Diversity, Distribution and Ecology of Bats on Mount Cameroon

Montane forest Montane grassland

A view of different Vegetation types on Mount Cameroon

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The Rufford Foundation
www.rufford.org

Specific objectives

- Document bat species diversity, composition and distribution across different elevational ranges on Mt. Cameroon.
- Carryout awareness campaign in some local schools on the importance of bats

FIELD WORK

So far, bats have been investigated in six elevational ranges during two periods of fieldwork. October and November 2016 at elevational range I (0-299 m a.s.l). (N 04° 04' 47.3"/ E 009° 22' 03.6" and N 04° 04' 50.4"/E 009° 22' 03.6"). Four mist nets were deployed for four non consecutive nights at the banks of a river near a fruit tree within a rubber plantation owned by the Cameroon Development Corporation (CDC). Elevational range IV (900-1199 m a.s.l), range V (1200-1499m a.s.l), range VI (1500-1799ma.s.l), range VII (1800-2099m a.sl) and elevational range VII (beyond 2099m a.sl) were investigated in the months of February and March 2017. The following vegetation types were investigated during this period: cultivated submontane forest (1135m a.sl, 1155m, a.s.l, and 1405m a.s.l), montane forest (1646m a.sl and 1589m a.sl), montane scrub (2079m a.s.l and 2090m a.s.l), montane forest/montane grassland ecotone (2127m a.s.l, 2130m a.s.l, 2140m a.s.l and 2142m a.s.l) (see Table 1). Mist nets were checked every hour from 5: 30 pm to midnight. Additionally, a cave located at 1474m a.s.l was investigated during the day where 15 bats belonging to two species were caught.

Table 1: Main vegetation's investigated number of sessions, elevation and date sampled.

Elevational Ranges	Date sampled	Number of sessions	Vegetation investigated	Habitat investigated	No of nets used	Elevation (m)	GPS coordinates
Range I (00 -299m)	22/10/2016 29/10/2016 26/11/2016 08/11/2016	04	Cultivated Rubber plantation	Fruit tree at River bank	04	18m 21m	N 04° 04' 47.3"/ E 009° 22' 03.6" N 04° 04' 50.4"/ E 009° 22' 03.6"
Range 11 (300-599m)	–	–	–	–	–	–	–
Range III (600-899m)	–	–	–	–	–	–	–
Range IV (900-1199m)	26/02/2017	01	Cultivated Submotane forest	Forest patch between Farmlands	04	1135 m 1155 m	N 04° 08' 23.9"/ E 009° 12' 45.1" N 04° 08' 24.3"/ E 009° 12' 49.4
Range V (1200-1499m)		01	Cultivated Submontane forest	Forest patch Farmland Cave	04	1405 m 1474 m	N 04° 08' 50.7"/ E 009° 12' 54.11" N 04° 08' 50.7"/ E 009° 12' 02.2

Range VI (1500-1799m)	23/02/2017 24/02/2017	02	Montane forest	Dense Understory closed canopy	04	1646 m 1589 m	N 04° 09' 01.3"/ E 009° 11' 41.6"
Range VII (1800-2099m)	19/03/2017 20/03/2017	02	Montane scrub	Dense understory	04	2079 m 2090 m	N 04° 08' 50.5"/ E 009° 10' 18.1" N 04° 08' 48.9"/ E 009° 10' 16.2"
Range VIII (>2099m)	21/03/2017 22/03/2017 23/03/2017 24/03/2017	04	Montane grassland	Forest /grassland ecotone	04	2130 m 2142 m	N 04° 08' 48.0"/ E 009° 10' 10.9" N 04° 08' 48.8"/ E 009° 10' 10.0"

- elevational ranges that have not yet been sampled

Species composition and abundance

A total of 268 individual bats belonging to four Families, 14 Genera and 15 species were captured (Table 1, Figure 1). Of these, nine species were captured in range I (figure2). Despite the high number of species in elevational range I, more individuals were captured in elevational range VIII (110 vs. 89 in range I), mainly due to the high number of *Rousettus aegyptiacus* (n=115) and of *Myonycteris angolensis* (n=45). Overall *Rousettus aegyptiacus* a fruit eating medium-sized bat was also the most common bat (42.9%, n=115), followed by *Epomops franqueti* (19.4%, n=52) and *Myonycteris angolensis* (16.8%, n=45). Insectivorous bats represent just six percent of bat captured so far while frugivorous represent 94%.

Table 2: Number of individuals bats captured per elevational range

SPECIES	Number of individuals captured per elevational range								
Elevational Ranges	**Range I 00-299**	**Range II 300-599**	**Range III 600-899**	**Range IV 900-1199**	**Range V 1200-1499**	**Range VI 1500-1799**	**Range VII 1800-2099**	**Range VIII >2099**	
Pteropodidae									
Epomops franqueti	**50**	**-**	**-**	**01**	**01**				**52**
Micropteropus pusillus	**28**	**-**	**-**	**01**					**29**
Myonicteris torquata	**01**	**-**	**-**						**01**
Myonicteris angolensis		**-**	**-**	**06**	**17**	**05**	**13**	**04**	**45**
Rousettus aegyptiacus		**-**	**-**			**06**	**05**	**104**	**115**
Epomops buettikoferi	**01**	**-**	**-**						**01**
Megaloglossus woermanni	**01**	**-**	**-**	**02**				**01**	**04**
Eidolon helvum	**03**	**-**	**-**						**03**
Nanonycteris veldkampi	**01**	**-**	**-**						**01**
Vespertilionidae									
Scotophilus dinganii	**01**	**-**	**-**						**01**
Glauconyteris egeria		**-**	**-**			**01**			**01**
Pipistrellus eisentrauti		**-**	**-**					**01**	**01**
Miniopterus fraterculus		**-**	**-**		**05**				**05**
Molossidae									

Chaerephon major	**03**	**-**	**-**						**03**
Hipposideridae									
Hipposideros ruber		**-**	**-**		**02**	**03**	**01**		**06**
Total	**89**	**-**	**-**	**10**	**25**	**15**	**19**	**110**	**268**
Total Species	**9**	**-**	**-**	**4**	**4**	**4**	**3**	**4**	**15**

- elevational ranges that have not yet been sampled


a


b


c


d


e


f


g


h


i

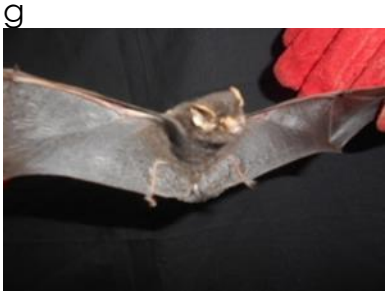
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Figure 1. Representative of some bat species found on Mount Cameroon. A) ***Epomops franqueti*** B) ***Micropteropus pusillus*** C) ***Rousettus aegyptiacus*** D) ***Epomops buettikoferi*** E) ***Megaloglossus woermanni*** F) ***Eidolon helvum***G) ***Nanonyteris veldkampi*** H) ***Tadarida major*** I) ***Scotophilus dinganii*** J) ***Glauconycteris egeria*** K) ***Miniopterus fraterculus*** **L)** ***Myonycteris angolensis*** **M)** ***Hipposideros ruber*** **N)** ***Pipistrellus eisentrauti***

Awareness campaign in local Schools

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

Figure 2. Explaining to secondary school students the important role bats play in an ecosystem

Future Plans

-More capture sessions
-Faecal analysis