè). Common in woodland in Ouari Maro. Singing a lot in Jan-Feb, also alarm-calling at the Lama.

Standard-winged Nightjar *Macrodipteryx longipennis* (Engoulevent à balanciers). One or two (female plumage) on the track near our camp site (Lama), and one male in full display on the firebreak, evening of 28 Feb. This bird was flying in short circles, landing erect and singing on small mounds of earth around the firebreak.

Mottled Spinetail *Telacanthura ussheri* (Martinet d'Ussher). A few hunting over the forest canopy at Niaouli (plateau), Lama and Pobè.

African Palm Swift *Cypsiurus parvus* (Martinet des palmiers ou des palmes). Widespread in open habitats and villages from the coast to Ouari Maro. In coastal plantations of coconuts (with *Borassus*) and transition woodland (near Lokoli); occasionally feeding over forest canopy, Niaouli plateau (sometimes large numbers in the evening), Lama and Pobè.

Common (Eurasian) Swift *Apus apus* (Martinet noir). Highly local, with a few in a storm cloud at Agrimey on 5 Feb (calling), and over the Lama forest high in clouds building up (again, calling) on 27 and 28 Feb.

Little Swift *Apus affinis* (Martinet des maisons). Commensal species, dispersing to mangrove (Togbin), and occasionally over a forested area (uncommon at Lokoli and Niaouli). In Ouidah (bridge), Massi (stream) outside the Lama station, Savè and Dassa towns, Abomey road to the border.

Narina's Trogon *Apaloderma narina* (Trogon narina). Found only at the Lama, where common, in dense forest and the denser patches of transition woodland. Singing regularly on both visits, despite the dry conditions (this species often shuts up in the dry season).

Shining-blue Kingfisher *Alcedo quadibrachys* (Martin-pêcheur azuré). One on the Ouémé river near Agbassa, hunting in the shade of riparian forest.

Malachite Kingfisher *Alcedo cristata* (Martin-pêcheur huppé). In coastal lagoon (e.g. Togbin), on the small river at Lokoli, in the Zou marsh and on the Ouémé near Agbassa.

African Pygmy Kingfisher *Ceyx pictus* ("Martin-chasseur pygmée" as in Dowsett & Forbes-Watson is preferred to "Martin-pêcheur pygmée" as in Borrow & Demey, as it is mostly insectivorous). Widespread, in small numbers, at Drabo Gbo and all forest localities north to Ouari Maro and riparian forest on the Ouémé river near Agbassa. Already singing near Agbassa (20 Feb). In the south some of the birds may be off-season visitors. However, at Niaouli one held a territory in bas-fond forest next to the stream, in degraded vegetation (with Bamboos), singing and responding to tape playback (29 Jan). Very uncommon at the Lama, where unlikely to breed (given the soil conditions). Present in understorey of swamp forest at Lokoli, where seen and mist-netted. Thus at Lokoli and Niaouli it seems to occupy in places what would constitute elsewhere the habitat of White-bellied Kingfisher *Alcedo leucogaster*, a bird we never found in Bénin.

- Grey-headed Kingfisher *Halcyon leucocephala* (Martin-chasseur à tête grise). A few in Jan on the coast, where presumably a non-breeding visitor, some apparently holding a territory in coconut plantations, or farmbush (near Drabo Gbo). Singing on the Ouémé river near Agbassa (20 Feb) and in woodland just below the escarpment, where expected to breed.
- Blue-breasted Kingfisher *Halcyon malimbica* (Martin-chasseur à poitrine bleue). One seen briefly in mangrove near Togbin; common in forest at Lokoli, Pobè and Lama (also dense transition woodland), but nearly absent or silent at Niaouli (one sang briefly at bas-fond, 28 Jan). First songs at the Lama heard at dawn on 2 Feb, still singing (or calling) little by end Feb at that locality, but rather vocal at Lokoli and Pobè around mid-Feb. Common in Ouari Maro F.R., some calling, others singing (dry forest foothill of Soukrapérou, riparian forest near Agbassa, on the Ouémé and tributaries).
- Woodland Kingfisher *Halcyon senegalensis* (Martin-chasseur du Sénégal). One at forest edge at Drabo Gbo, several at edge of mangrove near Togbin (Jan). A few holding a territory at the ecotone of forest and fallow fields at Niaouli (both visits), in Niaouli bas-fond (degraded forest) and at forest edges at Lokoli, calling briefly at dusk and dawn. Rare at the Lama: one heard in degraded savanna woodland outside the firebreak on 5 Feb, and one at the station itself (Koto) on 26 Feb.
- Striped Kingfisher *Halcyon chelicuti* (Martin-chasseur strié). Widespread in woodland in Ouari Maro F.R.
- Giant Kingfisher *Megaceryle maxima* (Martin-chasseur géant). On the Ouémé river near Agbassa.
- Pied Kingfisher *Ceryle rudis* (Martin-pêcheur pie). In coastal lagoons (Ouidah, Togbin), and Zou marsh.
- Little Bee-eater *Merops pusillus* (Guêpier nain). Only one record, of one in burnt bushy savanna near the river at Lokoli, 6 Feb.
- Swallow-tailed Bee-eater *Merops hirundineus* (Guêpier à queue d'hirondelle). Encountered once, in woodland just outside riparian forest on the Ouémé, near Agbassa.
- White-throated Bee-eater *Merops albicollis* (Guêpier à gorge blanche). Common and widespread "wintering" species in the south, from the coast north to Lokoli, west to Abomey and the Togo border. In farmbush, *Raphia* swamps and mangrove, neglected plantations, and at forest edges; rarely in open canopy, except at Lokoli where very common in the open interior (along the stream). Perches far more often than Rosy Bee-eater.
- European Bee-eater *Merops apiaster* (Guêpier d'Europe). Some large groups already flying north over the Ouémé river near Agbassa, 20 Feb. Some stopped to take a bath in the river. Passage continued over Agbassa escarpment, 21 Feb. Steady passage north also noted high over Niaouli on 25-26 Feb.
- Rosy Bee-eater *Merops malimbicus* (Guêpier gris-rose). Very widespread non-breeding visitor to the south, from the coast (Ouidah) and Drabo Gbo to Niaouli, Lama, Lokoli and Pobè. Feeds mostly over forest, but also *Raphia* swamp (Ouidah), transition woodland (near Egnonhlê), neglected *Elaeis* plantation (Ouègbo), neglected Teak plantation (Lama). Heard and seen daily over forest, perches very rarely (once a small flock in a *Ceiba* in Lokoli village).
- Northern Carmine Bee-eater *Merops nubicus* (Guêpier écarlate). A dozen or so feeding low over water in the Zou marsh, 16 Feb.
- Abyssinian Roller *Coracias abyssinicus* (Rollier d'Abyssinie). Occasional in woodland from Savè to Ouari Maro and Agbassa.
- Rufous-crowned Roller *Coracias naevius* (Rollier varié). Occasional in woodland in Ouari Maro F.R.
- Blue-bellied Roller *Coracias cyanogaster* (Rollier à ventre bleu). One in woodland between Agbassa and the Ouémé river.
- Broad-billed Roller *Eurystomus glaucurus* (Rolle violet). Widespread, from the coast (*Raphia* swamp near Ouidah) to riparian forest on the Ouémé near Agbassa (20 Feb, which may seem early). Some of the birds in the south must be off-season visitors, but in the forest zone at least some birds behave as if they might breed locally. Thus at Pobè a pair of Blue-throated Rollers at a nesting hole in an *Antiaris* was harassed the whole time of our visit (12-15 Feb) by three to four noisy Broad-billed Rollers. Clearly outnumbers Blue-throated Roller at Niaouli and Pobè where common; uncommon at Lokoli and the Lama.
- Blue-throated Roller *Eurystomus gularis* (Rolle à gorge bleue). Confined to the four main forest sites: rarest at the Lama (only one encountered, on layon 11); one pair at Niaouli (bas-fond) and one or two

on the plateau; calling birds on both sides of Lokoli forest. At Pobè only one pair was located, at a nesting hole in an *Antiaris*. They were seen to copulate on 12 Feb, but by the 15th they were still spending most of their time guarding the nest site against aggressive Broad-billed Rollers.

Green Wood Hoopoe *Phoeniculus purpureus* (Irrisor moqueur). Adaptable species, present in coconut plantations and edge of *Avicennia* mangrove at Togbin, in *Elaeis* plantation at Ouègbo. In degraded woodland near Koussoukpa, and in similar habitat at the Lama just outside the firebreak.

Black Wood Hoopoe (Scimitarbill) *Rhinopomastus aterrimus* (Irrisor noir). In woodland and *Anogeissus* dry forest in Ouari Maro F.R., including Agbassa.

White-crested Hornbill *Tropicranus albocristatus* (Calao à huppe blanche). Encountered regularly in dense forest at the Lama, occasionally crossing transition woodland; and also at Lokoli, often with monkeys. Uncommon at Pobè (in the densest forest near the stream), and has become extinct at Niaouli: forest guards believe it disappeared about the year 2000 from the bas-fond, when monkeys also were exterminated there.

African Pied Hornbill *Tockus fasciatus* (Calao longibande). Common at all main forest sites, also in Ouari Maro F.R. and on wooded hill at Dassa, and in some neglected plantations (Teak at the Lama, *Elaeis* at Ouègbo) and transition woodland near Egnonhlê. One pair feeding nestlings in a hole more than 20 m high in a *Terminalia*, Pobè on 12 Feb.

African Grey Hornbill *Tockus nasutus* (Calao à bec noir). Common in woodland in the north, but also widespread in open habitats in the south, down to the coast. Normally not inside forest, but at Pobè rather conspicuous in the open canopy, where eating *Antiaris* fruit next to *T. fasciatus*. In the south some appear to be resident, with an influx in the dry season (Anciaux 2000, 2002).

Piping Hornbill *Bycanistes fistulator* (Calao siffleur ou C. rieur). Common near Ouari Maro, with concentrations of up to 10 birds feeding on figs (*F. ingens*, *F. umbellata*). Scarce in the south, recorded only at Lokoli. Previously far more widespread, as met with at Pobè and Niaouli by Brunel (1958), but now extinct there, probably largely through hunting.

Naked-faced Barbet *Gymnobucco calvus* (Barbican chauve). Only one record, of a single, silent individual in a fruiting *Antiaris* at Pobè, 12 Feb. Van den Akker (2003a) recorded it breeding at Niaouli, with several colonies; we could not find this normally noisy species nor any old nesting sites in 9 days of investigation at Niaouli. M. van den Akker (*in litt.*) however mentions that there was just one big dead tree on the plateau hosting “for several years a small colony”: it seems fairly certain that this has fallen down.

Speckled Tinkerbird *Pogoniulus scolopaceus* (Barbion grivelé). Widespread at three forest sites: Niaouli, Lokoli and Pobè. Seen taking figs of *Ficus thonningii* (Pobè).

Yellow-fronted Tinkerbird *Pogoniulus chrysoconus* (Barbion à front jaune). Heard in coastal scrub at Togbin (Neem with mistletoes), and common in woodland in Ouari Maro; heard on wooded hill at Dassa. Thought at the time to have been heard at Niaouli, but this was more likely a song type of Chestnut Wattle-eye! At the Lama, one was seen eating mistletoe fruit in a Teak tree on 2 Feb, and its song was tape-recorded on the same day. Teak trees are heavily parasitized by mistletoes (*Tapinanthus bangwensis* was both flowering and fruiting at the time of our visits), and this tinkerbird is probably in part responsible as it is a mistletoe specialist.

Yellow-rumped Tinkerbird *Pogoniulus bilineatus* (Barbion à croupion jaune). Widespread in the forest zone, usually in forest, locally in transition woodland (near Egnonhlê). In the north several in riparian forest or thicket in Ouari Maro, including on the Ouémé near Agbassa. Apparently absent from Niaouli, where replaced by its congener *P. subsulphureus*. Heard near Ouidah, in *Raphia* swamp and adjacent scrub. Common in Pobè and Lokoli. At the Lama appears uncommon, especially in late Jan, but a few calling in late Feb, in dense forest and transition woodland.

Yellow-throated Tinkerbird *Pogoniulus subsulphureus* (Barbion à gorge jaune). This is the common forest tinkerbird at Niaouli, both on the plateau and bas-fond. Very noisy on both visits and tape-recorded several times (song phrases are significantly faster than in Yellow-rumped Tinkerbird). No doubt confused with *P. bilineatus* by van den Akker (2003a), the latter being absent from Niaouli. Rare at Pobè, where one heard on a few occasions. The only previous record in Bénin was by Brunel (1958),

from Pobè.

\*Hairy-breasted Barbet *Tricholaema hirsuta* (Barbican hérissé). Discovered at two forest sites, Lokoli and Pobè, with a few singing on a daily basis and apparently territorial (as tested with tape playback at Pobè). New for Bénin, and tape-recorded. Button (1967-68) recorded it as common in the region of Ilaro, 40 km east of the Nigerian border.

Vieillot's Barbet *Lybius vieilloti* (Barbican de Vieillot). Common in woodland in Ouari Maro F.R. Otherwise recorded in transition woodland in the Lama forest, layon 11 and 12, but appears uncommon, and the gradual extension of forest over transition woodland may gradually phase out this barbet.

Double-toothed Barbet *Lybius bidentatus* (Barbican bidenté). In coastal scrub (Togbin); and in transition woodland near Egnonhlê, pair feeding on a *Ficus exasperata*.

Bearded Barbet *Lybius dubius* (Barbican à poitrine rouge). Recorded at Ouari Maro, and on the Dassa hill, where seen eating fruit of Neem *Azadirachta indica*.

Spotted Honeyguide *Indicator maculatus* (Indicateur tacheté). Two observations at the Lama: one singing in dense forest near layon 12 (2 Feb); one coming to tape playback of Grey Woodpecker in transition woodland off layon 9, and calling "wik, wi wi wu wu" (3 Feb). Then one seen in dense riparian forest on the Ouémé (Agbassa), 20 Feb.

\*Least Honeyguide *Indicator exilis* (Indicateur menu). Three different birds singing midday hours at Niaouli, in the plateau forest with *Senna*, somewhat less noisy in Feb than in Jan. Also heard at the Lama, on layon 15.

\*Willcocks's Honeyguide *Indicator willcocksii* (Indicateur de Willcocks). Two different birds singing just outside riparian forest near Agbassa, 21 Feb. One was singing in a 26-m tall *Anogeissus*, and another 120 m away in a 28-m tall *Parkia biglobosa*; they were countersinging at 10h15-10h35; then the first one moved to sing in a bare *Bombax costatum* (30 m tall). Well seen and tape-recorded. The habitat near Agbassa is very similar to that on the Konkori escarpment in Mole National Park (Dowsett-Lemaire & Dowsett 2008). One seen at close range in a mixed party in Niaouli plateau forest on 24 Feb. New for Bénin.

Although usually associated with Guineo-Congolian secondary forest, this honeyguide extends into the transition zone and also into the Sudanian zone where not uncommon in riparian situations (at least from Chad west to Ghana).

Fine-spotted Woodpecker *Campethera punctuligera* (Pic à taches noires). Territorial pair in a coconut plantation near Togbin. Otherwise recorded in woodland in Ouari Maro F.R. near Agbassa.

Golden-tailed Woodpecker *Campethera abingoni* (Pic à queue dorée). In *Anogeissus* and in a fragment of riparian forest near Ouari Maro.

\*Little Spotted (Little Green) Woodpecker *Campethera cailliautii* (Pic à dos vert ou de Cailliaud). At least two birds singing in flooded forest at Lokoli, one tape-recorded. New for Bénin. In the forests of the transition zone in eastern Ghana, this woodpecker is normally found near water (pers. obs.).

\*Buff-spotted Woodpecker *Campethera nivosus* (Pic tacheté). The calls of one bird (a slurred "wiurrrrr" lasting one second and descending in pitch, given three times) were tape-recorded in Pobè forest, 12 Feb. This was in a section of forest with dense understorey and the bird could not be seen. There is an earlier unpublished observation of this species by M. van den Akker (*in litt.* 2009) who mist-netted and photographed a female in the Lama forest, 24 Oct 2002. New for Bénin. As this woodpecker is very common in the dry forests of eastern Ghana we were expecting to find it in Bénin, but it appears to be quite rare. It is known from the Ilaro region 40 km east of the Nigerian border (Button 1967-68).

Cardinal Woodpecker *Dendropicos fuscescens* (Pic cardinal). In transition woodland near Ouari Maro, and in riparian forest on the Ouémé near Agbassa.

Fire-bellied Woodpecker *Thripias pyrrhogaster* (Pic à ventre de feu). Located at three forest sites: Niaouli, Lama and Lokoli. At Niaouli one pair occupied the noyau central, with a nest in a dead trunk at the incubation stage in late Jan (male or female seen incubating, with head at the hole). By 24-25 Feb, the nest was no longer occupied, and the pair was wandering over a very large area (tested with tape playback), probably at least 20 ha. One pair also in bas-fond forest. At the Lama, found only in the

densest forest (lasyon 12 and near lasyon 11). At Lokoli, one pair in the swamp forest with a dominance of *Ficus* and *Syzygium*; the territory did not overlap with those of Little Spotted Woodpecker. Not found at Pobè, despite systematic tape playback, but apparently seen there in the past by T. Loug-begnon.

Grey Woodpecker *Mesopicos goertae* (Pic goertan). In coastal scrub (Togbin); transition woodland near Egnonhlê and Lokoli, and in Ouari Maro F.R.; and riparian forest on the Ouémé river.

Brown-backed Woodpecker *Picoides obsoletus* (Pic à dos brun). In woodland at Ouari Maro.

Sun Lark *Galerida modesta* (Cochevis modeste). Down one side of the escarpment near Agbassa there is an area of large bowals (or bovals) with areas of short grass: two pairs of larks were located, calling and singing, one seen at a distance of 3 m (21 Feb).

Common (Eurasian) Sand Martin *Riparia riparia* (Hirondelle de rivage). A few in Plaine du Sô, 25 Jan. One at Lokoli 5 Feb.

Rufous-chested Swallow *Hirundo semirufa* (Hirondelle à ventre roux). Widespread in the south, from Niaouli to Lama, Lokoli and Pobè. Hunting over clearings, but also over forest canopy, calling and singing. At the Lama, some pairs occupy territories along dirt roads around the “noyau central”, centred on a culvert (usual nest site of this species now). Not easy to separate from Mosque Swallow when flying high above trees, but voice gives it away. For the Lama, Waltert & Mühlenberg (1999) mention this species only (and not Mosque); van den Akker (2003a) lists only Mosque for Niaouli, probably instead of Rufous-chested; and Anciaux (2000, 2002) has similarly confused the two for the Allada plateau.

Lesser Striped Swallow *Hirundo abyssinica* (Hirondelle striée). One pair on the coast near Togbin; a few at Niaouli, in clearings, occasionally hunting over forest canopy with other swallows and Palm Swifts. Also between Abomey and the Togo border (2 Mar).

Preuss's Cliff Swallow *Hirundo preussi* (Hirondelle de Preuss). A few dozens flying around the old bridge on the Ouémé, east of Bohicon, 16 Feb.

Rock Martin *Hirundo fuligula* (Hirondelle isabelline). A few around rocks on Soubakpérou hill (Ouari Maro).

Ethiopian Swallow *Hirundo aethiopica* (Hirondelle d’Ethiopie). This is the common commensal swallow of southern Bénin, found throughout from the coast to Dassa, east to Pobè and west to the Togo border. Normally in villages, occasionally wandering away, to the edges of forest (Niaouli, Pobè), or isolated houses (Niaouli station).

Barn (Eurasian) Swallow *Hirundo rustica* (Hirondelle rustique, H. de cheminée). Common wintering species, all habitats, and throughout, from the coast to Ouari Maro.

House Martin *Delichon urbicum* (Hirondelle de fenêtre). A few at Drabo Gbo, 21 Jan. Several around rocky hill, Soubakpérou (Ouari Maro), 18 Feb.

Yellow Wagtail *Motacilla flava* (Bergeronnette printanière). Most common in coastal marsh (near Togbin, Plaine du Sô) and Zou marsh. At Lokoli, a couple in short wet grass with cattle. One in field at Niaouli, 22 Feb.

African Pied Wagtail *Motacilla aguimp* (Bergeronnette pie). Commensal: one in Bohicon town, and one pair in Savè.

Plain-backed Pipit *Anthus leucophrys* (Pipit à dos uni). One pair in a large fallow field (with short grass) within Niaouli station, feeding a large fledgling on 29 Jan. Still there (same place) on 22 Feb. Also one singing in a maize field at Ouègbo, 30 Jan.

Tree Pipit *Anthus trivialis* (Pipit des arbres). Several edge of large fallow fields and secondary forest, Niaouli, on both visits (Jan-Feb); one flying north over the forest, 24 Feb. One in a Teak plantation, Lama, 2 Feb. Some in woodland near Agbassa, 20 Feb.

Yellow-throated Longclaw *Macronyx croceus* (Sentinelle à gorge jaune). A few pairs in wet grass on the coast (Togbin and Ouidah).

Red-shouldered Cuckoo-shrike *Campephaga phoenicea* (Echenilleur à épaulettes rouges). One male in transition woodland at Egnonhlê (8 Feb), a female in swamp forest at Lokoli (9 Feb), and a female in riparian forest on the Ouémé river (Agbassa, 20 Feb).

- Purple-throated Cuckoo-shrike *Campephaga quiscalina* (Echenilleur pourpré). Widespread at all four main forest sites. Males more vocal towards the end of Feb (Niaouli and Lama).
- White-breasted Cuckoo-shrike *Coracina pectoralis* (Echenilleur à ventre blanc). Two pairs in rocky woodland near Ouari Maro.
- Little Greenbul *Andropadus virens* (Bulbul verdâtre). The most widespread forest bulbul, all forest localities from Drabo Gbo to Lokoli; locally also in Teak plantation, and in forest regrowth (Lama).
- Cameroon Sombre Greenbul *Andropadus curvirostris* (Bulbul curvirostre). Absent from swamp forest at Lokoli (understorey too open), otherwise locally common in dense forest understorey at Niaouli, Lama and Pobè.
- Slender-billed Greenbul *Andropadus gracilirostris* (Bulbul à bec grêle). A canopy species, widespread in small numbers at all 4 main forest sites. Often at fruiting trees (*Antiaris*, *Ficus thonningii*).
- Yellow-whiskered Greenbul *Andropadus latirostris* (Bulbul à moustaches jaunes). Rare, only located at Pobè, where it was hardly calling. The forest may be too open in places for this bulbul; it is or was abundant around Ilaro in Nigeria 40 km to the east (Button 1967-68). First recorded (mist-netted) at Pobè in 2001 by van den Akker (2003b).
- Honeyguide Greenbul *Baeopogon indicator* (Bulbul à queue blanche). Restricted to Niaouli, with small numbers in canopy, both on the plateau and bas-fond. On fruit of *Antiaris* on 23 Feb.
- Simple Leaflove *Chlorocichla simplex* (Bulbul modeste). A bulbul of low forest regrowth and thickets, absent from forest as such. Widespread in the forest zone, from the coast (low dune thickets with *Chrysobalanus*, *Syzygium*, Neem; edge of *Raphia* swamp...) to Dassa. Common in neglected plantations with dense *Chromolaena* and shrubs (Lama, Niaouli, Ouègbo); transition woodland with thickets (Lama, near Lokoli, Dassa). One feeding on *Antiaris* fruit at the edge of the forest, Pobè; another on *Ficus exasperata*, Niaouli.
- Yellow-throated Leaflove *Chlorocichla flavicollis* (Bulbul à gorge claire). On the coast associated with *Raphia* swamp (Togbin, Ouidah), and clumps of thicket with Neem, *Zanthoxylum* etc. next to mangrove. In the north, in riparian forest near Agbassa.
- Swamp Palm Bulbul *Thescelocichla leucopleura* (Bulbul des raphias). Most common in Lokoli forest, which is prime habitat for this bulbul. At Niaouli confined to the bas-fond; small numbers at Pobè, mainly near the stream.
- Leaflove *Pyrrhurus scandens* (Bulbul à queue rousse). Present in small forest patches at the foothill of Soubakpèrou hill (Ouari Maro), and also in riparian forest on the Ouémé (Agbassa). This noisy bird appears absent from the forest zone in the south.
- \*Baumann's Greenbul *Phyllastrephus baumanni* (Bulbul de Baumann). Common in the Lama forest (on all layons visited, 11-15, and off 9), especially in transition woodland, including the denser forms (half-way between transition woodland and forest). As many as 4 birds were caught in one net on layon 15, together with 4 White-throated Greenbuls. Quite noisy in Feb, despite the drought, singing and calling a great deal (tape-recorded several times). New for Bénin. This bird is very common in all the dry forests of eastern Ghana to the Togo border, in thickets under open canopy or in clearings (pers. obs.); to the east of Bénin there are specimens from the Lagos area at 3°25'E (Fishpool 2000).
- White-throated Greenbul *Phyllastrephus albigularis* (Bulbul à gorge blanche). Recorded at Niaouli (both sites, especially common in dense understorey under *Senna*), in the Lama (common in dense forest and the larger thickets in transition woodland) and Pobè (small numbers). Absent from Lokoli, where the understorey appears too open (as for Cameroon Sombre Greenbul).
- Grey-headed Bristlebill *Bleda canicapillus* (Bulbul fourmilier). Widespread in dense understorey at Niaouli, Lama and Pobè, although not very noisy in Jan-Feb. Not recorded for certain at Lokoli (possibly heard once from the boat).
- [Red-tailed Bristlebill *Bleda syndactylus* (Bulbul moustac). We were aware of the sound records by Waltert & Mühlenberg (1999) from the Lama forest in the rainy season, but failed to find the species, even though we spent much time in the densest forest on layon 12. Playback of calls or songs of this bulbul occasionally provoked another species to call, such as Grey-headed Bristlebill or Brown Illadopsis. Elsewhere, when the Bristlebill is not calling or singing spontaneously, playback of the

alarm calls is usually productive in eliciting a response (pers. obs. in Ghana). Could it be that these birds are absent in the dry season? The understorey at the Lama in Feb was heat-stressed, with foliage of small trees shrivelling, even *Chromolaena* was losing leaves by the end of the month. The presence of the species was confirmed by M. van den Akker (*in litt.*), who mist-netted four birds on layon 12 in the rainy season (2002 and 2004).]

Western Bearded Greenbul *Criniger barbatus* (Bulbul crinon). Confined to swamp forest at Lokoli, where common, in parties with its congener.

Red-tailed Greenbul *Criniger calurus* (Bulbul à barbe blanche). Very common in Lokoli swamp forest. Not found at Niaouli in Jan-Feb, despite tape playback etc. It may not be resident there, as M. van den Akker (*in litt.*) mist-netted it rarely (four birds from 1999-2004).

Common Bulbul *Pycnonotus barbatus* (Bulbul des jardins). Throughout, in all wooded habitats, including forest. Elsewhere in the forest zone, this bulbul is normally confined to forest edges, but in Bénin it is found throughout. Numerous in the canopy of Niaouli plateau, even in the noyau central where over 30 were flushed by the Black Sparrowhawk arriving at its nest. Numerous in the canopy of Pobè, where large numbers were feeding on *Antiaris* fruit, but also came down into the understorey to feed on fruit of *Microdesmis*.

Western Nicator *Nicator chloris* (Bulbul nicator). Widespread and fairly noisy at Niaouli and the Lama (forest and transition woodland), but rare or silent at Pobè (heard once only), and not contacted at Lokoli. Heard at Drabo Gbo. One bird heard in a patch of degraded but dense forest at the foot of Soubakpèrou hill (Ouari Maro).

\*Finsch's Flycatcher Thrush *Stizorhina fraseri finschi* (Stizorhin de Finsch). At least two birds encountered in Lokoli swamp forest, located from their characteristic loud calls "ruit-ruit-ruit" or "wreet wreet wreet", tape-recorded. Both birds were moving through the forest, and did not appear to hold a territory. New for Bénin, but possibly just wanderers. Not found at Pobè on this visit; T. Lougbegnon described to us a "White-tailed Ant Thrush *Neocossyphus poensis*" he watched with M. van den Akker (mentioned in van den Akker & Claffey 2004) as feeding in the mid-stratum (half-way between ground and canopy), snatching prey on tree trunks and also fly-catching. This fits a *Stizorhina* far better than a *Neocossyphus*, and the two can be confused on general plumage characters. However, M. van den Akker (*in litt.*) did mist-net and photograph a *Neocossyphus* in Pobè, on 21 May 2003 (this fact was curiously not mentioned in his paper). As ant thrushes need very large territories in sheltered forest with deep shade, the forest at Pobè appears both unsuitable and far too small for the species to become established there. It can be no more than an irregular vagrant from the Nigerian side. In the 1960s at least, both Ant Thrush and Flycatcher Thrush were common in Ilaro Forest Reserve 40 km east of Pobè (Button 1967-68).

(West) African Thrush *Turdus pelios* (Merle africain, ou Grive grisâtre). Throughout wooded habitats, from the coast to Ouari Maro. Surprisingly common in forest, although at Niaouli bas-fond, mainly coming to drink or take fruit in canopy, then flying off (in loose groups of up to 12 birds). But many birds encountered on tracks through the plateau forest. At the Lama, a few in the noyau central, even though Waltert & Mühlenberg (1999) noted the species only once, in Apr. At Pobè numerous in the canopy (eating fruits of *Antiaris* and *Ficus thonningii*), often singing in large trees near the edge, and also in the *Elaeis* plantations. At Lokoli, very common in the canopy and understorey, some eating figs of *F. trichopoda*. This was unexpected as in other forests of the Dahomey Gap (eastern Ghana), this thrush is absent from forest. Eating fruit of *Rauvolfia vomitoria* at Ouègbo (*Elaeis* plantation). First songs heard mid-Feb (Pobè), then on 25 Feb at Niaouli (*Senna* reconstituted forest on the plateau), and later in that month at the Lama (firebreak area).

Forest Robin *Stiphronis erythrothorax* (Rougegorge de forêt). Apparently confined to two forest sites, Niaouli and Lama. Common in Niaouli, singing or calling a little even in Jan. In the Lama common in dense forest, but overflows somewhat into transition woodland (cf. Buff-throated Apalis); more vocal in late Feb on our second visit, despite the shrivelled aspect of the understorey.

Common Nightingale *Luscinia megarhynchos* (Rossignol philomèle). In low thickets and secondary growth, outside forest. Recorded from calls and snatches of song, at Drabo Gbo (several), at the Lama (edge

of firebreak), Ouègbo (under *Elaeis*), near Lokoli, near Egnonhlê (common) and Ouari Maro. It is surprising that it took until 2006 for this common Palaearctic migrant to be located in Bénin (Salewski & Korb 2007).

Snowy-crowned Robin Chat *Cossypha niveicapilla* (Cossyphe à calotte neigeuse). A very widespread species of secondary growth, thickets and forest understorey, from Drabo Gbo to Ouari Maro. Avoids swamp forest (absent from forest interior at Lokoli but present in *Alchornea* at edges), and bas-fond at Niaouli (but present in *Chromolaena* at edges). Otherwise surprisingly common in forest understorey throughout the Niaouli plateau, Lama and Pobè. It is possible that some (most?) of these birds will not breed locally and are off-season visitors. This is suggested by one bird at Niaouli imitating Greater Honeyguide in its song (a species not present in the area). Waltert & Mühlenberg (1999) did not record this robin at the Lama from Apr-Aug — although one would expect some to stay at least in transition woodland.

On the Ouémé river near Agbassa it occupies riparian forest where the White-crowned Robin Chat *C. albicapillus* might otherwise have been expected; but playback of the latter's song elicited a reaction only from Snowy-crowned.

Whinchat *Saxicola rubetra* (Tarier des prés). Common wintering species in open habitats such as fallow fields, edge of marsh, burnt savanna: Plaine du Sô (very common, especially in fields), Niaouli (fields), Ouègbo, Lama (firebreak, savanna), between Pobè and Kétou.

Familiar Chat *Cercomela familiaris* (Traquet familier). Pairs alarm-calling in rocky woodland near Ouari Maro, and near Agbassa.

White-fronted Black Chat *Myrmecocichla albifrons* (Traquet à front blanc). One singing in woodland between Agbassa and the Ouémé.

Mocking Cliff Chat *Myrmecocichla cinnamomeiventris* (Traquet à ventre roux). One pair conspicuous on wooded hill at Dassa. But we could not find it in apparently suitable habitat in Ouari Maro.

African Moustached Warbler *Melocichla mentalis* (Mélocichle à moustaches). In rank grass edge of riparian woodland or in open transition woodland: near Lokoli, Egnonhlê, Lama (just outside firebreak), Ouari Maro F.R. and Dassa. Singing more towards late Feb, with first rains.

European Reed Warbler *Acrocephalus s. scirpaceus* (Rousserolle effarvate). One singing in mangrove, Ouidah, 24 Jan.

Great Reed Warbler *Acrocephalus arundinaceus* (Rousserolle turdoïde). One singing in low bush on the edge of mangrove, Togbin (23 Jan), and one at Ouidah (24 Jan); at Lokoli in partly burnt scrub (5-6 Feb, brief snatches of song); in thick *Chromolaena* and small *Elaeis* at Niaouli (25 Feb, calls).

\*Greater Swamp Warbler *Acrocephalus rufescens* (Rousserolle des cannes). Heard in a couple of places, in mangrove and adjacent *Typha* and *Phragmites* beds at Togbin and Ouidah. New for Bénin.

Melodious Warbler *Hippolais polyglotta* (Hypolais polyglotte). Common wintering species in secondary growth and low thickets, also thickets in transition woodland and in neglected plantation: Ouidah, Drabo Gbo, Ouègbo, Niaouli (second visit), Lama (firebreak, layon 15), Egnonhlê, Pobè, Ouari Maro, Agbassa and Dassa. All identified on song and calls, some also seen; occasionally a very pale individual seen.

Green-backed Eremomela *Eremomela pusilla* (Erémomèle à dos vert). A species of savanna woodland, common in Ouari Maro F.R., once in transition woodland near Egnonhlê.

Green Crombec *Sylvietta virens* (Crombec vert). Common at forest edges and thickets under open canopy, in transition woodland and in neglected plantation: Drabo Gbo, Niaouli, Ouègbo, Lama, Lokoli, Egnonhlê and Pobè.

Northern Crombec *Sylvietta brachyura* (Crombec sittelle). In transition woodland near Egnonhlê; Dassa hill; common in Ouari Maro F.R.

Grey Longbill *Macrosphenus concolor* (Nasique grise). A few located at Niaouli (plateau and bas-fond), Lama (layons 12, 15, dense forest) and Pobè (one pair singing on the fourth day only). More often heard (daily at Niaouli) than seen, but not terribly active in Jan-Feb, especially at Pobè.

Willow Warbler *Phylloscopus trochilus* (Pouillot fitis). Small numbers of wintering birds, in woodland and neglected Teak plantation, not usually in forest, except at Pobè (edges). At Lama more conspicuous

- end of Feb, when some must be on passage. From Lama and Lokoli to Ouari Maro.
- Wood Warbler *Phylloscopus sibilatrix* (Pouillot siffleur). A few in the canopy of forest or dense transition woodland: Niaouli, Lama (both visits, last on 1 Mar) and Pobè (in flowering *Terminalia superba*).
- Yellow-bellied Hyliota *Hyliota flavigaster* (Hyliote à ventre jaune). In woodland in Ouari Maro F.R., especially in *Daniellia* trees.
- Green Hylia *Hylia prasina* (Hylia verte). Recorded at the four main forest sites, but common perhaps only at Niaouli. Rather quiet at times, especially at Pobè; apparently rare at the Lama (layon 12) and Lokoli.
- Zitting (Fan-tailed) Cisticola *Cisticola juncidis* (Cisticole des joncs). One in short grass in Plaine du Sô.
- \*Rufous Cisticola *Cisticola rufus* (Cisticole rousse). Two singles feeding on the ground among short fresh grass in a woodland clearing, near Agbassa (21 Feb). Very small, plain rufous-brown above. No previously published record for Bénin, but should be widespread in the woodlands of the north.
- Short-winged Cisticola *Cisticola brachypterus* (Cisticole à ailes courtes). In transition woodland near Egnonhlê.
- Rock-loving Cisticola *Cisticola aberrans* (Cisticole des rochers). Several pairs in rocky woodland in Ouari Maro F.R., including Agbassa escarpment.
- Whistling Cisticola *Cisticola lateralis* (Cisticole siffleuse). Common in woodland in Ouari Maro F.R., and rank grass at base of Dassa hill.
- Red-faced Cisticola *Cisticola erythrops* (Cisticole à face rousse). In the south this is apparently the only cisticola of farmbrush or forest regrowth, and even so it is still rather local. In moist fields outside the Lama station, and locally in transition woodland. One singing in *Chromolaena* in a fallow field at Niaouli (Feb), but common in dense secondary growth nearby at Ouègbo, under *Elaeis*. Transition woodland near Egnonhlê and Lokoli; riparian growth in Ouari Maro F.R., also at Dassa. Riparian bush behind Togbin.
- Singing Cisticola *Cisticola cantans* (Cisticole chanteuse). Common in woodland in Ouari Maro F.R. Present at Dassa, and locally in transition woodland near Lokoli.
- Winding Cisticola *Cisticola galactotes* (Cisticole roussâtre). Common in wet *Paspalum* grassland on the coast (Ouidah) and in Plaine du Sô; some nest-building, others carrying food, 29 Jan.
- Tawny-flanked Prinia *Prinia subflava* (Prinia modeste). Very widespread (all localities) in grass and shrubs, in woodland and locally farmbrush. At the Lama has become very scarce in the noyau central, in transition woodland (only one observation, of a wanderer), whereas Waltert & Mühlenberg (1999) had listed it as common. This probably reflects the evolution of the vegetation in the last 10 years.
- Red-winged Warbler *Heliolais erythropterus* (Prinia à ailes rousses). Common in woodland with rank grass, Ouari Maro F.R. No records in the south.
- Yellow-breasted Apalis *Apalis flavida* (Apalis à gorge jaune). Common (and quite vocal) in Ouari Maro in patches of riparian forest, including near Agbassa (although not found on the Ouémé there).
- Buff-throated Apalis *Apalis rufogularis* (Apalis à gorge rousse). Present at all four main forest localities, being most numerous in the Lama. Extremely vocal on both visits to the Lama, when found not only everywhere in dense forest, but over-flowing into transition woodland (all layons). At Niaouli, only a few pairs in “noyau central” on the plateau: there is little doubt that the population at Niaouli is too small to be viable without movements to other areas (the Lama is only 25 km away). Widespread in small numbers in the canopy at Lokoli and Pobè.
- Grey-backed Camaroptera *Camaroptera brachyura* (Camaroptère à tête grise). One of the commonest warblers anywhere in woodland and secondary growth, even a short layer of *Chromolaena* in plantations (all localities, coast to Ouari Maro). Penetrates the understorey of forest under open canopy at Niaouli (plateau), especially in *Senna* forest. Marginally in Lokoli forest (*Alchornea*) and Pobè (dense understorey), common in transition woodland at the Lama.
- Yellow-browed Camaroptera *Camaroptera superciliaris* (Camaroptère à sourcils jaunes). Apparently only at Niaouli: on the plateau at edges of *Senna* forest and under open canopy in the noyau central, in thickets of Marantaceae. Not singing much in Jan-Feb, but makes some noise when taking part in mixed bird parties.

- Olive-green Camaroptera *Camaroptera chloronota* (Camaroptère à dos vert). This understory species is easily overlooked in the dry season, as usually silent. First song heard in the Lama forest on 27 Feb (layon 15) and a few more on subsequent days (also layon 11). Probably more widespread than this. Otherwise recorded only from Niaouli where mist-netted by van den Akker (2003a, *in litt.* 2009).
- Oriole-Warbler *Hypergerus atriceps* (Moho à tête noire, ou Noircap loriot). Widespread on the coast, in mangrove (*Avicennia*) and adjacent bush, and dune thickets (Togbin, Ouidah). In riparian forest on several tributaries of the Ouémé, Agbassa area.
- Pale (Pallid) Flycatcher *Bradornis pallidus* (Gobemouche pâle). In short woodland near Agbassa.
- Northern Black Flycatcher *Melaenornis edolioides* (Gobemouche drongo). Pairs in burnt trees outside a patch of forest near Ouari Maro, and in *Anogeissus* on the outer edge of riparian forest on the Ouémé (Agbassa).
- Fraser's Forest Flycatcher *Fraseria ocreata* (Gobemouche forestier). Apparently confined to the Lama forest, where very local: one pair found on layon 12 in fairly dense transition woodland next to dense forest, 31 Jan. On 1 Feb one bird was tape-recorded giving several songs with striking imitations of African Emerald Cuckoo, unusual in this species.
- White-browed Forest Flycatcher *Fraseria cinerascens* (Gobemouche à sourcils blancs). Only in Lokoli forest, with a pair heard and seen in understory close to the river or tributaries, on the eastern bank. First mist-netted there in 2001 by van den Akker (2003b).
- Pied Flycatcher *Ficedula hypoleuca* (Gobemouche noir). Common in woodland and *Anogeissus* in Ouari Maro F.R. Otherwise one at the edge of the Lama (firebreak) on 4 Feb, two on 26 Feb (Teaks and transition woodland near layon 15), and one at Niaouli on 24 Feb (garden near the station).
- Spotted Flycatcher *Muscicapa striata* (Gobemouche gris). A few in woodland in Ouari Maro F.R. One in transition woodland (layon 15) on 27 Feb at the Lama.
- Ashy Flycatcher *Muscicapa caerulescens* (Gobemouche à lunettes). Local at the Lama, once in dense forest canopy, but mainly in transition woodland and Teak near layon 15 (both visits), including at least two territorial singing birds. One in thin riparian forest down the Agbassa escarpment, 21 Feb.
- Lead-coloured Flycatcher *Myioparus plumbeus* (Gobemouche mésange). Common in Ouari Maro F.R. in woodland at the edge of riparian forest and in *Anogeissus* forest. In the south found only in the Lama forest, in transition woodland and in neglected Teak plantation with thickets, widespread on layons 12, 15, off 9 and probably elsewhere; very vocal at times.
- Shrike-flycatcher *Megabyas flammulatus* (Gobemouche écorcheur). Small numbers in the canopy of forest at Niaouli (plateau, including *Senna* reconstituted forest), Lama (dense forest) and Pobè. Main vocalization is a series of sharp "tictictictic"; most active in mixed bird parties.
- Senegal Batis *Batis senegalensis* (Pirit ou Batis du Sénégal). Common in woodland in Ouari Maro F.R. Also at Dassa, and in degraded burnt savanna at the boundary of the Lama station near the firebreak, and marginally in neglected Teak plantation. Female begging from male on 21 Feb, Agbassa (thus at the incubation stage).
- \*Red-cheeked Wattle-eye *Dyaphorophya blissetti* (Pirit à joues rouges, ou de Blisset). Several in dense thickets in semi-closed forest along layon 15, Lama. Tape-recorded, and mist-netted, new for Bénin. This species was singing rather little in Feb, and is probably more widespread than this in the Lama forest. Common in the region of Ilaro, 40 km east of the Nigerian border (Button 1967-68).
- Chestnut Wattle-eye *Dyaphorophya castanea* (Pirit châtain). Small numbers in forest understory at Niaouli (both plateau and bas-fond), Lama (dense forest mostly) and Pobè. Probably heard at Lokoli.
- Common Wattle-eye *Platysteira cyanea* (Pirit à collier). Common in riparian and *Anogeissus* forest in Ouari Maro F.R. Also a few in secondary thickets on the coast (including Neem), next to mangrove or swamp (Ouidah and Togbin).
- African Blue Flycatcher *Elminia longicauda* (Gobemouche ou Tchitrec bleu). In patches of forest near Ouari Maro, and in riparian forest on the Ouémé and tributaries (Agbassa).
- African Paradise Flycatcher *Terpsiphone viridis* (Moucherolle ou Tchitrec d'Afrique). Common in woodland, transition woodland and forest, from Drabo Gbo to Ouari Maro; also in neglected Teak plantation with forest regrowth. At Niaouli, numerous in the plateau forest, to the exclusion of its congener;

both coexist at the bas-fond, with *T. viridis* more at edges. At the Lama, the two coexist even in transition woodland. They also coexist at Lokoli and Pobè. It is possible that some *T. viridis* are off-season visitors from the northern savannas: at the Lama Waltert & Mühlenberg (1999) recorded more *T. rufiventer* than *T. viridis* in the rainy season.

- Red-bellied Paradise Flycatcher *Terpsiphone rufiventer* (Moucherolle ou Tchitrec à ventre roux). Confined to the four main forest sites: Niaouli (bas-fond), Lama, Lokoli and Pobè - see above.
- Brown Illadopsis *Illadopsis fulvescens* (Grive-akalat brune, ou Akalat brun). Common everywhere at Niaouli and Lama (including the denser sections of transition woodland). Uncommon at Pobè, and at Lokoli confined to the belts of *Alchornea* and other thickets at the edges, absent from the open interior. Quite vocal in Jan-Feb. The duets include the “dicta-foum” or “dict-a-phone” motif of birds from Central Africa.
- Puvel’s Illadopsis *Illadopsis puveli* (Akalat de Puvel). Very common at the Lama, throughout, including the denser sections of transition woodland. Already singing in early Feb, but far more in late Feb, giving also the excited series of descending whistles (that usually precede the full song). Both illadopsis are prominent participants in the dawn chorus. Rare at Niaouli, or at least far less vocal: one heard in *Senna* reconstituted forest (plateau) on 24 Feb. No records from Lokoli and Pobè.
- Brown Babbler *Turdoides plebejus* (Cratérope brun). Heard once on the coast, in riparian bush near Togbin. Otherwise common in small thickets in woodland in Ouari Maro F.R.
- Blackcap Babbler *Turdoides reinwardtii* (Cratérope à tête noire). Common in patches of riparian forest in Ouari Maro F.R.
- White-shouldered (White-winged) Black Tit *Parus leucomelas* (Mésange à épaulettes blanches). Common in woodland in Ouari Maro F.R.
- Yellow Penduline Tit *Anthoscopus parvulus* (Rémiz à ventre jaune). One in short, dense woodland near Agbassa.
- Brown Sunbird *Anthreptes gabonicus* (Souimanga brun). In coastal bush near Togbin, it was seen taking nectar from the small flowers of coconut palms. In riparian forest on the Ouémé river near Agbassa, two feeding on nectar of *Syzygium guineense* and chasing each other.
- Western Violet-backed Sunbird *Anthreptes longuemarei* (Souimanga violet). A pair in riparian forest on the Ouémé river (Agbassa), the female feeding a fledgling on nectar of *Pterocarpus santalinoides*.
- Collared Sunbird *Anthreptes collaris* (Souimanga à collier). Very common in any forest, and thickets in neglected plantations (Teak, *Elaeis*) or in coastal scrub (also occasionally on flowers of coconut palms). All localities, from the coast to Ouari Maro. Seen tearing fleshy fruit of *Microdesmis* (understorey of Pobè forest). Often on the small white flowers of *Paullinia pinnata*, a common weed in neglected Teak plantation (Lama), on flowers of *Ceiba* and of the liane *Combretum racemosum*.
- Pygmy Sunbird *Anthreptes platurus* (Souimanga pygmée). In dry woodland near Bétérou, one attending a nest in a dead tree, 13 m high on a horizontal twig (17 Feb). A few in woodland (e.g. *Acacia*) near Agbassa.
- \*Little Green Sunbird *Nectarinia seimundi* (Souimanga de Seimund). A group of five birds watched at close range feeding on the red flowers of the liane *Combretum racemosum*, edge of bas-fond forest, Niaouli, on 28 Jan (FDL). Small size, olivaceous colour tinged with yellow on the belly, bill only slightly decurved and pale eye-ring; these birds were giving thin but sharp calls “tsi”, or “tsip”, also characteristic of the species. In Ghana, where they are very widespread, *Combretum racemosum* is their favourite food plant in the dry season when these lianes are in full flower. This bird is fairly common in the secondary forests of eastern Ghana; to the east of Bénin, Button (1967-68) reported it from Ilaro, 40 km east of the Nigerian border.
- Olive Sunbird *Nectarinia olivacea* (Souimanga olivâtre). Throughout forest at the main four sites, and neglected Teak plantation (Lama). On flowers of mistletoes (*Tapinanthus bangwensis*), *Anthocleista*, *Ceiba*, *Capparis* sp. etc., but mainly insectivorous.
- Green-headed Sunbird *Nectarinia verticalis* (Souimanga à tête verte). Locally in riparian thickets on the coast (Togbin). In Lokoli swamp forest (often on flowers of *Anthocleista vogelii*), and patches of riparian forest in Ouari Maro F.R.

- Carmelite Sunbird *Nectarinia fuliginosa* (Souimanga carmélite). At Togbin in coastal scrub, mangrove and coconut plantations (even on the flowers of coconut palms).
- Scarlet-chested Sunbird *Nectarinia senegalensis* (Souimanga à poitrine rouge). Common in woodland and riparian vegetation in Ouari Maro F.R.
- Buff-throated Sunbird *Nectarinia adelberti* (Souimanga à gorge rousse, surely “gorge claire” would be better). Widespread, in small numbers, in the forest canopy at Niaouli, Lama and Pobè. Apparently absent from Lokoli. One male defended vigorously a patch of flowering mistletoes (*Tapinanthus bangwensis*) growing on a *Senna* at Niaouli rest house (Jan). One male defended the flowering crown of an *Albizia zygia* on 24 Feb (Niaouli station), chasing Collared Sunbirds. A female on flowers of *Albizia glaberrima* at the Lama (layon 11).
- Variable Sunbird *Nectarinia venusta* (Souimanga à ventre jaune). Very common in coastal scrub (including Neem), mangrove and thickets (Togbin to Ouidah). In patches of riparian forest and *Anogeisus* in Ouari Maro F.R. Also at Dassa (thickets on the hill).
- Olive-bellied Sunbird *Nectarinia chloropygia* (Souimanga à ventre olive). In the forest zone in secondary growth, dense *Chromolaena* with shrubs: Niaouli (fallow fields, *Elaeis*), Ouègbo (very common in *Elaeis* plantation), Lama (in transition woodland and neglected Teak plantations), near Lokoli and Egnonhlê (transition woodland). Fond of small flowers of *Paullinia pinnata*.
- \*Tiny Sunbird *Nectarinia minulla* (Souimanga minule). Several pairs in the mid-storey and edges in Pobè forest. One pair well seen around our camp (female greyer below than Olive-bellied) and song tape-recorded, the song being weaker and sweeter than that of Olive-bellied. Also differs by its ecology, feeding not just at edges but also inside forest and at higher levels. Frequently sings in early morning, in trees or lianes at heights of 10-25 m. New for Bénin. On the Nigerian side there is a specimen from Badagri, close to the border, near the coast (Elgood *et al.* 1994).
- Copper Sunbird *Nectarinia cuprea* (Souimanga cuivré). On the coast in bush edge of marsh (Ouidah, Plaine du Sô); common in transition woodland in Ouari Maro F.R., Dassa hill, all around Lokoli and Egnonhlê, and between Pobè and Kétou. Not normally in forest, but at Lokoli numerous in the swamp forest, coming especially for the flowers of *Psychotria articulata*, a medium-sized tree.
- Splendid Sunbird *Nectarinia coccinigaster* (Souimanga splendide). Widespread species of woodland and degraded forest or gardens, neglected *Elaeis* plantation, from the coast to Ouari Maro. Occasional at forest edges: *Senna* reconstituted forest and bas-fond at Niaouli; Pobè; but common in Lokoli swamp forest, coming for the flowers of *Anthocleista vogelii*. Uncommon at the Lama, on flowers of Flame tree at the Koto station, and on a flowering *Ceiba* by the road. Also on Flame tree at Pobè station. In Ouari Maro, mainly in riparian forest or thickets.
- Superb Sunbird *Nectarinia superba* (Souimanga superbe). Uncommon in the forest canopy of Pobè and Lama (dense forest), but common at Lokoli, especially on the flowers of *Anthocleista vogelii*. At the Lama, also a regular pollinator of *Tapinanthus bangwensis* parasitizing Teak trees in front of the natural forest.
- Yellow White-eye *Zosterops senegalensis* (Zostérops jaune). Common in woodland and riparian forest in Ouari Maro F.R.
- Eurasian Golden Oriole *Oriolus oriolus* (Loriot d'Europe). One male in woodland near Tchaourou, 17 Feb.
- African Golden Oriole *Oriolus auratus* (Loriot doré). Very common in woodland and dry forest in Ouari Maro, the main participant in the dawn chorus with Fork-tailed Drongo; also near Savè, Kokoro etc. In the forest zone, probably just a non-breeding visitor: a female in *Senna* forest on the Niaouli plateau, 27 Jan.
- Black-winged Oriole *Oriolus nigripennis* (Loriot à ailes noires). Very common in forest canopy at Niaouli (including the *Senna* reconstituted forest), and quite common at Lokoli and Pobè. Rare at the Lama (heard in two places on our first visit: layon 12 and layon 9). This species was presumably confused with Western Black-headed Oriole *O. brachyrhynchus* by Waltert & Mühlenberg (1999) and van den Akker (2003a). Anciaux (1996) on the other hand listed only Black-winged Oriole for Niaouli, and Brunel (1958) found it “assez commun” in forest, and collected several in the Pobè region; he failed

to find any Black-headed Oriole in the country. The most characteristic contact call of birds in Bénin is a double whistle “tee-hu”, or “tee-hup” heard daily and at all localities; variants of this call almost merge the two notes into “tjee-up”, or “teejup”. The same characteristic “tee-hup” calls are given by birds in eastern Ghana (tape-recorded at Amedzofe), whereas the common calls of birds in the south-west of Ghana are monosyllabic “tjeeup”. Songs are varied and often very fluid, as is characteristic in this species. Tape-recorded at Niaouli, Lokoli and Pobè; seen at close range many times, with or without the help of tape playback, and always identified as *O. nigripennis* without hesitation. It is possible that Waltert & Mühlenberg confused the pale spot on the wing with the pale alula (present in *O. nigripennis*), but from their description of the voice, it is clear we are dealing with a single species.

Common Fiscal *Lanius collaris* (Pie-grièche fiscale). Widespread in open habitats in the south, often seen on electricity wires along roads, all the way from the Togo border at Tohoum to Abomey and the coast. Also just outside forest at Pobè, and north to Kétou.

Yellow-billed Shrike *Corvinella corvina* (Corvinelle à bec jaune). A species of open woodland that has adapted to coconut plantations on the coast (Togbin, even nesting in a coconut palm) and some other degraded habitats. Local in woodland near Agbassa, degraded woodland near Lokoli, Dassa, and one record at the Lama (near the firebreak).

Brubru *Nilaus afer* (Brubru). Several in woodland in Ouari Maro F.R.

Northern Puffback *Dryoscopus gambensis* (Cubla de Gambie). Especially common in transition woodland: near Egnonhlê, Dassa, Ouari Maro (also in riparian forest there). More local at the Lama, in open sections of the noyau central as on layon 15, and in neglected Teak plantation with thickets.

Sabine's Puffback *Dryoscopus sabini* (Cubla à gros bec). Confined to Niaouli forest: 3-4 pairs in the noyau central on the plateau, and one pair in bas-fond forest (conspicuous on our Feb visit, not in Jan). The latter was perhaps exploring a potential nest site, the female alarm-calling in a small thicket just outside the main forest, and the male displaying around her (23 Feb). It is astonishing that this species could survive in such small numbers. The only other forest with suitable structure is Pobè, but this noisy bird appears to be absent there. Brunel (1958) mentions having obtained one specimen “aux environs de Pobè”, but this was not the “réserve forestière”. There is very little forest today outside the reserve, and it is very secondary or mixed with exotic species.

Black-crowned Tchagra *Tchagra senegalus* (Tchagra à tête noire). Common in open woodland and rank grass or scrub in various localities: from the coast (Togbin) to Dassa and Ouari Maro. Near Lokoli in transition woodland, and at the Lama in degraded savanna outside the firebreak. (Curiously no record of Brown-headed Tchagra *T. australis*, which one would expect in the transition zone, but it may have been totally silent in the dry season.)

Tropical Boubou *Laniarius aethiopicus* (Gonolek d'Abyssinie). Common in small thickets in transition woodland in the Lokoli area (near Egnonhlê); common in dry *Anogeissus* forest, thickets and strips of riparian forest in Ouari Maro F.R.; also heard near Alafiarou.

Yellow-crowned Gonolek *Laniarius barbarus* (Gonolek de Barbarie). In patches of mangrove (*Avicennia*) or bush next to *Raphia* in the coastal belt (Togbin to Ouidah), and locally in degraded savanna near Lokoli village and Egnonhlê.

Sulphur-breasted Bush Shrike *Malaconotus sulfureopectus* (Gladiateur soufré). Common in riparian thickets or forest patches in Ouari Maro F.R. In the south, in degraded transition woodland (with small *Acacia* trees) just outside the firebreak at the Lama, and in transition woodland and riparian scrub near Egnonhlê and Lokoli village.

Grey-headed Bush Shrike *Malaconotus blanchoti* (Gladiateur de Blanchot). In woodland near Ouari Maro; in transition woodland near Egnonhlê, and next to the firebreak at the Lama, in a neglected Teak plantation with small thickets.

White Helmet Shrike *Prionops plumatus* (Bagadais casqué). Common in woodland in Ouari Maro F.R.; also seen near Tchaourou. Otherwise has adapted remarkably to Teak plantations, common throughout this habitat at the Lama, and not just where there is forest regrowth. Seem to seek food in Teak canopy, also in low regrowth where Teaks have been felled. It would be interesting to see which insects exist

in this habitat. One group in a garden at Pobè station must be wanderers.

Red-billed Helmet Shrike *Prionops caniceps* (Bagadais à bec rouge). Common at Niaouli (both plateau and bas-fond) and Lama (both dense forest and transition woodland), and in astonishing densities at Pobè; but local at Lokoli (one group in *Ficus/Syzygium* canopy on eastern bank). Several groups with independent young, in late Jan at Niaouli some still begging but not fed.

Square-tailed Drongo *Dicrurus ludwigii* (Drongo de Ludwig). In patches of riparian forest in Ouari Maro F.R. (threatened with extinction at the foot of Soubakpérou hill, as these patches are more than half-cleared), and in narrow riparian strips of forest on the Agbassa escarpment. Appears absent from the forests of the south.

Fork-tailed Drongo *Dicrurus adsimilis* (Drongo brillant). Very common in woodland in Ouari Maro F.R. (one of the main species involved in the dawn chorus, with African Golden Oriole). In the south occurs locally in farmbush (Drabo Gbo), transition woodland in the Lokoli area and in the Lama forest. Also widespread in the forest canopy at Niaouli, Lama (a few in dense forest), Pobè and Lokoli — which may explain the absence of Square-tailed Drongo in such impoverished forests. It is possible these forest birds belong to the form *atactus* of what is more often considered a separate species, the Velvet-mantled Drongo *D. modestus*.

Piapiac *Ptilostomus afer* (Piapiac). Several in coconut plantations on the coast (Togbin), following cattle with Cattle Egrets.

Pied Crow *Corvus albus* (Corbeau pie). Inexplicably rare in this country (as in Togo): one near Togbin on the beach and one pair at Savè is all we saw in three weeks! Brunel (1958) also remarked on the scarcity of this bird, which he never saw.

Forest Chestnut-winged Starling *Onychognathus fulgidus* (Rufipenne de forêt). Small numbers at Niaouli (both plateau and bas-fond) and Pobè, rarer elsewhere. At the Lama, one in flight on 4 Feb is our only record. At Lokoli, one pair flying out of the forest beyond Lokoli village. At Niaouli bas-fond, two birds spent a lot of time eating arils of *Pycnanthus angolensis*, with Splendid Glossy Starlings, on 27-28 Jan, and were still at it on 23 Feb. Seen feeding on figs of *Ficus thonningii* at Pobè, and on *Antiaris* at Niaouli (Feb).

Purple-headed Glossy Starling *Lamprotornis purpureiceps* (Merle métallique ou Choucador à tête pourprée). At Lokoli a group of at least 9-10 birds was present in the *Ficus/Syzygium* forest on the eastern bank; seen taking unripe figs of *Ficus trichopoda*. One male perched and sang for some minutes overhead (tape-recorded). At the Lama one pair seen on two occasions in flight on our second visit (calling), and almost certainly one pair of this species seen on our earlier visit.

Purple Glossy Starling *Lamprotornis purpureus* (Choucador pourpré). The occasional pair in the coastal belt; one pair in transition woodland near Egnonhlê, and Lokoli village. At Pobè, one in farmbush just outside forest.

Lesser Blue-eared Starling *Lamprotornis chloropterus* (Choucador de Swainson). Common in woodland and *Anogeissus* forest in Ouari Maro F.R. (including Agbassa). In pairs and singing, one carrying nest-building material.

Splendid Glossy Starling *Lamprotornis splendidus* (Choucador splendide). A few in the forest zone: one pair feeding on arillate fruits of *Pycnanthus angolensis* in Niaouli bas-fond, often resting on one of the tall *Hymenaea courbaril* trees (27-28 Jan); one feeding on *Antiaris* fruit there on 23 Feb. A few pairs at Pobè (on *Antiaris*) and one or two at Lokoli. Not recorded at the Lama.

Long-tailed Glossy Starling *Lamprotornis caudatus* (Choucador à longue queue). One pair in woodland between Alafiarou and Bétérou, 17 Feb.

Violet-backed Starling *Cinnyricinclus leucogaster* (Spréo améthyste). A male and two females in *Anogeissus* between Agbassa and the Ouémé river, 20 Feb. Small flocks (up to 15) in Niaouli on 23-25 Feb, feeding on fruits of *Antiaris* and *Ficus exasperata*. One male singing next to a hole in a *Senna* on 23 Feb.

Northern Grey-headed Sparrow *Passer griseus* (Moineau gris). Very common in villages and farmbush on the coast; we looked at hundreds of birds searching for House Sparrow *P. domesticus* but failed to find any. Also in some villages and towns further north, Attogon, Abomey, Savè, Kokoro, Bétérou

etc.

Bush Petronia *Petronia dentata* (Petit Moineau). Very common in woodland in Ouari Maro F.R.

\*Slender-billed Weaver *Ploceus pelzelni* (Tisserin de Pelzeln). Several birds, most in immature dress (with pale bill) in open marsh near Ouidah (24 Jan), and one in Plaine du Sô (25 Jan). First confirmed records for Bénin.

Little Weaver *Ploceus luteolus* (Tisserin minule). Some old nests of this species identified near Ouari Maro, one male starting to moult into breeding dress on 18 Feb. Near Agbassa, a few in riparian forest on the Ouémé, two males chasing each other, in 3/4 breeding dress (20 Feb).

Black-necked Weaver *Ploceus nigricollis* (Tisserin à cou noir). A few in thicket and marsh near Ouidah. Local at the Lama, in patch of secondary riverine forest (in a dry gully) between Teak plantations. Several in bird parties in Lokoli swamp forest, and in Pobè forest. Two old nests of this species over a dry stream south of Alafiarou.

Orange Weaver *Ploceus aurantius* (Tisserin orangé). One seen on 22 Jan in mangrove behind the lagoon near Togbin, close to 5-6 round nests of the previous season.

Heuglin's Masked Weaver *Ploceus heuglini* (Tisserin masqué). A pair (male in breeding dress) in transition woodland near Egnonhlê, 8 Feb.

Vieillot's Black Weaver *Ploceus nigerrimus* (Tisserin noir). Locally common in transition woodland in the Lama forest, nest-building in *Elaeis* (late Feb) in mixed colonies with Village Weavers. Also in mixed parties in Lokoli swamp forest, and widespread in transition woodland in the Lokoli area. At forest edges at Pobè and Niaouli, and various secondary habitats elsewhere (neglected Teak plantation at the Lama, *Elaeis* plantation at Ouègbo, coconut plantations and swamp on the coast...). Feeding on *Combretum* flowers and *Elaeis* fruit at Drabo Gbo, with Village Weavers.

Village Weaver *Ploceus cucullatus* (Tisserin gendarme). Widespread in secondary growth, swamps, woodland, palm and other plantations, fallow fields, from the coast to Ouari Maro. Also locally in mixed parties in forest, at Pobè, and in transition woodland in the Lama forest (where breeding).

Yellow-mantled Weaver *Ploceus tricolor* (Tisserin tricolore). Very common in Niaouli forest, especially on the plateau (including *Senna* reconstituted forest). Associated frequently with Red-headed Malimbe and other species in canopy parties. Common at Pobè, but rare at the Lama (one observation on layon 12, in dense forest). Similarly, Waltert & Mühlenberg (1999) had only one record there.

Compact Weaver *Ploceus superciliosus* (Tisserin gros-bec). A few birds in non-breeding dress eating seeds in tall grassland and sedges near Lokoli village, 9-10 Feb.

Blue-billed Malimbe *Malimbus nitens* (Malimbe à bec bleu). Common in the understorey of Niaouli forest (including *Senna* reconstituted forest) and Lokoli forest. We have no record for the Lama, where Waltert & Mühlenberg (1999) mist-netted one on 29 Apr 1998.

Red-vented Malimbe *Malimbus scutatus* ("Malimbe à bas-ventre rouge" would surely be better than "à queue rouge", which is misleading). Associated with *Raphia* palms, and particularly common in the canopy of Lokoli swamp forest. The occasional pair visiting the canopy at Pobè (*Raphia* occurs just outside), and a group of 5 at Niaouli bas-fond (Feb).

Red-headed Malimbe *Malimbus rubricollis* (Malimbe à tête rouge). Very common in the canopy of Niaouli (especially the plateau), usually associated with Yellow-mantled Weaver. Common at Pobè, but rare at the Lama (one observation on layon 12, and a couple of old nests on layon 11) and at Lokoli (one observation). Several nests in an *Antiaris* in front of the watch tower at Niaouli were visited regularly in Jan-Feb, although clearly the birds were not breeding yet. At Drabo Gbo, one bird visited an *Elaeis* outside forest to take a ripe nut and flew off with it.

Red-headed Weaver *Anaplectes rubriceps* (Tisserin écarlate). Widespread in woodland and dry *Anogeisus* forest in Ouari Maro F.R. Several old nests seen (solitary nester).

Red-headed Quelea *Quelea erythrops* (Travailleur à tête rouge). Some non-breeding flocks in burnt savanna just outside Lokoli forest.

Black-winged Bishop *Euplectes hordeaceus* (Euplecte monseigneur). Some non-breeding flocks in fallow fields at Ouari Maro, and coming to drink in the Ouémé river near Agbassa. A few in grassland near Lokoli.

- Northern Red Bishop *Euplectes franciscanus* (Euplecte franciscain). Some non-breeding flocks near the coast (including Plaine du Sô); in secondary savanna at Lokoli, eating seeds on burnt ground, and in Ouari Maro (e.g. coming to drink in the Ouémé).
- Yellow-mantled Whydah or Widowbird *Euplectes macroura* (Euplecte à dos d'or). A few in grassland in degraded transition woodland (partly cultivated) at Dassa and near Lokoli village. At Dassa some males were singing already (in non-breeding dress), on 22 Feb.
- Red-collared Whydah *Euplectes ardens* (Euplecte veuve-noire). A small flock of non-breeding birds near Ouari Maro, watched at close range: wings almost black, back strongly marked and more contrasting than in Red Bishop, breast richly buff, calls thin "see" or "tsee"; in rank growth outside forest in the valley below Soubakpérou hill, 19 Feb. Preferably to be confirmed when in breeding dress, in the rains.
- Thick-billed Weaver *Amblyospiza albifrons* (Amblyospize à front blanc). Small flocks (up to 20) feeding at forest edges in Niaouli (plateau), 25-27 Jan. Some feeding on unripe fruit of *Celtis mildbraedii* (to take the seeds?).
- Grey-crowned Negrofinch *Nigrita canicapillus* (Nigrette à calotte grise). Widespread in the forest zone, at all four main localities, and also at Drabo Gbo. At the Lama some ventured into neglected Teak plantation near the forest. Seen feeding on *Antiaris* fruit; also fond of pulp of *Elaeis* nuts. Not very vocal in Jan-Feb. West of the Ouémé the song dialect normally consists of three, more rarely four, notes (first two whistles down the scale, third and fourth lower-pitched and almost flat); but at Pobè each whistle was doubled, thus giving "fee-fee, fee-fee, fu-fu" (third double note lower-pitched).
- \*Pale-fronted Negrofinch *Nigrita luteifrons* (Nigrette à front jaune). A pair in *Elaeis* palms just outside Pobè forest, calling (tape-recorded), 12 Feb, and a pair in a fruiting *Ficus thonningii* inside forest on 14 Feb. New for Bénin. The contact call of this species, a descending series of soft whistles, is diagnostic. Button (1967-68) who knew them from Ilaro (40 km east of the Nigerian border), also mentioned this descending sequence.
- Chestnut-breasted Negrofinch *Nigrita bicolor* (Nigrette à ventre roux). Two seen and at least one singing in the "noyau central" at Niaouli (Feb visit), and one seen in the understorey of Lokoli swamp forest on the edge of the stream. Silent at Lokoli, and would have been overlooked otherwise. Could be more widespread.
- Western Bluebill *Spermophaga haematina* (Sénégalé sanguin). Most common in the Lama forest, low down in thickets; often flushed or seen along the trails. Silent in Niaouli in Jan, a few were beginning to call in late Feb, from thick understorey (Marantaceae lianes), and one was singing on 26 Feb. Uncommon at Pobè, and Lokoli (one in song 9 Feb).
- Bar-breasted Firefinch *Lagonosticta rufopicta* (Amarante pointé). Some in burnt bush just outside Lokoli forest; and in rank growth near a stream in Ouari Maro F.R.
- Black-bellied firefinch *Lagonosticta rara* (Amarante à ventre noir). Mostly in pairs, in rank growth at forest edges in Ouari Maro F.R. (including near Agbassa); several at foot of Dassa hill.
- Blue-billed Firefinch *Lagonosticta rubricata* (Amarante foncé). In rank growth at forest edges near Ouari Maro.
- Black-faced Firefinch *Lagonosticta larvata* (Amarante masqué). A few in woodland near Ouari Maro.
- Orange-cheeked Waxbill *Estrilda melpoda* (Astrild à joues oranges). Widespread in rank grass and low shrubs in degraded transition woodland, fallow fields etc., from Drabo Gbo to Ouari Maro. Uncommon at the Lama and Niaouli, more common around Lokoli and further north.
- Black-rumped Waxbill *Estrilda troglodytes* (Astrild cendré). Two on a track next to a field, Ouégbo (30 Jan).
- Red-cheeked Cordon-bleu *Uraeginthus bengalus* (Cordon-bleu à joues rouges). In small thickets in woodland and edge of fields, Ouari Maro.
- Zebra Waxbill *Amandava subflava* (Bengali zébré). A flock of about 10 in grassland just outside Lokoli forest, 5 Feb. An earlier record, by Bouet (1914) from Agouagon near the Ouémé river, was overlooked by Dowsett (1993).
- Bronze Mannikin *Spermestes cucullata* (Capucin nonnette). Widespread and often common in grassland and fallow fields from the coast to Ouari Maro.

Black-and-white Mannikin *Spermestes bicolor* (Capucin bicolore). Often in the same habitat as its congener, but confined to the forest zone, from Drabo Gbo to Lokoli and Pobè. At the Lama, both can be found within the noyau central in transition woodland, and in neglected Teak plantation.

Pin-tailed Widow or Whydah *Vidua macroura* (Veuve dominicaine). Rather inconspicuous at this time of year; some flocks in burnt savanna just outside Lokoli forest, feeding on seeds among ashes. One flock near Ouari Maro.

Yellow-fronted Canary *Serinus mozambicus* (Serin du Mozambique). Common in woodland in Ouari Maro F.R.

Cinnamon-breasted Rock Bunting *Emberiza tahapisi* (Bruant cannelle). Common in rocky woodland in Ouari Maro F.R. (including Agbassa escarpment).

Cabanis's Bunting *Emberiza cabanisi* (Bruant de Cabanis). Several singing in woodland in Ouari Maro F.R.

## DISCUSSION

### 1. SEASONALITY

Late January and February are not the best months for carrying out surveys in the forests of southern Bénin. Despite some early storms in February, several bird species were still silent (or supposed to be, e.g. some cuckoos) or just starting to sing (e.g. White-spotted Flufftail and Olive-green Camaroptera in late Feb at the Lama). Doves were fairly quiet and Bronze-naped Pigeons, if present, completely silent. Negrofinches were calling irregularly, especially Chestnut-breasted. A few species, however, are particularly noisy in the dry season, including African Goshawk and nightjars.

On our first visit to Niaouli (late Jan), dawn chorus was almost non-existent. The situation improved by our second visit, the main participants being African Goshawk, Fork-tailed Drongo, Little Greenbul, Brown Illadopsis and Black-winged Oriole. At the Lama in late Feb, dawn chorus in dense forest (layon 12) included mainly Narina's Trogon, White-throated and Slender-billed Greenbuls, Western Nicator, Forest Robin, Snowy-crowned Robin Chat, Buff-throated Apalis, Chestnut Wattle-eye, both Paradise Flycatchers and both Illadopsis. The situation at Pobè was far more quiet, although some of these species were calling occasionally. Yellow-whiskered Greenbul was hardly calling (one full song!), as well as Nicator (heard on the fourth day). *Hylia* was not very active anywhere during the 5 weeks of surveys, but Buff-throated Apalis was one of the noisiest birds, singing at all hours of the day at the Lama. The vocal activity of both Yellow-browed and Olive-green Camaropteras increased during Feb, also of Forest Robin and Puvel's Illadopsis between our two visits to the Lama.

It is evident that surveys need to be completed by visits in the early rains, when many species are breeding, as shown by the presence of active brood patches of various birds mist-netted by Waltert & Mühlberg (1999) at the Lama.

### 2. COMMENTS ON MAIN LOCALITIES

**The coastal belt.** Even the coastal belt had been poorly prospected, as a recent visit by Jones (2008) of two weeks in Sep 2006 produced three new species for the country. One of them is Reichenbach's Sunbird *Nectarinia reichenbachii*, located near Ouidah. Another is Brown Sunbird, which Jones saw in coconut and mangrove 5 km west of Ouidah. As Sinsin (1995) had reported Brown Sunbird from the Lama forest, Jones thought his observation was the second in Bénin, but as the species is inherently unlikely in the Lama (in the absence of appropriate riverine habitat), we believe Jones provided in fact the first record. The same is true for Orange Weaver, of which Jones observed a small colony of nests in a patch of mangrove (also west of Ouidah). Although Jones cites P. Claffey (*in litt.*) as having recorded it on the Ouémé river in the north, that observation no longer appears in a more recent MS produced by P. Claffey, and indeed the occurrence of this weaver in gallery forest in the savanna zone appears unlikely. Thus Jones's is the first record.

We were able to confirm both Brown Sunbird and Orange Weaver from the coastal belt between Togbin and Ouidah, and another species characteristic of coastal bush is Carmelite Sunbird, which is not

uncommon. The mention of Carmelite Sunbird in the Bénin list is based on specimens collected at Porto Novo in 1910-11 (Cheke & Walsh 1996) — Oustalet (1898) listed it without localities. Neither Brunel (1958) nor Anciaux (1996) observed it.

Little Grebe seen in a lagoon near Togbin is only the second record for Bénin, as there is otherwise just an unpublished observation by P. Claffey (in MS) from a reservoir near Bétérou. Greater Swamp Warbler and Slender-billed Weaver had also been unreported from Bénin, and the latter is purely coastal. P. Claffey (*in litt.*) reports one of these weavers from the Gazoué (or Sazoué?) river. Although not on the map, this is apparently close to the lower Mono river.

**Lama forest.** Waltert & Mühlenberg (1999) spent 31 days in the field, in the months of Apr-May and Jul-Aug 1998, during which they recorded 106 species. We reconfirmed the great majority of these species, and have no reason to doubt the accuracy of their observations except in respect of the Black-winged *versus* Western Black-headed Oriole (see species list above), and perhaps the status of Blue-breasted *versus* Woodland Kingfishers (possibly the reverse of what they reported). The status of a few species has changed following the gradual closing up of vegetation: for example Black-shouldered Kite and Shikra today occur mostly outside the noyau central, in more open habitats, Red-eyed Dove, Green Wood Hoopoe and Tawny-flanked Prinia are now very rare or absent from the noyau central. The authors found Purple-throated Cuckoo-shrike rare (one record only) whereas we found it widespread and fairly common.

The species added during the present survey include 10 Palaearctic migrants (Eurasian Marsh Harrier, Barn Swallow, Tree Pipit, Common Nightingale, Whinchat, Melodious Warbler, Willow and Wood Warblers, Pied and Spotted Flycatchers) and 28 Afrotropical species: Black-crowned Night Heron, Red-thighed Sparrowhawk, Crowned Eagle (vagrant?), Cassin's Hawk Eagle, Grey Kestrel (marginal), African Hobby, Thick-billed Cuckoo, Barn Owl, Northern White-faced Owl, Black-throated Coucal (common), Black-shouldered Nightjar (common), African Pygmy Kingfisher, Vieillot's Barbet, Spotted Honeyguide, Least Honeyguide, Baumann's Greenbul (common), Snowy-crowned Robin Chat (common), Grey Longbill, Red-faced Cisticola (marginal), Lead-coloured Flycatcher (common), Senegal Batis (marginal), Red-cheeked Wattle-eye, Buff-throated and Superb Sunbirds, Northern Puffback, Grey-headed Bush Shrike (marginal), Forest Chestnut-winged Starling (vagrant?) and Black-necked Weaver. A few more were found near the boundary, but essentially outside, in degraded woodland. It is unlikely that the Afrotropical species listed are recent arrivals, especially as about half of them are characteristic of transition woodland, a habitat which, in the noyau central, is decreasing rather than expanding. M. van den Akker (*in litt.*) added Buff-spotted Woodpecker, from one mist-netted.

The observation of a calling Crowned Eagle is of special interest, as the Lama forest is big enough and holds enough monkeys for one or two pairs of this big eagle to settle. The calls of the species were however quite unknown to Vincent Gbèdiga, the forest guard whom we questioned about calling raptors, and who instead spontaneously and correctly described the display calls of Western Banded Snake Eagle. It is also he who gave us a convincing description of African Pitta *Pitta angolensis*, both in plumage and display noise, the birds becoming noisy with the first heavy rains and formation of pools. This species is still unrecorded from Bénin.

The Lama forest is the biggest remnant in the country and the only site in Bénin for a number of forest species: Cassin's Hawk Eagle, Baumann's Greenbul, Fraser's Forest Flycatcher and Red-cheeked Wattle-eye. It is the only place in the south where Crested Guinea fowl survives, with a healthy population, and perhaps the most important one in the country.

**Niaouli forest.** Van den Akker (2003a) spent many months in this forest, between 1997 and early 2004 (M. van den Akker *in litt.*), during which he also mist-netted and ringed a large number of birds. Of the list of some 165 species he published, a significant proportion can be found only outside forest, in fallow fields, open marsh, or gardens around the houses of the station or even the village of Attogon. During 9 days of investigations, we added the following 17 species: White-spotted Flufftail (common), Northern White-faced Owl, Black-throated Coucal (common), Long-tailed Nightjar, Blue-breasted Kingfisher (already recorded in the bas-fond by Anciaux 1996), European Bee-eater, Rosy Bee-eater (common), Yellow-throated Tinkerbird (common, apparently confused in previous years with Yellow-rumped), Willcocks's

Honeyguide, Least Honeyguide, Rufous-chested Swallow, Ethiopian Swallow, Tree Pipit, Whinchat, Red-faced Cisticola, Little Green Sunbird and Orange-cheeked Waxbill. Two more species were noted by Anciaux (1996): White-crested Tiger Heron and Black Bee-eater *Merops gularis*, both in the bas-fond. The latter, however, was not seen in good conditions (a distant group of bee-eaters seen against the light, M.-R. Anciaux *in litt.*) and it would be more prudent to consider the presence of this species in Bénin as unproven as no-one else has been able to confirm it.

Of the species new for Bénin published by van den Akker (2003a), the identity of the Rufous-winged Illadopsis *Illadopsis rufescens* photographed by the author has been re-discussed recently between ourselves and colleagues (L.D.C. Fishpool & R. Demey), and we have all come to the conclusion that it is Puvel's, despite the unusual measurements. The colours are wrong for Rufous-winged, and it would be abnormal to find this bird of the wet rain forest of Upper Guinea in the dry, secondary forests of Niaouli. It is not known from the Dahomey Gap, the only specimen initially attributed to Rufous-winged in Togo having been re-identified as Puvel's (Cheke & Walsh 1996); a sight record from Togo (mentioned by the same authors), at a locality where Puvel's is also recorded, should be considered unproven. The eastern limit of range of this Upper Guinea endemic is in fact in Ghana, west of the Volta (near Begoro, pers. obs.).

We were unable to confirm several other species reported as new by van den Akker, among which the identity of White-bellied Kingfisher *Alcedo leucogaster* should also be queried: this is based on a sight record of a bird perched on a low branch of a Teak tree at the edge of secondary dry forest and plantation (van den Akker 2003a). This is the wrong habitat for White-bellied Kingfisher, and given the amount of mist-netting carried out by the author at Niaouli, Lokoli and elsewhere, surely at least one bird would have been caught in more suitable habitat if it existed in the area. This kingfisher favours small streams and pools in deep forest shade, and is readily taken in mist-nets. But the only kingfisher observed by us near the stream at Niaouli bas-fond was Pygmy (holding a territory), and the only one netted at Lokoli inside forest was also Pygmy. The forest at Niaouli bas-fond appears too degraded and open for a White-bellied Kingfisher.

Another new species we would query is Sooty Boubou *Laniarius leucorhynchus*, especially as the author wrote "behaviour closer to that of a true shrike", which alone practically rules it out. Sooty Boubous do not behave like true shrikes at all, but hide in the densest understorey close to the ground and are incredibly difficult to see, but they are noisy, singing in a duet. We listened for them and played pre-recorded tapes at Niaouli (plateau) without any success. We did not confirm the following species either: Cassin's Honeybird *Prodotiscus insignis*, Rufous-crowned Eremomela *Eremomela badiceps*, Violet-backed Hyliota *Hyliota violacea*, Tit-hylia *Pholidornis rushiae* and White-breasted Negrofinch *Nigrita fusconotus*. Tapes of the eremomela were played at the only suitable spot at Niaouli (noyau central on the plateau) without any success.

The list in the appendix to van den Akker (2003a) contains some species which are inherently unlikely in the south of Bénin: Chestnut-crowned Sparrow Weaver *Plocepasser superciliosus* is a bird of dry savanna woodland and small thickets for which there is no suitable habitat in the south (no other record south of 9°N). According to T. Lougbegnon (pers. comm.), what he and M. van den Akker called *P. superciliosus* were bishops *Euplectes* spp. and Red-headed Queleas in non-breeding dress. Another species inherently unlikely is White-rumped Seedeater *Serinus leucopygius*, a bird of dry woodland: if it occurs at all in Bénin, it should be in the far north only (there are reports from north of 11°N). Yellow-spotted Barbet *Buccanodon duchailloi* was listed in appendix without any details, even though the bird was quite unknown in Bénin. It is also unknown anywhere in the Dahomey Gap, the only record in Togo being based on a bird heard and not seen, and the description of the call (R. Cheke *in litt.*) does not correspond to either the West African dialect nor the faster Central African soft trill. This species should be taken off the Togo list; in Ghana the eastern limit for this barbet is west of the Volta, near Begoro (pers. obs.). Another species listed in that appendix without details is Ussher's Flycatcher *Muscicapa ussheri*, although it would be new for Bénin, and we feel this one also requires confirmation before it can be accepted.

Other species which we would doubt for Niaouli, because of the absence of suitable habitat, or likely confusion with congeneric species, include Northern Carmine Bee-eater, Wire-tailed Swallow, Mosque Swallow (in the absence of Rufous-chested from the list, although common), Leaflove, Green-

backed Eremomela and Northern Black Flycatcher. In the case of Rosy Bee-eater and Ethiopian Swallow missing from the published list (even though the bee-eater is very common), T. Loubegnon misidentified them as N. Carmine Bee-eater and Wire-tailed Swallow in our presence, and explained this was what he had been told they were by M. van den Akker. There is no suitable habitat for Wire-tailed Swallow at Niaouli, as in West Africa this species favours large expanses of open water.

To conclude, the avifauna of Niaouli certainly requires further study, preferably in the rains. The area of fairly natural forest on the plateau is very small however (about 30 ha), it is poor floristically and we would not expect to find many overlooked bird species. The forest is unique in some respects as it holds the only known population in Bénin today of Sabine's Puffback (collected in the past near Pobè), the main population of Yellow-throated Tinkerbird, and apparently the only (small) population of Honeyguide Greenbul and Yellow-browed Camaroptera. The Little Green Sunbird is also not known presently from other sites, but this discreet bird could be more widespread.

**Lokoli and Pobè forests.** No-one has published a full list for either of these localities. Lokoli swamp forest holds the following species unknown elsewhere in Bénin: Vermiculated Fishing Owl, Little Spotted Woodpecker, Western Bearded Greenbul, White-browed Forest Flycatcher, and the main population of Red-tailed Greenbul. Pobè and Lokoli together hold a small population of Hairy-breasted Barbet. The only Long-tailed Hawk for Bénin was tape-recorded at Lokoli, albeit probably a vagrant from Nigeria (it was recorded near Ilaro 90 km east of Lokoli, Button 1967-68). Pobè has several species not found anywhere else to date: Pale-fronted Negrofinch and Tiny Sunbird probably just sneak in from Nigeria — the negrofinch is known from the Ilaro area, 40 km east of Pobè (Button 1967-68). Green (Yellow-chinned) Sunbird *Anthreptes rectirostris* was collected at Pobè by Brunel (1958) and could still be present; this is one of the most difficult sunbird species to locate in tall forest as it is largely restricted to emergents. The only records of Black-and-white Flycatcher *Bias musicus* for Bénin also come from farmbrush between Pobè and Kétou (Brunel 1958); there are no recent records. The only specimen of Yellow-billed Barbet *Trachylaemus purpuratus* collected by Brunel (1958) also came from the Pobè region (E. Pasquet *in litt.* 2009); Brunel also collected the only specimen of Sabine's Puffback in the region of Pobè, but it does not seem to be present in the forest reserve.

Van den Akker (in van den Akker & Claffey 2004) reported Bioko Batis *Batis poensis* from the edge of forest at Pobè, but we could not find it there or anywhere in Bénin. The specimen reportedly collected by Brunel (1958) at Bégon (Kétou region) has disappeared from the collections of the Muséum National d'Histoire Naturelle at Paris (E. Pasquet *in litt.* 2009). As it came from a habitat described as "savane arborée", it could in fact have been a Senegal Batis *B. senegalensis*, widespread throughout the country. There is much degraded savanna between Kétou and Pobè (pers. obs.), and van den Akker's observation should not be accepted in the absence of a convincing description. Senegal Batis occurs on the edge of the forest zone at the Lama, for example. Erard (in Urban *et al.* 1997) cited Bégon for Bioko Batis, but does not remember seeing the specimen, and agrees (C. Erard *in litt.* 2009) that its presence in Bénin remains to be proven. It is unknown from the whole of the Dahomey Gap, including from the east of Ghana (pers. obs.).

**The Bétérou area.** Claffey (1995), who was based at Bétérou for 8 years, published a list of some 227 species recorded from the area by himself and some contributors, especially A. Green. Three forest reserves are included: Forêt classée de l'Ouémé Supérieur (north of Bétérou), Forêt classée de Ouari Maro (south of Bétérou) and the adjacent Forêt classée des Monts Kouffé to the south-west. We recorded some 173 species in four days spent in the Ouari Maro Forest Reserve, near Ouari Maro itself (and Soubakpérou hill), and west of Agbassa with access to the Ouémé river. In a short visit before the main rains, we added 57 species to Claffey's list, i.e. Palm-nut Vulture (not surprising with *Raphia sudanica* common in riparian forests near Agbassa), Beaudouin's Snake Eagle, Brown Snake Eagle, Western Banded Snake Eagle, Eurasian Marsh Harrier, Ovambo Sparrowhawk, African Hawk Eagle, Martial Eagle, Grey Kestrel, Eurasian Hobby, Black Cuckoo (added by Claffey in a later publication: Claffey 1998), Klaas's Cuckoo (common), Northern White-faced Owl (common), Black-shouldered Nightjar, Mottled Spinetail, Shining-blue King-

fisher, Blue-breasted Kingfisher (common), Striped Kingfisher (common), European Bee-eater (common), Yellow-rumped Tinkerbird, Spotted Honeyguide, Willcocks's Honeyguide, Golden-tailed Woodpecker, Brown-backed Woodpecker, Sun Lark, Rock Martin, House Martin, Tree Pipit, Common Nightingale, Familiar Chat, Melodious Warbler (common), Northern Crombec (common), Rock-loving Cisticola, Whistling Cisticola (common), Red-faced Cisticola (common), Singing Cisticola (common), Rufous Cisticola, Red-winged Warbler (common), Yellow-breasted Apalis (common), Oriole-Warbler, Pied Flycatcher, Ashy Flycatcher, Lead-coloured Flycatcher (common), African Paradise Flycatcher (common), Yellow Penduline Tit, Brown Sunbird, Violet-backed Sunbird, Eurasian Golden Oriole, Brubru (common), Square-tailed Drongo, Lesser Blue-eared Starling (common), Bush Petronia (common), Black-necked Weaver, Red-headed Weaver (common), Red-collared Whydah/Widowbird (to be confirmed), Bar-breasted Firefinch and Black-bellied Firefinch.

It seems likely that some of these species were seen by Claffey and Green but misidentified: for example it does not make sense to have just Red-bellied Paradise Flycatcher on the list and not the common African Paradise Flycatcher, or consider Woodland Kingfisher as a frequent "resident" (which this intra-African migrant cannot be), while overlooking the common resident Blue-breasted Kingfisher. Species such as Black-crowned Waxbill *Estrilda nonnula* (a long way away from its range in Central Africa, and in the wrong habitat) are obvious errors, as also Cassin's Flycatcher *Muscicapa cassini* seen by Claffey at the same locality as Swamp Flycatcher *M. aquatica*. In West Africa these two flycatchers belong respectively to the Guineo-Congolian and Sudanian biomes and do not overlap; the description of Cassin's Flycatcher by Claffey (p. 81) points instead to Ashy Flycatcher, a far more likely possibility, indeed recorded by us in the area. Of the frugivorous hornbills, Claffey (all based on an unpublished report by Green & Sayer) gives Brown-cheeked *Bycanistes cylindricus* as "abundant", as opposed to "rare" for the common Piping Hornbill. In mapping this record for their field guide, Borrow & Demey (2001) assumed this to belong to the Central African form (White-thighed Hornbill *B. albotibialis*), now considered a good species. Whether this is to be taken as the Upper Guinea endemic *B. cylindricus* or the Lower Guinea endemic *B. albotibialis*, a hornbill of wet rain forest cannot possibly be "abundant" in an area of essentially Sudanian woodland, and we have to assume there was confusion with another hornbill, probably Piping which is indeed common.

The vegetation around Bétérou is essentially Sudanian, as also the avifauna, with only a small trickle of Guineo-Congolian near-endemic species. The situation is comparable to that in Bui N.P. in western Ghana, which is at the northern limit of the Guineo-Congolian/Sudanian transition zone (Dowsett-Lemaire & Dowsett in press). Dry forest species in common with Ouari Maro are Ahanta Francolin, Green Turaco, Piping and Pied Hornbills, and Leaflove (overlapping with the savanna species Yellow-throated Leaflove). But two more Guineo-Congolian forest species added later by Claffey (1999a, 1999b), the Red-billed Dwarf Hornbill *Toekus camurus* and White-breasted Negrofinch appear unlikely in a Sudanian environment, especially the hornbill, a species of rain forest quite unknown from the transition zone anywhere in the Dahomey Gap.

Similarly we cannot see any suitable habitat for the Fire-crested Alethe *Alethe diademata* claimed by J. Goossens as having been seen in Mar 1999; the record is not yet published but was mentioned in "Recent Reports" in *Bull. Afr. Bird Club* 13 (2006), p. 99. No locality was given there, but according to Claffey (in MS) it was in Ouari Maro. If this Guineo-Congolian species were to occur in Bénin, it should turn up rather in more suitable vegetation in the south. However, no-one has located it to date, and the vagrant status of other forest Turdidae such as Finsch's Flycatcher Thrush suggests that even the southern forests are too dry for this ant-following specialist.

Claffey's (1999b) observation of two juvenile Crowned Eagles *Stephanoaetus coronatus* north of Bétérou, in the type of country that is more suited to Martial Eagle (not listed by him but recorded by this study) could also be queried. The calls described are not typical of immature Crowned Eagle; if Crowned Eagles were breeding in the area, surely the spectacular and almost daily display song of the adults should have been observed, and finally the presence of "two" immatures together is also matter for speculation, as this large eagle never raises more than one young.

### 3. GUINEO-CONGOLIAN SPECIES

The forests of southern Bénin remained poorly known for decades, and the number of Guineo-Congolian species found in them has been considerably increased during recent explorations (especially by Waltert & Mühlenberg 1999, van den Akker 2003a, and this visit). Table 1 presents the distribution patterns of Guineo-Congolian endemic or near-endemic species (i.e. (nearly) restricted to the Guineo-Congolian biome) in the four main forest localities of the south.

**Table 1. Distribution of Guineo-Congolian species in the four main forest sites of southern Bénin.**

E means extinct; v means vagrant (not likely to breed locally); () are used for records from sources other than our own study: those in the Niaouli column are from van den Akker (2003a) except for *Tigriornis* (Anciaux 1996); those in the Lama column are from Waltert & Mühlenberg (1999) except for *Campethera nivosa* (M. van den Akker *in litt.*); *Neocossyphus poensis* at Pobè is from M. van den Akker (*in litt.*), *Thripias pyrrhogaster* from T. Lougbegnon (pers. comm.), and *Anthreptes rectirostris* comes from Brunel (1958). *Merops malimbicus* is exclusively a non-breeding visitor. \* means a species new for Bénin.

Bird species	Niaouli	Lama	Lokoli	Pobè
<i>Tigriornis leucolopha</i>	(x)E?	-	x	-
<i>Accipiter erythropus</i>	x	x	x	x
* <i>Urotiorchis macrourus</i>	-	-	v	-
* <i>Spizaetus africanus</i>	-	x	-	-
<i>Francolinus achantensis</i>	E	x	-	x
<i>Sarothrura pulchra</i>	x	x	x	x
<i>Columba iriditorques</i>	x?	(x)	-	?
<i>Tauraco persa</i>	x	x	x	-
* <i>Centropus leucogaster</i>	x	x	x	x
* <i>Scotopelia bouvieri</i>	-	-	x	-
<i>Merops malimbicus</i>	x	x	x	x
<i>Eurystomus gularis</i>	x	x	x	x
<i>Tropicranus albocristatus</i>	E	x	x	x
<i>Tockus fasciatus</i>	x	x	x	x
<i>Bycanistes fistulator</i>	E	-	x	E
<i>Gymnobucco calvus</i>	E?	-	-	v
<i>Pogoniulus scolopaceus</i>	x	-	x	x
<i>Pogoniulus subsulphureus</i>	x	-	-	x
* <i>Tricholaema hirsuta</i>	-	-	x	x
<i>Indicator maculatus</i>	(x)	x	-	-
* <i>Indicator willcocksii</i>	x	-	-	-
* <i>Indicator exilis</i>	x	x	-	-
<i>Thripias pyrrhogaster</i>	x	x	x	(x)
* <i>Campethera nivosa</i>	-	(x)	-	x
<i>Andropadus curvirostris</i>	x	x	-	x
<i>Baeopogon indicator</i>	x	-	-	-
<i>Chlorocichla simplex</i>	x	x	x	x
<i>Thescelocichla leucopleura</i>	x	-	x	x
* <i>Phyllastrephus baumanni</i>	-	x	-	-
<i>Phyllastrephus albigularis</i>	x	x	-	x
<i>Bleda syndactylus</i>	-	(x)	-	-

Table 1 (contd).

Bird species	Niaouli	Lama	Lokoli	Pobè
<i>Bleda canicapillus</i>	x	x	?	x
<i>Criniger calurus</i>	(v?)	-	x	-
<i>Criniger barbatus</i>	-	-	x	-
<i>Nicator chloris</i>	x	x	-	x
* <i>Stizorhina fraseri (finschi)</i>	-	-	x/v	(v)
<i>Neocossyphus poensis</i>	-	-	-	(v)
<i>Stiphronis erythrothorax</i>	x	x	-	-
<i>Sylvietta virens</i>	x	x	x	x
<i>Macrosphenus concolor</i>	x	x	-	x
<i>Hylia prasina</i>	x	x	x	x
<i>Apalis rufogularis</i>	x	x	x	x
<i>Camaroptera superciliaris</i>	x	-	-	-
<i>Camaroptera chloronota</i>	(x)	x	-	-
<i>Fraseria ocreata</i>	-	x	-	-
<i>Fraseria cinerascens</i>	-	-	x	-
<i>Megabyas flammulatus</i>	x	x	-	x
* <i>Dyaphorophya blissetti</i>	-	x	-	-
<i>Dyaphorophya castanea</i>	x	x	x	x
<i>Terpsiphone rufiventer</i>	x	x	x	x
<i>Illadopsis fulvescens</i>	x	x	x	x
<i>Illadopsis puveli</i>	x	x	-	-
<i>Anthreptes rectirostris</i>	-	-	-	(x)
* <i>Nectarinia seimundi</i>	x	-	-	-
<i>Nectarinia adelberti</i>	x	x	-	x
* <i>Nectarinia minulla</i>	-	-	-	x
<i>Nectarinia superba</i>	(x)	x	x	x
<i>Oriolus nigripennis</i>	x	x	x	x
<i>Dryoscopus sabinus</i>	x	-	-	E
<i>Prionops caniceps</i>	x	x	x	x
<i>Onychognathus fulgidus</i>	x	x/v	x	x
<i>Lamprotornis purpureiceps</i>	-	x	x	-
<i>Ploceus nigerrimus</i>	x	x	x	x
<i>Ploceus tricolor</i>	x	x	-	x
<i>Malimbus nitens</i>	x	(x)	x	-
<i>Malimbus scutatus</i>	x	-	x	x
<i>Malimbus rubricollis</i>	x	x	x	x
<i>Nigrita bicolor</i>	x	-	x	-
* <i>Nigrita luteifrons</i>	-	-	-	x
<i>Spermophaga haematina</i>	x	x	x	x
<b>Some forest species not strictly Guineo-Congolian, except in West Africa:</b>				
* <i>Campethera cailliautii</i>	-	-	x	-
<i>Campephaga quiscalina</i>	x	x	x	x
<i>Andropadus virens</i>	x	x	x	x
<i>Andropadus latirostris</i>	-	-	-	x
<i>Andropadus gracilirostris</i>	x	x	x	x
<i>Nigrita canicapillus</i>	x	x	x	x

A few more Guineo-Congolian near-endemics are known to occur in the country outside those localities: Leaflove (transition zone further north); Brown Sunbird, Reichenbach's Sunbird (Jones 2008), and Orange Weaver all from the coast, with Brown Sunbird also further north in gallery forest (see species list). The Yellow-billed Barbet was collected by Brunel from the Pobè area, but the species has not been found again. Other species claimed require confirmation or are considered unlikely (see discussion under Lama, Niaouli and Ouari Maro); the Dusky-blue Flycatcher *Muscicapa comitata* listed by Anciaux (1996) as seen once near Toffo, might have been confused with another greyish flycatcher (e.g. Ashy Flycatcher), and as it would represent the only record for the country, it would be prudent to exclude it for the time being. M.-R. Anciaux (*in litt.* 2009) agrees with this option. Dusky-blue Flycatcher is almost unknown from the Dahomey Gap, as the only record from Togo was considered doubtful by the observers themselves (Dowsett-Lemaire & Dowsett 2007: 85). Finally Capuchin Babbler *Phyllanthus atripennis* appeared in Dowsett's Bénin list (1993) based on a report from Dahomey (Bannerman 1953: 844), but the specimen is in fact from Togo (e.g. *Crateropus haynesi* from Bismarckburg, in Reichenow 1891: 392); thus the only record is Claffey's (1995) from savanna woodland near Bétérou, which requires confirmation in view of the strange habitat, and the many oversights and confusions in the general list for this area.

Of the species tabulated, the majority are widespread in West Africa and Nigeria eastwards; only three are Lower Guinea near-endemics, reaching in Bénin their western limits of range: the Vermiculated Fishing Owl, Buff-throated Apalis and Purple-headed Glossy Starling. The origin of most forest species in Bénin must be south-western Nigeria, as the forests of that area are much closer than those of the Ghana/Togo border. In the case of species with distinctive races, specimens support this assumption: for instance, the subspecies of Yellow-throated Tinkerbird collected by Brunel (1958) belongs to the eastern race, and the same applies to the race of Buff-throated Sunbird, Red-headed and Red-vented Malimbés.

## OBSERVATIONS ON LARGER MAMMALS

The best area for mammals in the south is by far the Lama forest. Although a certain amount of poaching is taking place (shots heard), monkeys are still common. Niaouli bas-fond and Pobè forests, on the other hand, have lost their monkeys; Cusimanse are still very common in the Niaouli plateau forest.

The niche of Tree Hyrax (*Dendrohyrax*) in this country is occupied by an undescribed species, as elsewhere in the Dahomey Gap (west to eastern Ghana). And the niche of forest galago is entirely occupied by Thomas's Galago, instead of Demidoff's.

### PRIMATES

Black-and-white Colobus *Colobus vellerosus* (Colobe noir et blanc). Only one seen at the Lama (layon 11), running away, 1 Mar.

Olive Baboon *Papio anubis* (Babouin doguéra). Some on Soubakpérou hill, Ouari Maro.

Patas Monkey *Cercopithecus patas* (Patas). Heard in woodland near Agbassa.

Green Monkey *C. aethiops* (Singe vert). A group present in Niaouli forest, near the mirador. Common in the Lama forest, often crossing roads and generally more visible than the forest species. Also in small patches of dry forest below Soubakpérou hill (Ouari Maro), where the habitat is decreasing and the animals looked very weary. In riparian forest on the Ouémé near Agbassa.

Mona Monkey *Cercopithecus mona* (Mone). Common in the Lama forest, in the denser patches (layons 11, 12, 15). Several groups are still in Lokoli forest, but are seriously threatened by hunting and deforestation.

Red-bellied Monkey *C. erythrogaster* (Cercopithèque à ventre rouge). Fairly common in the Lama forest, with groups of Monas (layon 12). Shier and less easy to see, but quite noisy at dusk (tape-recorded). None heard at Lokoli, where recorded in 2003 (Campbell *et al.* 2008).

Senegal Galago or Bush Baby *Galago senegalensis* (Galago du Sénégal). Heard at the Lama, in degraded Teak plantation on the edge of the firebreak, in front of savanna. In woodland near Agbassa.

Thomas's Galago *Galagoides thomasi* (Galago de Thomas). Widespread in the forest region, from Drabo Gbo (in Peter's garden, heard at 5 a.m.), to Niaouli (a pair heard most evenings and mornings in

*Senna* forest next to the rest house), Lama (heard most evenings near our camp on layon 15, tape-recorded), and Lokoli (in *Ficus/Syzygium owariense* forest on the eastern bank).

#### SQUIRRELS

Thomas's Rope Squirrel *Funisciurus anerythrus* (Funisciure à dos rayé). Well seen in forest in Niaouli and Ouari Maro, and reported by Thomassen (2001) to range north in Bénin to 11°15'N.

Kintampo Rope Squirrel *Funisciurus substriatus* (Funisciure de Kintampo). Seen only in the south, at Drabo Gbo, and apparently absent north of c. 7°30'N (Thomassen 2001).

Gambian Sun Squirrel *Heliosciurus gambianus* (Héliosciure de Gambie). Quite common in thicker vegetation in Ouari Maro.

Red-legged Sun Squirrel *Heliosciurus rufobrachium* (Héliosciure à jambes rousses). Common in forest at Drabo Gbo and Niaouli. It largely replaces *H. gambianus* south of 9°N (Thomassen 2001).

Striped Ground Squirrel *Xerus erythropus* (Ecureuil fousseur). Several noted in the Drabo Gbo area.

#### FLYING SQUIRRELS

Beecroft's Flying Squirrel *Anomalurus beecrofti* (Anomalure de Beecroft). At dusk one landed on a tree trunk in front of the watch tower at Niaouli (plateau forest), and continued gliding from tree to tree, running up a trunk to gain height before the next glide (29 Jan). Although identification to species was not certain, it was probably this, rather than Lord Derby's Flying Squirrel *A. derbianus* (Anomalure de Derby), known in Bénin only in one area in the south-west (de Visser 2001).

#### MONGOOSES & CIVETS

Cusimanse *Crossarchus obscurus* (Mangouste ou Crossarche brune). Very common in Niaouli plateau forest, and active throughout the day, in small family groups. Search the ground for worms and insects, their high-pitched contact calls easily give them away. Widespread in the Lama forest, perhaps in smaller densities than at Niaouli.

Palm Civet *Nandinia binotata* (Nandinie). Located in only one locality, in the forest on the eastern side of the river at Lokoli. One very noisy, then two individuals, perhaps mating (nights of 9-10 Feb).

#### HYRAXES

Tree Hyrax sp. *Dendrohyrax* sp. Widespread in all larger forests, Niaouli, Lama and Lokoli. Not heard at Pobè, where perhaps hunted out. Densities are particularly high at the Lama. Tape-recorded (the voice is the same as in eastern Ghana). Calling only at night.

Rock Hyrax *Procavia ruficeps kerstingi*. Two seen on Soubakpérou hill, by day.

#### ANTELOPES & PIGS

Bushbuck *Tragelaphus scriptus* (Guib arnaché). One flushed on layon 11, Lama forest.

Maxwell's Duiker *Cephalophus maxwelli* (Céphalophe de Maxwell). One or two flushed in Niaouli plateau forest; signs of this species in the Lama too (where reported by Green & Chardonnet 1990).

Bushpig (or Red River Hog) *Potamochoerus porcus* (Potamochère). Many signs in the Lama forest.

## CONSERVATION STATUS OF MAIN FOREST REMNANTS

### 1. The Lama forest

This, the largest area of dry forest in southern Bénin, is efficiently protected by the Forestry Department within the Lama forestry station. Teams of forest guards patrol the forest day and night; three tall miradors, on the boundary between the noyau central and the Teak plantations, are manned all day long to look out for fires. The noyau central showed no signs of fires or any other damage to the vegetation, and the transition woodland is slowly closing up and evolving towards dense forest. The only problem we noticed was the presence of a few hunters, in two or three places (shots were heard). Monkeys remain common, but anti-poaching surveillance

should probably be re-enforced. The provision of a permanent pool for the benefit of Crested Guineafowls and mammals is being considered (H. Hodonou pers. comm.) and would be an excellent idea, not just to help the local fauna, but to provide an interesting viewing spot for small numbers of ecotourists. The Lama forest is of immense importance for the survival of a monkey endemic to the Dahomey Gap, the Red-bellied Monkey. Olive Colobus *Procolobus verus* is also recorded from the Lama (Campbell *et al.* 2008).

## 2. Niaouli forest

Only the plateau forest can be considered as well protected. The *Senna* reforestation programme is working well, and native species are coming back. The bas-fond is very degraded by human presence, exotic species (Bamboos, *Hura crepitans*, *Hevea*, cocoa plantation) growing right in the swamp forest, and recently by the clearing of some patches of forest to set up a new *Elaeis* palm nursery. Human pressure on the stream is so high that there can be no hope of ever recovering monkeys or bird species now extinct (e.g. Crested Guineafowl or White-crested Hornbill). The plateau forest might with time be suitable for the re-introduction of a few Crested Guineafowls, but water would then have to be provided away from the bas-fond. Although the station is occasionally visited by tourists, the watch tower on the plateau does not have much to offer, except for the bird specialist. Cusimanse (which occur at high densities) are probably the main mammal attraction.

## 3. Lokoli forest

The situation at Lokoli has got out of control, with severe pressure being put on the forest to create new gardens (mainly of taro, a vegetable). It looks as if the forest on the western bank is doomed to disappear in the near future, and no-one can tell for how long the more mature forest on the eastern bank will survive. It is not known whether the small population of Red-bellied Monkeys identified there in 2003 is still extant, and if so for how much longer. Monas are actively hunted by people operating in boats. Even giant snails *Archachitina marginata* collected for food have become scarce. Campbell *et al.* (2008) found Red-bellied Monkeys in other locations in the Ouémé swamp forests to the south and south-east of Lokoli, none of which is protected in any way. These forests also deserve further study of their bird populations, especially in respect of species dependent on swamp forest (e.g. the Vermiculated Fishing Owl).

## 4. Pobè forest

For the moment, the forest reserve is reasonably well protected within the Pobè Agricultural Research Station. However, the guards employed by the project are more concerned with the surveillance of the palm plantations, and a certain amount of dead (and other?) wood is collected illegally from the reserve. Quite significant damage was occasioned by hurricanes recently, which knocked down several emergents and increased the degradation of the forest canopy. Hunting has also taken its toll, as there are no monkeys, and Ahanta Francolin appears to be on the verge of extinction. White-crested Hornbill has become scarce and some other bird species may not survive in the longer term. At the time of Brunel's investigations (in the mid-1950s), there were many forest islands in the Pobè region. Most have disappeared under cultivation, and the Pobè Forest Reserve is now very isolated, minus a couple of patches of more degraded forest outside the station perimeter. Some bird species occur, most probably, no more than as occasional wanderers: candidates include of course Finsch's Flycatcher Thrush and White-tailed Ant Thrush. The large numbers of Common Bulbul, African Thrush and Snowy-crowned Robin Chat in the forest also reflect the open character of the canopy and degradation of understorey, as does the scarcity of Brown Illadopsis or Yellow-whiskered Greenbul.

## 5. Ouari Maro

The patches of dry riparian forest or thicket near the village of Ouari Maro are doomed to disappear under plantain gardens, and the paths opened a few years ago to encourage eco-tourism around Soubakpérou Hill are being neglected. Several trees which bore signs with their names written on them had recently been cut

down. The woodland is also seriously damaged by the systematic logging of *Pterocarpus erinaceus* for planks. Several bird species are likely to suffer as a consequence, including the Hooded Vulture still breeding in the area in forest trees.

The picture is very different near Agbassa, as there is a vast area of pristine woodland and gallery forest on the Ouémé without any villages. The views from the escarpment near Agbassa were quite impressive, showing several ranges of rocky, wooded hills without any signs of encroachment. Population density in the region is very low, and consequently the forest reserve is still largely intact.

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### Appendix 1. Coordinates of main study sites.

Agbassa .....	8°49' N, 2°17' E
Drabo Gbo (Ouèga) .....	6°30' N, 2°18' E
Egnonhlê.....	7°05' N, 2°15' E
Lama forest (camp site near layon 15) .....	6°59' N, 2°05' E
Lokoli forest near Dèmè.....	7°04' N, 2°15' E
Lokoli forest near Lokoli.....	7°04' N, 2°16' E
Niaouli plateau .....	6°44' N, 2°08' E
Niaouli bas-fond.....	6°45' N, 2°08' E
Ouari Maro (village).....	9°10' N, 2°10' E
Ouègbo (Houègbo).....	6°47' N, 2°10' E
Ouémé river near Agbassa .....	8°51' N, 2°13' E
Ouidah lagoon .....	6°20' N, 2°05' E
Plaine du Sô.....	6°30' N, 2°23' E
Pobè forest.....	6°58' N, 2°40' E
Togbin .....	6°21' N, 2°18' E

### Appendix 2. Bird (and mammal) species tape-recorded.

#### Birds.

<i>Circaetus cinerascens</i> .	Song, Lama (layon 15), 27 Feb.
<i>Accipiter tachiro</i> .	Song, Niaouli (29 Jan) and Lokoli (7 Feb).
<i>Urotriorchis macrourus</i> .	Part of one song, then full song (distant), Lokoli, 9 Feb.
<i>Guttera pucherani</i> .	Lama (layon 11), 1 Mar.
<i>Tauraco persa</i> .	Niaouli, 25 Feb.
<i>Pachyoccyx audeberti</i> .	Song (in flight), Lama (2 Feb) and Niaouli (25 Feb).
<i>Centropus leucogaster</i> .	Song, Niaouli (24 Feb), and characteristic call (fast “douk-douk-douk-douk...”), Niaouli (25 Feb). Distant calls and song also from Lokoli, 7 Feb.
<i>Ceuthmochares aereus</i> .	Song, Niaouli, 29 Jan.
<i>Scotopelia bouvieri</i> .	Hoots and song, Lokoli, 9 Feb. One song consisted of 1 plus 6 plus 1 final hoot, and another of 1, plus 8 plus 2 final hoots.
<i>Caprimulgus pectoralis nigriscapularis</i> .	Song, Lama, 2 Feb.
<i>Ceyx pictus</i> .	Song, or territorial calls, Niaouli bas-fond, 29 Jan.
<i>Merops albicollis</i> .	Calls, Lokoli (9 Feb) and Lama (27 Feb).
<i>Merops malimbicus</i> .	Calls, Lama, 27 Feb. One call from Niaouli plateau, 24 Feb.
<i>Tockus fasciatus</i> .	Pobè, 12 Feb.
<i>Tricholaema hirsuta</i> .	Song, Lokoli (6 and 9 Feb) and Pobè (12 Feb), rate of one note/second.
<i>Indicator exilis</i> .	Song, Niaouli plateau, 25 Feb.
<i>Indicator willcocksi</i> .	Song, Agbassa, 21 Feb.
<i>Campethera cailliautii</i> .	Song (one or two rising notes, or one note end of series of 2-3), Lokoli, 6 Feb.
<i>Campethera nivosa</i> .	Three separate calls “wiurrrrr” (lasting one second each), Pobè, 12 Feb.
<i>Pogoniulus scolopaceus</i> .	Lokoli, 9 Feb.
<i>Pogoniulus subsulphureus</i> .	Song, Niaouli (29 Jan, 24 Feb): fast series of 8 to 17 notes, rate of 5/second.
<i>Pogoniulus chrysoconus</i> .	Song, Lama (layon 15), 2 Feb.

## Appendix 2 (contd). Bird (and mammal) species tape-recorded.

**Birds (contd).**

<i>Campephaga quiscalina</i> .	Loud whistles, Lama (layon 15), 28 Feb.
<i>Andropadus virens</i> .	Several recordings.
<i>Andropadus curvirostris</i> .	Calls, Niaouli plateau, 29 Jan.
<i>Andropadus gracilirostris</i> .	Calls, Niaouli, 27 Jan.
<i>Thescelocichla leucopleura</i> .	Calls/song, Lokoli, 6 and 9 Feb.
<i>Phyllastrephus baumanni</i> .	Several recordings of calls and song, of birds at close range, Lama forest (layons 9, 12, 15), including intense alarm calls or mobbing calls: 1, 3 and 27 Feb.
<i>Phyllastrephus albigularis</i> .	Song, Lama (layon 15), 28 Feb.
<i>Bleda canicapillus</i> .	Calls, Lama, 1 Feb.
<i>Criniger calurus</i> .	Calls, complex combat songs (of 7-8 notes) and normal song, Lokoli, 7 Feb.
<i>Pycnonotus barbatus</i> .	Several recordings.
<i>Nicator chloris</i> .	Song in background (Lama).
<i>Stizorhina fraseri finschi</i> .	Characteristic calls (series of 3 “rruit”, or “wreet”), Lokoli, 6 and 7 Feb.
<i>Turdus pelios</i> .	Alarm calls, Lokoli, 9 Feb.
<i>Stiphrornis erythrothorax</i> .	Song and calls (loud whistles), Lama (layon 12), 1 Mar.
<i>Cossypha niveicapilla</i> .	Song, Lama, 31 Jan. Series of 26 detached whistles, 27 Feb, tentatively attributed to this species (not seen), Lama (layon 15 in transition woodland).
<i>Sylvietta virens</i> .	Song, Lama, 27 Feb.
<i>Macrosphenus concolor</i> .	Song (distant), Niaouli plateau, 29 Jan.
<i>Apalis rufogularis</i> .	Song, Niaouli plateau, 29 Jan. Songs (closer), Lama, 1 Feb.
<i>Camaroptera brachyura</i> .	Alarm calls, Niaouli plateau, 25 Feb. Song and calls, Lama, 27 Feb.
<i>Camaroptera superciliaris</i> .	Calls (distant), Niaouli plateau, 29 Jan.
<i>Fraseria ocreata</i> .	Typical harsh calls, then song with striking imitations of Emerald Cuckoo, Lama (layon 12), 1 Feb. Birds in full view.
<i>Fraseria cinerascens</i> .	Song (very high-pitched “srrreee” notes), Lokoli, 9 Feb.
<i>Myioparus plumbeus</i> .	Song, Lama (off layon 9), 3 Feb.
<i>Megabyas flammulatus</i> .	Song, Niaouli plateau, 23 and 25 Feb.
<i>Dyaphorophya blissetti</i> .	Short song, Lama (layon 15), 5 Feb. Series of 3 to 5 whistles, then a longer series.
<i>Terpsiphone rufiventer</i> .	Calls, Lokoli, 9 Feb.
<i>Illadopsis puveli</i> .	Song, Lama (layon 12), 1 Feb. Song and also series of loud descending whistles (that Chappuis 2000 attributes to the female), Lama, 1 Mar.
<i>Illadopsis fulvescens</i> .	Song (with female calls), Niaouli plateau, 25 Feb.
<i>Nectarinia chloropygia</i> .	Calls, snatches of song, Lama, 3 Feb.
<i>Nectarinia minulla</i> .	Song of a bird in full view, forest edge, Pobè, 14 Feb.
<i>Nectarinia coccinigaster</i> .	Song, Agbassa, 21 Feb.
<i>Oriolus nigripennis</i> .	Numerous recordings of song and calls from Niaouli, Lokoli and Pobè. Calls can be clearly disyllabic (“tee-hup”), or almost merged into one note (“tee-jup”, “tjeeup”) as also in eastern Ghana (same calls recorded at Amedzofe). Birds all in full view and responding easily to playback.

## Appendix 2 (contd). Bird (and mammal) species tape-recorded.

**Birds (contd).**

<i>Dryoscopus gambensis</i> .	Background recording of “klik-klik-klik-klik” motif, Lama (Teak and thickets), 2 Feb.
<i>Dryoscopus sabini</i> .	One full song (krtr, krtr, then loud descending series of whistles) Niaouli bas-fond, 23 Feb.
<i>Prionops caniceps</i> .	Snatches of song (“wak-wak”, or “wok-wok”), Lama, 1 Feb. Song, and rolled calls of immatures, Niaouli plateau, 25 Feb.
<i>Lamprotornis purpureiceps</i> .	Calls and brief snatches of song from a bird sitting a few metres above recordist, in full view, Lokoli, 9 Feb.
<i>Nigrita canicapillus</i> .	One song (3 notes) at Lokoli, 9 Feb. One song (same dialect) at Niaouli plateau, 25 Feb.
<i>Nigrita luteifrons</i> .	One of several calls heard at Pobè, consisting of a series of 4 short whistles “fu-fee-fee-fue”.

**Mammals.**

<i>Cercopithecus mona</i> .	Dusk calls (monosyllabic), Lama (layon 12), 31 Jan.
<i>Cercopithecus erythrogaster</i> .	Calls with Monas, Lama (layon 12), 31 Jan.
<i>Galagoides thomasi</i> .	Two calls, Lama forest (near layon 15), dawn on 5 Feb. Very high-pitched, weak recording.
<i>Dendrohyrax</i> sp.	Several recordings, Niaouli, Lama and (more distantly) Lokoli. Very close at the Lama.

## Appendix 3. Birds ringed and recaptured in Benin in 2009.

Ring n°	Place	Date	Wing (mm)	Weight (g)	Age/sex	1st ringed
<i>Ceyx pictus</i> X.82165	Lokoli	10/02/2009	54	11.8	ad.	
<i>Halcyon malimbica</i> B.31290	Lokoli	09/02/2009	115	81.2	ad.	
<i>Merops albicollis</i> E.3544	Lokoli	09/02/2009	96	21.1	ad.	
E.3545	Lokoli	09/02/2009	101	21.4	ad.	
E.3546	Lokoli	10/02/2009	97	19.5	f.g.	
<i>Andropadus virens</i> A.63463	Niaouli	28/01/2009	72	20.7	ad.	
A.63465	Lokoli	09/02/2009	74	24.9	ad.M	
A.63468	Pobè	14/02/2009	71.5	21.7	1st yr	
A.63469	Pobè	15/02/2009	77	22.5	1st yr	
A.63470	Niaouli	25/02/2009	70	21.1	1st yr	
A.63484	Lama	27/02/2009	77	25.3	ad.	
A.63485	Lama	27/02/2009	79	28.4	f.g.	
A.63486	Lama	27/02/2009	78	26.1	f.g.	
A.63487	Lama	01/03/2009	72	23.3	f.g.	
A.64149	Niaouli	28/01/2009	71	20.2	1st yr	
81619616	Niaouli	24/02/2009	75.5	23.7	ad.M	20/06/2001
81619669	Lokoli	09/02/2009	-	-	ad.M	22/09/2001
81620040	Niaouli	25/02/2009	77.5	23.1	ad.M	27/03/2002
81620235	Pobè	15/02/2009	73	25.5	ad.F	10/04/2003
81620264	Niaouli	28/01/2009	77	25.2	ad.M	16/01/2004

## Appendix 3 (contd). Birds ringed and recaptured in Benin in 2009.

Ring n°	Place	Date	Wing (mm)	Weight (g)	Age/sex	1st ringed
<i>Andropadus curvirostris</i>						
A.63473	Niaouli	25/02/2009	76	23	ad.	
A.63474	Lama	27/02/2009	76	26.3	ad.	
A.63483	Lama	27/02/2009	83	24.3	ad.	
<i>Phyllastrephus baumanni</i>						
A.63476	Lama	27/02/2009	80	27.1	ad.	
A.63479	Lama	27/02/2009	71	22.4	f.g.	
A.63481	Lama	27/02/2009	75	25.3	f.g.	
A.63482	Lama	27/02/2009	79.5	27	f.g.	
<i>Phyllastrephus albigularis</i>						
A.63472	Niaouli	25/02/2009	82	27.2	ad.	
A.63475	Lama	27/02/2009	84	23.4	ad.	
A.63477	Lama	27/02/2009	82	24.2	ad.M	
A.63478	Lama	27/02/2009	79	23.9	ad.	
A.63480	Lama	27/02/2009	73.5	18.6	ad.F	
81620373	Niaouli	25/02/2009	83	26.9	ad.M	Not known
<i>Bleda canicapillus</i>						
B.31292	Niaouli	24/02/2009	109	46.6	ad.M	
B.31293	Lama	28/02/2009	98	38.2	ad.	
B.31294	Lama	28/02/2009	103	44.5	ad.	
B.31295	Lama	28/02/2009	102	45.4	ad.	
<i>Turdus pelios</i>						
B.31289	Lokoli	09/02/2009	109	62.8	1st yr	
B.31291	Lokoli	10/02/2009	118	73.8	ad.M	
<i>Stiphrornis erythrothorax</i>						
X.82177	Niaouli	24/02/2009	67.5	16	ad.M	
X.82185	Lama	28/02/2009	66.5	14.7	ad.	
X.82186	Lama	28/02/2009	62.5	13.9	1st yr	
<i>Cossypha niveicapilla</i>						
A.63471	Niaouli	25/02/2009	92	27.6	1st yr	
A.64150	Niaouli	28/01/2009	98.5	37.6	1st yr M	
<i>Cameroptera brachyura</i>						
X.82164	Lokoli	09/02/2009	64	11.9	ad.M	
X.82180	Lama	27/02/2009	53.5	11.5	ad.	
X.82181	Lama	27/02/2009	52.5	10.4	1st yr	
<i>Dyaphorophyia blissetti</i>						
X.82187	Lama	01/03/2009	50	10.8	ad.M	
<i>Dyaphorophyia castanea</i>						
Seen	Pobè	14/02/2009	-	-	ad.M	Mar. 2004
X.82153	Niaouli	28/01/2009	60	14.1	ad.M	
<i>Anthreptes collaris</i>						
T.9492	Niaouli	28/01/2009	50.5	8.5	ad.M	
T.9493	Lokoli	09/02/2009	48	7.6	ad.F	
T.9494	Lokoli	10/02/2009	48	6.8	1st yr	
T.9495	Lama	27/02/2009	49.5	6.5	ad.F	
<i>Nectarinia olivacea</i>						
HK.2564	Niaouli	25/02/2009	57	9	ad.F	Not known
X.82152	Niaouli	28/01/2009	65	11.1	ad.M	
X.82154	Niaouli	28/01/2009	54	8.7	ad.F	
X.82155	Niaouli	28/01/2009	56.5	8.3	ad.F	
X.82156	Niaouli	28/01/2009	63	10.3	ad.M	
X.82157	Niaouli	28/01/2009	65	9.5	ad.M	

## Appendix 3 (contd). Birds ringed and recaptured in Benin in 2009.

Ring n°	Place	Date	Wing (mm)	Weight (g)	Age/sex	1st ringed
X.82158	Niaouli	28/01/2009	65.5	9.8	ad.M	
X.82159	Niaouli	28/01/2009	55.5	8.8	ad.F	
X.82160	Niaouli	28/01/2009	58	10.1	ad.M	
X.82161	Niaouli	29/01/2009	57	9.2	ad.F	
X.82162	Niaouli	29/01/2009	56	8.7	ad.F	
X.82163	Niaouli	29/01/2009	61.5	9.7	ad.M	
X.82166	Pobè	14/02/2009	56	9.6	ad.F	
X.82167	Pobè	14/02/2009	56	8.5	ad.F	
X.82168	Pobè	14/02/2009	55.5	8.4	ad.F	
X.82169	Pobè	14/02/2009	55	7.8	ad.F	
X.82170	Pobè	14/02/2009	55.5	8.6	f.g.	
X.82171	Pobè	14/02/2009	63.5	10.9	ad.M	
X.82172	Pobè	14/02/2009	60	10.6	ad.M	
X.82173	Pobè	15/02/2009	54	7.7	1st yr	
X.82174	Pobè	15/02/2009	58	9.1	ad.F	
X.82175	Pobè	15/02/2009	61.5	10.6	ad.M	
X.82176	Niaouli	24/02/2009	56	9.1	ad.F	
X.82178	Niaouli	25/02/2009	55.5	8.4	ad.F	
X.82179	Niaouli	25/02/2009	64.5	10.9	ad.M	
X.82182	Lama	27/02/2009	56	8.6	ad.F	
X.82183	Lama	27/02/2009	59.5	9.2	ad.M	
X.82184	Lama	27/02/2009	64	10.5	ad.M	
<i>Malimbus nitens</i>						
A.63462	Niaouli	28/01/2009	79	32.5	1st yr	
<i>Spermophaga haematina</i>						
A.63464	Lokoli	09/02/2009	64	20.8	ad.F	
A.63466	Lokoli	10/02/2009	69	20.8	ad.M	
A.63467	Lokoli	10/02/2009	71	22.8	ad.F	