

Project Update: February 2019

SPECIFIC OBJECTIVES

- Document bat species diversity, composition and distribution across four different habitat types in the southern Cameroon.
- Carry out awareness campaign in some local populations on the importance of bats.



FIELD WORK

Bats have been investigated in four habitats during 8 months (June 2018- January 2019) of fieldwork. Six mist nets for the two first periods and 10 mist nets for the last six periods were deployed during 7 consecutive nights at the northern, eastern and western part of the Dja Biosphere Reserve (figure 1). The following habitat types were investigated during this period: primary forest, secondary forest, agriculture clearing and human settlement (see Table 1). Mist nets were checked every 50 minutes from 6:00 pm to midnight. Additionally, caves located at Swarm and Mintoum villages in the northern part of the Dja Biosphere Reserve and eight trees located in Nsimalen (western part), Mintoum (eastern part) and Malen I (northern part) villages. These roosting sites were investigated during the day where five species (*Doryrhina cyclops*, *Hipposideros ruber*, *Hipposideros caffer*, *Nycteris hispida* and *Nycteris thebaica*) were caught.

Table 1: Sampling efforts within the four habitat types in the Dja biosphere reserve.

Habitats	Number of night	Number of nets used	Length of net (m)	Hours worked (h)
primary forest	14	116	1062	84
secondary forest	14	130	1072	84
agriculture clearing	14	114	1050	84
human settlement	14	114	1050	84

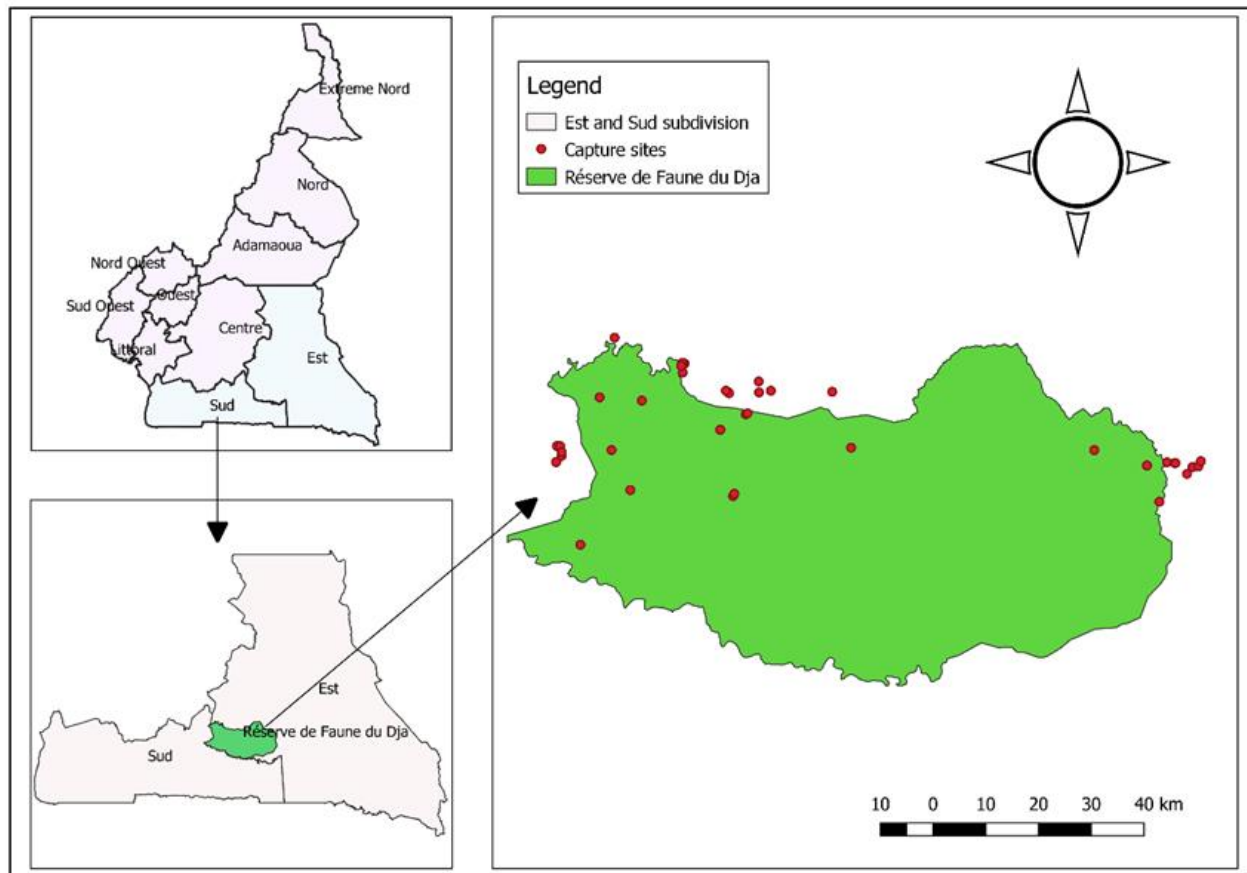


Figure 1: Map of Dja biosphere reserve showing different capture site

- **Species composition and abundance**

A total of 246 individual bats belonging to four families, 13 genera and 17 species were captured (Table 2). Of these, 12 species were captured in primary forest. Despite the high number of species in primary forest, more individuals were captured in human habitations (n=106), mainly due to the high number of *Megaloglossus woermanni* (n=44). Overall *Megaloglossus woermanni* a nectarivorous bat was also the most common bat (32.11%, n=79), followed by *Epomops franqueti* (24.39%, n=60) and *Roussettus aegyptiacus*

(17.07%, n=42). Insectivorous bats (Yangochiroptera) represent 20.23 % of bat captured while frugivorous represent 79.67%. Nevertheless, in level of species, insectivorous represent 58.82% bat captured while frugivorous represent 41.18%. Primary forest was the habitat type with the highest number of species (12) (Table 2); secondary forest and plantation have the same number of species (seven). Nevertheless, Dendrogram and NMDS indicated that composition of assemblages in human habitations (eight species) was distinct from those in other habitats (Figure 2).

Table 2: Number of bats individuals captured per habitation types

Sub-order	Families	Espèces	Number of individuals captured per habitats				Total
			Primary forest	Secondary forest	Plantations	Human habitations	
Frugivores	Pteropodidae	<i>Epomops buttkoferi</i>	2	-	-	2	4
		<i>Epomops franqueti</i>	18	4	16	22	60
		<i>Hypsignatus monstrosus</i>	2	-	-	-	2
		<i>Megaloglossus woermanni</i>	2	20	13	44	79
		<i>Myonycteris angolensis</i>	-	-	-	1	1
		<i>Myonycteris torquata</i>	2	4	2	-	8
		<i>Roussettus aegyptiacus</i>	7	7	4	24	42
Insectivorous	Hipposideridae	<i>Doryrhina cyclops</i>	2	5	10	-	17
		<i>Hipposideros caffer</i>	5	-	-	-	5
		<i>Hipposideros ruber</i>	1	4	-	5	10
	Nycteridae	<i>Nycteris hispida</i>	-	-	1	-	1
		<i>Nycteris thebaica</i>	-	-	1	-	1
	Vespertillionidae	<i>Neoromicia nana</i>	-	-	-	2	2
		<i>Glauconycteris sp</i>	-	2	-	-	2
		<i>Myotis bocagei</i>	3	-	-	-	3
		<i>Pipistrellus nanulus</i>	1	-	-	6	7
<i>Scotoecus hirundo</i>		2	-	-	-	2	
Total individuals			47	46	47	106	246
Total species			12	7	7	8	17

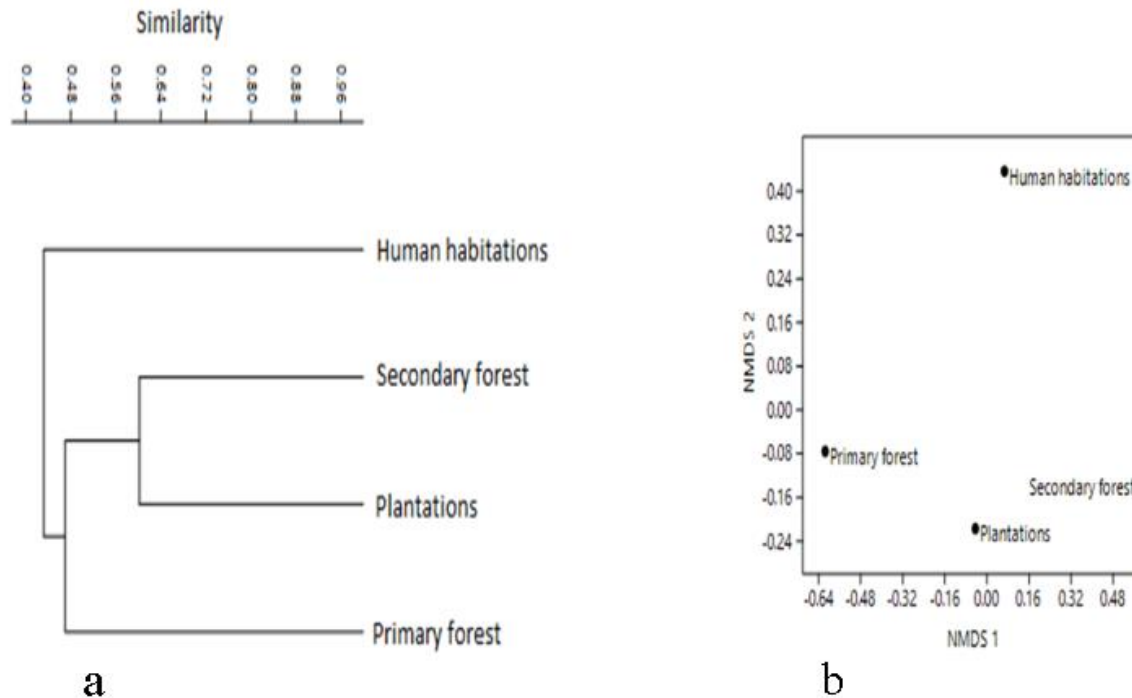


Figure 2: Bat assemblages of four habitat types along a disturbance gradient in Dja Biosphere reserve; **a.** Dendrogram showing similarity in bat community structure between habitat types, based on paired grouped algorithm and Bray-Curtis similarity index; **b.** Habitat types along the first two axes of Non-metric Multidimensional Scaling ordination.

- **Awareness campaign in local populations**

An awareness campaign was carried out at some villages near capture sites. It consisted of explaining to local populations the morphology, physiology and ecological importance of bats using a live specimen. At the end of the explanation, populations were allowed to ask questions in order to clarify any doubts.

FUTURE PLANS

- Further capture sessions in the south part of the Dja biosphere reserve.
- Data analysis.
- Recommendations.



Explaining to children of local populations, the important role bats play in an ecosystem



Atagana handing bat



Hypsignathus monstrosus



Glaconycteris sp