

## **A Rapid Survey of the Primates of Boké Préfecture, Northwestern Guinea**

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## Chapter 9

### A rapid survey of the primates of Boké Préfecture, northwestern Guinea

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#### SUMMARY

A rapid assessment of the primate fauna was conducted between April 22 and May 12, 2005 in northwestern Guinea's Boké Préfecture. Three sites were surveyed and a total of eight species of primates were recorded. We confirmed the presence of one prosimian species (Demidoff's galago *Galagoides demidoffi*), six monkey species (Western red colobus *Procolobus badius*, Guinea baboon *Papio papio*, Sooty mangabey *Cercocebus atys*, Patas monkey *Cercopithecus patas*, Calithrix monkey *Cercopithecus aethiops sabaenus* and Campbell's monkey *Cercopithecus (m.) campbelli*) and one ape species (West African chimpanzee *Pan troglodytes verus*).

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#### INTRODUCTION

Primates are a good indicator of overall mammalian diversity and represent a significant proportion of the total mammalian biomass. Studies have shown that primate biomass can represent upwards of 46% of the total mammalian biomass in some tropical forests (Terborgh 1983). They play an important role in the dynamics of tropical ecosystems and help maintain plant species composition by acting as both seed dispersers and, less certainly, as pollinators (Chapman and Onderdonk 1998; Lambert and Garber 1998; Chatelain et al. 2001). Primates, being large bodied with long life spans and slow reproductive cycles, are especially susceptible to environmental changes like habitat loss and hunting pressure.

The combination of hunting and habitat destruction are the two main drivers of primate species decline in tropical ecosystems (Cowlshaw and Dunbar 2000). With habitat loss, many primate populations have been declining drastically and some species have vanished completely from certain areas in some countries. For example, Miss Waldron's Red Colobus, *Procolobus badius waldroni*, is no longer found in Ghana, and several other species have not been seen in Sierra Leone and Liberia (Lee et al. 1988). It is believed that the Endangered West African Chimpanzee (*Pan troglodytes verus*) is locally extinct in four West African countries (Togo, Benin, Gambia, and Burkina Faso) and Guinea is one of the few countries, along with Côte d'Ivoire, Liberia, Mali, and Sierra Leone, that still harbor potentially viable populations (Kormos and Boesch 2003).

This RAP survey was conducted to assess the presence of and relative abundance of primate populations in the Boké Préfecture region of Guinea, to examine the threats to primates in the region, and to present conservation recommendations.

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#### METHODS

The RAP primate team conducted a survey of primate species at three sites within the Boké Préfecture in the northeastern part of Guinea: Sarabaya along the Rio Kapatchez (Site 1), Kamsar in the Kamsar sub-préfecture (Site 2) and Boulléré in the Sangarédi sub-préfecture (Site 3) (Table 9.1). Within Kamsar, five different localities were visited: Taïgbé East, Taïgbé West, Kaiboutou, Tarénsa and Kataméne.

During our surveys, we recorded all indications of the presence of primates while quietly

walking existing trail systems in each area. Specifically we would look for direct indication such as movement in trees and vocalizations and indirect indication such as feeding remains and chimpanzee nests. While walking the trails we stopped in ten-minute intervals to record a GPS location and listen for primate vocalizations. When encountering primates we would note the time of the day, species detected, behavior and, if possible, estimate the number of individuals. All signs of human hunting, such as spent cartridges and snares, were recorded. The low numbers and low density of primates, patchiness of remaining suitable habitat and limited time spent in each area prevented us from calculating primate densities. Instead the emphasis of this survey was to record presence/absence of expected primate species as accurately as possible.

At each site we interviewed the local population about which primate species they believed to be currently present as well as which species had been present in the past (Table 9.2). At the end of each conversation, interviewees were asked to describe and identify primates by selecting a picture out of a field guide and describing characteristic behavior and vocalizations. Furthermore, interviewees were asked which primate species were hunted or eaten by the local community. Local hunters were questioned regarding which hunting methods they used, local prices of ammunition and the price a hunted primate would fetch at the local market.

All surveying was conducted between 6:00 a.m. and 20:00 p.m. The survey of nocturnal primates was limited to early dusk and dawn in the vicinity of the different campsites. In total we spent 65 h 12 min surveying 95.3 km of trails (Table 9.3).

## RESULTS

Overall during the entire RAP survey we confirmed the presence of eight primate species including one prosimian species: Demidoff's galago *Galagoides demidoffi*; six monkey species: Western red colobus *Procolobus badius*, Guinea baboon *Papio papio*, Sooty mangabey *Cercocebus atys*, Patas monkey *Cercopithecus patas*, Calithrix monkey *Cercopithecus (a.) sabaenus* and Campbell's monkey *Cercopithecus (m.) campbelli*, and one ape species, West African chimpanzee *Pan troglodytes verus*, for one or more sites (Table 9.1).

### Sarabaya

A total of 20h 15min was spent walking 29.8 km of trail in this area. The habitat in this area is extremely degraded with regard to primate usage. Very little gallery forest remains and primates appear to be forced to use human introduced foods such as mango and oil palms in close vicinity to human settlements.

Demidoff's galago *Galagoides demidoffi* was heard consistently every evening and throughout the nights. Three different groups of Campbell's monkey *Cercopithecus (m.) campbelli* were encountered on two different days of survey.

All groups were very small (<5 individuals) and showed behavioral signs of being under high hunting pressure. When encountered they would instantly flee, uttering few or no vocalizations.

West African chimpanzee *Pan troglodytes verus* vocalizations were heard on two out of five days of survey. A total of four different locations of nests were observed and the number of nests per observation ranged from one to six. The most common nesting tree was the oil palm, which also was heavily used for feeding (pith of fresh leaves). Two very old snares were found along the surveyed trails but no spent shotgun shells were observed.

Local inhabitants additionally considered the Calithrix monkey *Cercopithecus (a.) sabaenus* to be present and reported Western red colobus *Procolobus badius*, Western pied colobus *Colobus polykomos* and Guinea baboons *Papio papio* to have been present in the past. They also claimed to hunt and eat both monkeys and apes.

The local hunters most commonly used weapons were locally made 12-gauge shotguns. Each shotgun shell costs 1,500 Guinean francs (fg) (\$0.33 USD) and a fresh monkey would be sold for 4,000 to 7,000 fg (\$0.89 - \$1.56 USD) on the local market. A fresh chimpanzee was said to fetch between 40,000 and 50,000 fg (approximately \$9 - \$11 USD).

### Kamsar

Five different locations were visited for one day each in this area. In total we spent 18 h 2 min surveying 27.7 km of trails in this area (numbers exclude Tarensa where no GPS recordings were taken). In general no natural primate habitat was observed. Primates use human cultivated fields with a few natural fruit trees such as *Parinari excelsa* and *Nauclea diderrichii*, but mostly have to depend on human introduced mango and oil palm trees. The mangrove habitat appeared to be important for providing shelter as well as food resources.

In general, local inhabitants hunt and eat primates but recently have had little success in doing so. Local hunters mainly use locally made 12-gauge shotguns but old European-made shotguns were also observed. A shotgun shell cost between 1,200 to 1,500 fg (\$0.27 - \$0.33 USD) depending on distance from Kamsar and a fresh monkey would fetch 12,000 to 14,000 fg (approximately \$3 USD) in the Kamsar market.

No evidence of snaring was found in the area and only one spent shotgun shell was encountered at Kaiboutou.

### Taïgbé East

The only primate species confirmed in this location was a small group of two individuals of Campbell's monkey *Cercopithecus (m.) campbelli*. They quickly dropped out of the palm tree without uttering any alarm call or other vocalization.

Local people say that there are also Calithrix monkeys *Cercopithecus (a.) sabaenus* currently present and they claim that Western red colobus *Procolobus badius*, Guinea baboon

Table 9.1. Primate species observed

Species	Common name	Sarabaya	Taïghé East	Taïghé West	Kaiboutou	Tarénsa	Kataméne	Sangaredi	Confirmation
<i>Perodicticus potto</i>	Potto								
<i>Galagoides demidoff</i>	Demidoff's dwarf galago	X						(X)*	H, (H)
<i>Cercocebus atys</i>	Sooty mangabey							X	S, H
<i>Cercopithecus (m) campbelli</i>	Cambell's monkey	X	X			X	X	X	S, H
<i>Cercopithecus (a) sabaes</i>	Calithrix monkey			X	X	(X)		X	S, H
<i>Cercopithecus patas</i>	Patas monkey							X	S, H
<i>Colobus polykomos</i>	Western pied colobus								
<i>Procolobus badius</i>	Western red colobus							X	S
<i>Papio papio</i>	Guinea baboon					(X)		X	(S), H
<i>Pan troglodytes verus</i>	Western chimpanzee	X				X	X	X	S, H, N, FR

\**Galagoides* sp.

(X) = recorded by other RAP members

H = heard

S = sighted

FR = feeding remains

Table 9.2. Primates currently present according to local inhabitants

Species	Common name	Sarabaya	Taïghé East	Taïghé West	Kaiboutou	Tarénsa	Kataméne	Sangaredi
<i>Perodicticus potto potto</i>	Potto							
<i>Galagoides demidoff</i>	Demidoff's galago	X						X
<i>Cercocebus atys</i>	Sooty mangabey							X
<i>Cercopithecus (m) campbelli</i>	Cambell's monkey	X	X	X	X	X	X	X
<i>Cercopithecus (a) sabaes</i>	Calithrix monkey	X	X	X	X	X	X	X
<i>Cercopithecus patas</i>	Patas monkey							X
<i>Colobus polykomos</i>	Western pied colobus	(X)				(X)	(X)	X
<i>Procolobus badius</i>	Western red colobus	(X)	(X)				(X)	X
<i>Papio papio</i>	Guinea baboon	(X)	(X)	(X)		X	X	X
<i>Pan troglodytes verus</i>	Western chimpanzee	X	(X)	(X)	(X)	X	X	X

X = currently present

(X) = present in the past

**Table 9.3. Survey Effort**

	Sarabaya	Taïgbé East	Taïgbé West	Kaiboutou	Tarénsa	Kataméné	Boulléré	Total
Time spent scouting	20h 15min	4h 46min	3h 18min	4h 45min	4h 40min	5h 13min	31h 15min	65h 12min
Total trail length	29,8 km	6,8 km	5,0 km	8,1 km		7,8 km	37,8 km	95,3 km
Interviews with local inhabitants	8	3	4	2	3	2	6	28

*Papio papio* and West African chimpanzees *Pan troglodytes verus* were present in the past.

#### Taïgbé West

The only primate species confirmed at this location was a small group (<5) of Calithrix Monkeys *Cercopithecus (a.) sabaesus*. These were observed hiding in the mangroves in close proximity to the village mango trees. No vocalizations were heard.

Local people say that there are Campbell's Monkeys *Cercopithecus (m.) campbelli* present but that the Calithrix Monkeys *Cercopithecus (a.) sabaesus* are more abundant. They also reported that West African chimpanzees *Pan troglodytes verus* and Guinea baboons *Papio papio* were present in the past.

#### Kaiboutou

One species of primate, the Calithrix monkey *Cercopithecus (a.) sabaesus*, was observed taking shelter in the mangroves. The locals, in addition, claimed Campbell's monkey *Cercopithecus (m.) campbelli* was currently present while West African chimpanzees *Pan troglodytes verus* had been present in the past.

#### Tarénsa

Evidence of four primate species was observed at this site: Campbell's monkey *Cercopithecus (m.) campbelli*, Calithrix monkey *Cercopithecus (a.) sabaesus*, Guinea baboon *Papio papio* and West African chimpanzees *Pan troglodytes verus*. The presence of chimpanzees was evidenced by observations of nests at two different locations. The local people interviewed claim the Western pied colobus *Colobus polykomos* is also present.

#### Kataméné

At this location indirect evidence of two primate species was observed. Vocalizations of Campbell's monkeys *Cercopithecus (m.) campbelli* were heard in the mangroves and four old Chimpanzee nests were observed.

The local people described two additional species as present (Calithrix Monkey *Cercopithecus (a.) sabaesus* and Guinea baboon *Papio papio*) and two species that had been present in the past (Western red colobus *Procolobus badius* and Western pied colobus *Colobus polykomos*).

#### Boulléré/Sangarédi sub préfecture

A total of 31 hours 15 min was spent surveying 37.8 km of trails in this area. The habitat was characterized by hilly

open savanna bush land and riverine gallery forest. Although human pressure here was quite high, there was still some natural habitat left with sections of intact gallery forest along some streams and intact savannah bush habitat on top of some hills. In total, we recorded the presence of eight primate species in this area; *Galagoides* sp., Campbell's monkey *Cercopithecus (m.) campbelli*, Calithrix monkey *Cercopithecus (a.) sabaesus*, Sooty mangabey *Cercocebus atys*, Patas monkey *Cercopithecus patas*, Western red colobus *Procolobus badius*, Guinea baboon *Papio papio* and West African chimpanzee *Pan troglodytes verus*.

In this area we recorded primates in higher numbers; the most abundant (without precise quantification) was the Campbell's monkey *Cercopithecus (m.) campbelli* that was encountered in quite large groups (>15) in every gallery forest visited in the area. They were also observed in association with the Sooty mangabey *Cercocebus atys* and/or the Calithrix monkey *Cercopithecus (a.) sabaesus* on two occasions. Patas monkeys *Cercopithecus patas* were seen two out of five days and were heard during two days of surveying. The Guinea baboon *Papio papio* was heard from a distance on one occasion and two Western red colobus *Procolobus badius* were seen associated in one large group of Campbell's monkeys *Cercopithecus (m.) campbelli*. Chimpanzees *Pan troglodytes verus* were heard on three out of five days of surveying and observed on one occasion. On one successful follow of five individuals, nest construction was observed in the evening and fecal samples were collected from the same location the following morning. No evidence of snaring was found but a total of three spent shotgun shells were recorded along the surveyed trails.

In addition to the observed primates, the local people described the Western pied colobus *Colobus polykomos* to be present in very low numbers (similar low abundance was described for the Western Red Colobus *Procolobus badius*). The people have rather recently started to eat the monkeys in the area but claim they still do not eat the chimpanzees.

Hunters reported a shotgun shell costs as much as 2,000 fg (\$0.40 USD) and a fresh monkey would sell for up to 15,000 fg (\$3.33 USD).

#### DISCUSSION

It is obvious that there is high pressure on primates from the human population in the surveyed areas. The areas visited in Kamsar and to some extent also in Sarabaya can be described as already having lost their most of the natural forested

habitat needed by primates. Primates are forced to use human-derived habitat for food and shelter. Naturally, different species are affected differently by habitat destruction and some species known to the local community have now gone extinct locally or as local people usually describe it “they have moved away”.

Despite these high levels of habitat disturbance there are still a few primate species surviving in the area; both the Calithrix and Campbell’s monkeys seem to be vigilant enough to survive in small numbers. They use the thickets of old fields and mangroves as cover and use introduced fruit trees when given the opportunity.

Perhaps the most remarkable, however, are the remnant populations of chimpanzees found at some places within these two areas. During the height of the dry season with few native fruiting trees the chimpanzees were mostly feeding on oil palm pith and mango fruit. The feeding parties appear to be small judging from the small number of nests in observed nest groups and from the recorded vocalizations. Chimpanzees are listed as Endangered on IUCN’s Red List (2004) and, out of the three subspecies, the West African Chimpanzee, *Pan troglodytes verus* is the most threatened due to habitat destruction, hunting pressure, bushmeat and pet trade, as well as disease transmission. Currently, it is presumed that there are between 25,000 to 58,000 chimpanzees left in all of West Africa, with the majority living in unprotected areas (Kormos and Boesch 2003). Red colobus monkeys *Procolobus badius* are likewise listed as Endangered on the IUCN Red List (2004).

Primates in this area are highly attractive as food to local people. The old Muslim regulation of refraining from eating certain animal species seems to be no longer applied by the local population in Sarabaya and Kamsar, although they still strongly consider themselves as Muslim. However, we believe religious convictions might still influence methods of hunting primates as, according to Muslim practices, animals are to be bled before dying. We suggest that the infrequent use of snares in this area is a result of this belief, as it is impossible to bleed animals trapped in snares.

We believe that there is little possibility for the few remaining primate species in these two areas to survive in the future, considering that there is almost no suitable habitat left and hunting pressure is likely to remain very high (it seems to be at its maximum already) as the human population in the area continues to grow.

Site 3, Boulléré, still has some natural habitat remaining although it is most likely rapidly decreasing as the human population increases. There are still eight primate species surviving in the area (Demidoff’s dwarf galago, Sooty mangabey, Campbell’s monkey, Calithrix monkey, Patas monkey, Western red colobus, Guinea baboon, and Western chimpanzee) and the local population claim that they still encounter a ninth species (Western pied colobus).

## CONSERVATION RECOMMENDATIONS

- Although the three sites surveyed in the Boké Préfecture were largely disturbed by humans, the region harbors four threatened primate species and therefore deserves conservation attention. Primates need forest habitat, with nesting sites and food sources. Further investigations into the specific habitats within Boké Préfecture used by the four threatened primate species should be further investigated and demarcated. Once identified, these areas should be protected, with continued enforcement and monitoring. Adjacent areas should also be reforested with native trees to enlarge the current forest fragments. Since many primate species are territorial, they need sufficient habitat size to survive over the long term.
- The West African Chimpanzee, *Pan troglodytes verus* is highly threatened and is now found in only a few locations in West Africa. It is therefore of high importance to protect the chimpanzee populations in Boké Préfecture by any means possible. Conserving smaller populations of chimpanzees such as these becomes more and more important as the large populations are equally threatened to become extinct.

A study of the extent of bushmeat hunting in the area should be done immediately to document which species are targeted for local consumption or trade and to determine the influence of the Muslim religion on local consumption of primates. The results of this study should then be used to develop a community education campaign against bushmeat hunting and to develop a sustainable alternative protein source for the local people.

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