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Diversity of rodents and shrews in Rubi-Télé Hunting Domain in the territory of Buta, Bas Uélé Province, Democratic Republic of the Congo

[1] Patrick Mutombo, [2] Gyna Nyundai, [3] André Malekani, [4] Roger Angoyo, [5] Olivier Basa, [6] Benjamin Dudu, [7] Nicaise Amundala, [8] Sylvestre Gambalemoke, [9] José Akaibe, [10] Jean –Léon Kambale , [11] Gédéon Ngiala Bongo, [*12] Koto-te-Nyiwa Ngbolua

[1, 3-5, 6, 9, 10] Centre de Surveillance de la Biodiversité, University of Kisangani, P.O. Box. 2012, Democratic Republic of the Congo
[7, 8] Faculty of Sciences, University of Kisangani, P.O. Box. 2012, Kisangani, Democratic Republic of the Congo
[2, 11, 12] Faculty of Science, University of Kinshasa, P.O. Box. 190, Kinshasa XI, Kinshasa, Democratic Republic of the Congo

Abstract
This study focuses on the systematic inventory of rodents and insectivores (shrews and rodents) in the Rubi-Télé hunting domain in Buta territory, Kisangani. The capture was performed during two seasons namely the rainy and dry seasons. The technique of trapping in line based on the use of 3 types of traps was used: Pitfall, Sherman and Victor. We installed 10 lines for the rainy season and 5 lines for the dry season. A total of 489 specimens were captured for both capture session. Of the species of Shrews, *C. cf. dolichura*, *P. schoutedeni*, *S. cf. Remyi* and *S. jhonstoni* were captured only during the rainy season while *C. ludia* and *Crocidura sp.* were capture only in the dry season. As for rodents, all species caught are the same for both seasons except 3 specimens of Praomys that were not raised to the rank of species were captured only in the dry season. The Shannon-Wiener beta index (Hβ) shows that populations are similar for habitats FPM-FG, FS-JV, CC -TC, JV-CC and JV-BR while TC-BR habitats are similar. We suggest that similar studies be carried out on the small mammals of the Rubi-Télé hunting domain to learn more about the biodiversity in order to give more importance to the management of this hunting domain.

Keywords: diversity, rodents, shrews, rubi-télé, hunting domain

1. Introduction
The Congo Basin is the second largest tropical forest massif in the world, after the Amazon and long before the one of South East Asia. By this position, it has incited and continues to incite the interest for many researchers in search for the protection and discovery of biodiversity.
The Democratic Republic of the Congo is among countries that attach a great importance to the conservation and sustainable management of natural resources [1]. This vision was materialized into the creation of protected areas, wildlife reserves as well as national parks [2]. The Democratic Republic of Congo (DRC) network of protected areas accounts for approximately 11% of the national territory. It encompasses diverse landscapes, ranging from high, dense and humid forests to savannah areas, and includes five World Heritage sites [3].
The current situation seems to show that the accelerated degradation of the environment does not spare protected areas in DRC. This phenomenon of environmental degradation seems to hasten the process of climate and habitat modification and would amplify the unavailability of biological resources. Therefore some species are in danger of disappearing before being inventoried. [4, 5]. This loss of biodiversity is due to factors such as slash-and-burn agriculture [6] timber exploitation, mining, and so on.
Jewels of global biodiversity, parks, reserves and other protected areas of the Democratic Republic of the Congo are now threatened by a combination of a number of factors. These threats are of various kinds, some of which are linked to demographic and economic changes in the region. They contribute to the phenomenon of deforestation, fragmentation of the forest massif and consequently to the disappearance of animal species while their populations are split into groups that are no longer viable for their reproduction. At last, there is also a degradation of the remaining forest formations, to which protected areas are not spared [7]. In Kisangani region, studies are carried out for the knowledge of rodents and shrews. These data allowed broadening and deepening the knowledge on these small animals, yet some gaps remain due to the continuous degradation of forest ecosystems that goes hand in hand with the reduction of biodiversity.
In addition, the Rubi-Télé Hunting Domain in particular, information on average and large fauna is available. This does not seem to be the case for terrestrial micromammals of which rodents and shrews. Therefore, this study tried to answer the following question: what is the biological diversity of Rodents and Shrews of the Rubi-TV Hunting Area? This survey contributes to the knowledge of rodents and insectivores biodiversity of Rubi-Télé hunting domain biodiversity by providing preliminary data on these small mammals.

2 Material and Methods
2.1 Study area
Rubi-Télé hunting domain is located Bas-Uélé Province, in Buta territory, Monganzulu community, Sukisa village (N: 02° 19'072' E: 024° 58' 368", Altitude: 471 m). This domain has an area of 9 080 km^2. It is one of the first protected areas in the Belgian Congo, created five years after Virunga National Park. It was created as a Hunting Reserve by Ordinance-Law n° 51/Agri on 12 December 1930. The geographical location of Rubi- Télé hunting domain is shown below (figure 1).

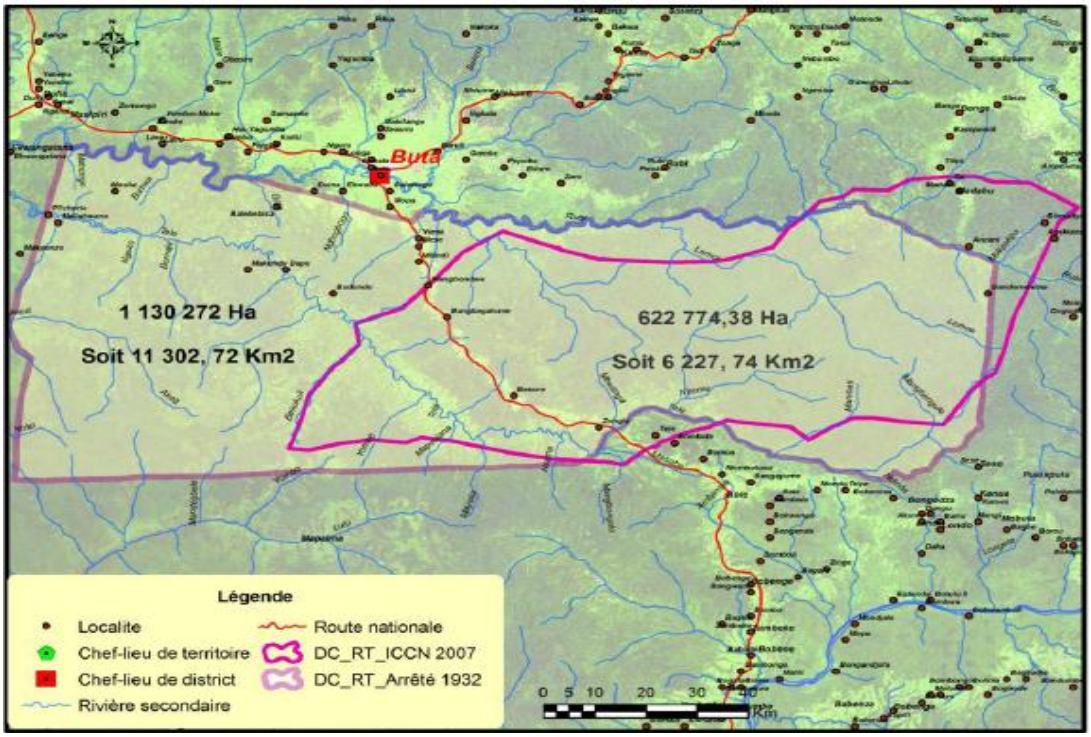

Fig 1: Map of Rubi-Télé Hunting Domain, Kisangani

The main ecosystems observed in Rubi-Tele Hunting domain are: the fallows formed by small fields of natives but also as ecological guards, old secondary forests as well as mixed mono dominant and mature forests to *Gilbertiodendron dewevrei* at a large area. Also, we can find some vegetation formations on hydrophilic soil as well as periodically flooded forests on the banks of the river Télé. As well there are some planting of *Julbernadia seretii* in the mixed forest border on the forest at *Gilbertiodendron dewevrei*. The main criterion for zoning of tropical forests is the climate [8]. This forest is located in the equatorial climatic zone growing on a sandy-gravelly soil and a large part of this forest is a lowland forest. The arborescent stratum contains these few individuals in particular: *Julbernadia seretii* (Fabaceae); *Diospyros crassiflora* (Ebenaceae) *Diospyros sp* (Ebenaceae); *Greenwayodendron suaveolens* (Annonaceae). The mature forests of the mainland are governed by Fabaceae. The young secondary forests are distinguished by the presence of pioneer species (*Musanga cecropioides*, *Macaranga sp.*, *Trema orientalis*) and a very dense undergrowth dominated by Zingiberaceae, Malvaceae, Costaceae, and Commelinaceae with the following species *Scaphopetalum* and *Lackesteria elegans*. As a secondary forest grows older, the distinction with mature forests becomes a bit difficult for the non-specialist.

2.2 Biological material

Our biological material consists of 489 specimens (357 Rodents and 133 Shrew), including 326 specimens during August session and 163 specimens during February session.

3 Methods

In Rubi-Télé hunting domain, the sampling of Rodents and Shrews was carried out between 16 and 28 August 2013 for the first trapping (August session) and between 27 January and 03 February 2014 for the second trapping (February session). This sampling was carried out using four kinds of traps namely Pitfall (PF), Sherman (SH), VT and PT. These traps were combined to constitute the [PF-SH-VT] and [SH-VT] device on some lines and on other lines we used only the Sherman (SH) traps. The traditional traps were placed without regarding the lines. We trapped on 16 open lines namely 11 for August session and 5 lines for February session, but these lines worked depending on the number of different days.
We installed 5 Pitfall lines for sampling and the following lines L1, L2, L3, L12, L13 were installed so as to form the open transects.
The PF device consisted of burying buckets of capacity 26x26x19 cm (depth of the bucket, greater internal diameter, and basal internal diameter) with perforated bottoms in order to avoid retaining rain water. These buckets were separated between them at a distance of 5m. In addition, they were crossed in the middle by a tarpaulin about 45 cm of high. The tarpaulin which formed the barrier to shrews was supported vertically by sticks. The part of the tarpaulin, in contact with the ground, was pushed down to a depth of about 5 cm in order to completely block the shrew passage below the tarpaulin.
SH and VT traps were alternately installed on the following lines L1, L2, L3, L12, L13 in the left or right position of displacement at about 1.5m from the buckets in order to improve the capture effort . On the lines L5, L9, L15, L16 we had installed only SH and VT traps in order to increase the effort of capture that were intended to rodent sampling, baited with palm nut pulp and on the other lines L4, L6, L7, L8, L10 were installed Sherman traps for the purpose of increasing capture effort and at last the traditional traps were installed in the vicinity. However, SH or VT trap was recovered, washed, dried and replaced by another each time after capturing animals. Trap surveys were conducted every morning between 9:00 am in the morning.

3.1 Laboratory work

Several analyses were carried out in the laboratory and on the field. Five mensurations were taken on each carcass freshly

killed namely the body biomass (TM) taken in grams using a small balance (Pesola brand) of 10, 30, 60, 100, 300 and 500 g, according to the size of the animal, the length of the left ear (LO) and the length of the left foot (LP) were taken using a caliper (GT Tools vernier, calliper). The length of the tail (LQ) and the total length of the body (LT) were taken with a graduated metal ruler Stainless-Chinese brand) of 300 mm and 500 mm The remove tissue (biopsy) from the thorax muscle of each specimen was stored in the Eppendorf tube containing 96% pure alcohol. At last, the animals were combed for the collections of visible ectoparasites while at the opening of the thorax endoparasites were as well collected. The carcass was stored in 4% formalin solution as captures were made for fixation. Few weeks later, the complete fixation of carcasses was performed then they were deformed for extraction and preparation of the skulls for further studies. Thus, the carcasses were stored in 70% denatured alcohol.

4 Ecological indices and statistical data analysis

In order to characterize the population of small mammals, the specific richness (RS) of shrews and rodents was determined taking into account the session of capture, relative density or Trapping success (TS) and capture effort (EC).

$EC = Nn\ x\ Np$ (1) where EC: Capture effort

$TS = \frac{N\ x\ 100}{EC}$ (2) where TS: Trapping success

5 Results and discussion

The obtained results are for a total number of 489 small mammals, including 357 rodents distributed in 11 genera and 14 species and of 132 shrews distributed in 5 genera of which 10 species were captured in the Rubi-Télé hunting domain during two sessions of captures (August and February session). Details of the results will be presented in the table showing the composition of the population.

5.1 Global diversity of specimens found in Rubi-Télé

The biological diversity of different specimens sampled at Rubi-Télé hunting domain is presented in Table 1.

Table 1: Global biodiversity of rodents and shrews sampled at Rubi-Télé

N°	Species/Genera	M	F	M/F	Total	%
	1. Soricomorphes					
1	*Crocidura cf. olivieri* [*C. olivieri* (Lesson, 1827)]	35	43	0	78	16.0
2	*Crocidura denti* Dollman, 1915	7	2	0	9	1.8
3	*Crocidura cf. dolichura* [*C. dolichura* Peters, 1876]	2	1	0	3	0.6
4	*Crocidura cf. littoralis* [*C. littoralis* Heller, 1910]	9	2	0	11	2.2
5	*Crocidura ludia* (Hollister, 1910)	1	0	0	1	0.2
6	*Crocidura sp* (Wagler, 1832)	1	0	0	1	0.2
7	*Paracrocidura schoutedeni* Heim de Balsac, 1956	1	2	0	3	0.6
8	*Scutisorex congicus* Thomas, 1915	9	10	0	19	3.9
9	*Suncus cf. remyi* [S. remyi Brosset, Dubois & Heim de Balsac 1965]	1	1	0	2	0.4
10	*Sylvisorex jonhstoni* (Dobson, 1888)	2	2	1	5	1.0
	Total Soricomorphes	68	63	1	132	27.0
11	*Grammomys kuru* [(G. rutilans (Peters 1876)]	4	5	0	9	1.8
12	*Hybomys cf. lunaris* [H. lunaris (Thomas 1906)]	21	23	2	46	9.4
13	*Hylomyscus stella* (Thomas, 1911)	23	18	1	42	8.6
14	*Lemniscomys striatus* (Linnaeus, 1758)	11	4	0	15	3.1
15	*Lophuromys dudui* Verheyen, Hulselmans & Dierckx, 2002	12	21	1	34	7.0
16	*Lophuromys luteogaster* Hatt, 1934	3	2	0	5	1.0
17	*Malacomys longipes* Milne-Edwards, 1877	8	9	0	17	3.5
18	*Nannomys cf. grata* [N. grata (Thomas & Wroughton, 1910)]	12	20	0	32	6.5
19	*Oenomys hypoxanthus* (Pucheran, 1855)	2	5	0	7	1.4
20	*Praomys cf. jacksoni* [P. jacksoni (De Winton, 1897)]	57	47	1	105	21.5
21	*Praomys misonnei* Van der Straeten & Diertlen, 1987	14	8	0	22	4.5
22	*Praomys sp* (*Paomys* Thomas, 1915)	2	1	0	3	0.6
23	*Rattus sp* [Rattus Fischer, 1803]	2	2	0	4	0.8
24	*Stochomys longicaudatus* (Tullberg, 1893)	9	7	0	16	3.3
	Total of rodents	180	172	5	357	73.0
	Overall	248	235	6	489	100.0

Table 1 shows 489 small mammals were captured at Rubi-Télé of which 357 rodents (11 genera and 14 species, 73%) and 132 shrews (5 genera and 10 species, 26.9%). Among the shrews, *Crocidura* genus alone accounts for 21.1% with six species (*C.cf olivieri* with 16% and is the most complex represented species, followed by *Scutisorex congicus* with 3.9%. Regarding rodents, *Praomys* and *Lophuromys* genera are each represented by two species [*P. jackstoni* (21.5%) and *P. misonnei* (4.5%) and *L. dudui* (7 %) and *L. luteogaster* (1%)]. The other genera are each represented by a single species, the most abundant among rodents is *P. cf. jacksoni* (21.5%), followed by *H. cf. lunaris* (9.4%) and *H. stella* (8.6%), and all other genera are less represented.

Out of the captured shrews, 5 genera were found (*Crocidura*, *Paracrocidura*, *Scutisorex*, *Suncus* and *Sylvisorex*) and 10 species (*C. cf. olivieri, C. denti, C.cf. dolichura, C. ludia, C.cf. littoralis, Crocidura sp, S. congicus, P. schoutedeni, S. johnstoni* and *S. remyi*). Previous studies conducted in and around Kisangani, including the study carried out by Gambalemoke, [9, 10] on shrews have also revealed these 5 genera of Shrews (*Crocidura, Paracrocidura, Scutisorex, Suncus, Sylvisorex*) along with the study performed at Yoko. Of all the shrews captured, Crocidura genus is the most diverse, with at least 6 species and is also the best represented in numbers. This

observation corroborates with the results of the previous works [11, 13, 15]. It is for the second time that *S. cf. Remyi* is reported in Kisangani region as it was reported for the first time in the work carried out at Uma [16]. According to Lifoki [16], *S. remyi* is genetically related to *S. infinitesimus*, but morphologically the two species are distinct from one another, what was considered as *S. infinitesimus* in the Kisangani region, is genetically distant from *S. infinitesimus* found in Kenya. And this observation had led to the concern to examine the actual status of *S. cf. Infinitesimus* of Kisangani and *S. infinitesimus* of Kenya. Currently, the same preoccupation is extended with the case of *S. cf. Remyi*.

Captured Rodents are divided into 11 genera (*Praomys, Hylomyscus, Hybomys, Malacomys, Nannomys, Oenomys, Stochomys, Grammomys, Rattus, Lophuromys, Lemniscomys*) and 14 species (*G. kuru, H. stella, dudui L., L. luteogaster , P. jacksoni, P. misonnei, Praomys sp, Rattus sp., H. c. Lunaris, Lemniscomys sp., O. hypoxantus, N. cf. grata, M. longipes and S. longicaudatus*). The genera *Praomys* (*P. c. jacksoni* and *P. misonnei*) and *Lophuromys* (*L. dudui* and *L. luteogaster*) are the only genera which are represented each by these two species. We have reported only one species of the genus *Hylomyscus* (*H. stella*), while in particular [11, 16] reported 3 species (*H. aeta, H. stella , H. parvus*) in the genus Hylomyscus on the right bank of the Congo River, and identified 6 taxonomic units in the genus Hylomyscus on the basis of molecular analyzes. Of all captured rodents, *P. cf. jacksoni* is the most abundant species with 104 specimens, followed by *H. cf. lunaris* with 45 specimens and *H. stella* with 41 specimens.

For habitats, in mixed primary forest we captured 8 species including 3 for shrews (*C. cf. olivieri, C.cf. littoralis* and *Crocidura sp*) and 5 for Rodents (*H. stella, L., P. c. jacksoni, P. misonnei, Praomys sp.*, and *H. cf. lunaris*), in primary forest at Gilbert, 12 species of which 5 for shrews were found namely (*C. denti olivieri,, C.cf. littoralis, C. ludia* and *S. congicus*) and 7 for rodents (*H. stella, L. dudui, L. luteogaster, P. cf. jacksoni, P. misonnei, Longipes* and *H. cf. lunaris*), in secondary forest, we captured 4 species of which *C. cf. littoralis* and 3 species for Rodents (*G. kuru., N. cf. grata,* and *H. cf. lunaris*,) in old fallow were all 6 species of rodents (*H. stella, dudui L., L. luteogaster, Longipes, N. cf. grata,* and *L. striatus*,) in the surroundings of the fields, we captured 4 species of which one *P. schoutedeni* and 3 for rodents (*P. cf jacksoni, O. hypoxanthus* and *N. cf. grata*), around the camp we have 15 species of which 7 for shrews (*C.cf. olivieri, C.cf. littoralis, C. cf. dolichura, C. denti, S. jhonstoni, S. cc remyi* and *S . congicus*) and 8 for Rodents (*G. kuru, H. stella, L. dudui, P. cf. jacksoni, Praomys sp, N. cf. grata, M. longipes,* and *S. longicaudatus*) and along streams we captured 16 species including 2 Shrews (*C. cf. olivieri* and *S. congicus*) and 14 for Rodents (*G. kuru, H. stella, L. dudui, L. luteogaster, P. cf. jacksoni, P. misonnei, Praomys sp, Rattus sp, H. cf. lunaris, Lemniscomys sp, O. hypoxantus, N. cf. grata, M. longipes* and *S. longicaudatus*).

These observations on the different types of habitats are consistent with those of [17] who studied in the Doudou Mountains in Gabon, found that species richness varied from one habitat to another. It has enabled us to note that the rainy season is favorable to Shrews because during this period they find food in abundance. In the collection, in relation to the sex of the individuals, we recorded for Shrews: 51.5% of males, 47.7% of females and 0.8% of undefined sex and for Rodents: 50.4% of males, 48.2% of females and 1.4% of unidentified sex. It should be noted that in all the collections of other researchers, males were more numerous in their work than females. The result we have in this study clearly shows that reproductive activities were more intense during the rainy season. Dudu 1991 notes in Masako (DRC) that the species *Praomys jacksoni* breeds throughout the year and the peak was observed during the wettest months and that this breeding was more associated with the fruiting period. Rahm 1970 shows that precipitation acts on reproduction only through food resources and on the vegetation cover that ensures shelter for the small mammal by promoting the process of reproduction. Reproduction of mammals is generally related to seasonal fluctuation (Parrin 1980, Duplantien 1989, Safianu and Fisher, 1989).

5.2 Comparison of small mammals according to capture seasons

The capture depended on the seasons and we tried to compare these animals according to the capture period (Table 2).

Table 2: Comparison of small mammals according to capture seasons

N°	Species/Genera	S1	S2	Total
	I. Soricomorphes			
1	*Crocidura cf. olivieri* [C olivieri (Lesson, 1827)]	62	16	78
2	*Crocidura denti* Dollman, 1915	7	2	9
3	*Crocidura cf. dolichura* [*C. dolichura* Peters, 1876]	3	0	3
4	*Crocidura cf. littoralis* [*C. littoralis* Heller, 1910]	6	5	11
5	*Crocidura ludia* (Hollister, 1910)	0	1	1
6	*Crocidura sp* (Wagler, 1832)	0	1	1
7	*Paracrocidura schoutedeni* Heim de Balsac, 1956	3	0	3
8	*Scutisorex congicus* Thomas, 1915	18	1	19
9	*Suncus cf. remyi* [*S. remyi* Brosset, Dubois & Heim de Balsac 1965]	2	0	2
10	*Sylvisorex jonhstoni* (Dobson, 1888)	5	0	5
	Total Soricomorphes	106	26	132
11	*Grammomys kuru* [(*G. rutilans* (Peters 1876)]	2	7	9
12	*Hybomys cf. lunaris* [*H. lunaris* (Thomas 1906)]	34	12	46
13	*Hylomyscus stella* (Thomas, 1911)	17	25	42
14	*Lemniscomys sp* (*L. striatus* (Linnaeus, 1758)	7	8	15
15	*Lophuromys dudui* Verheyen, Hulselmans & Dierckx, 2002	24	10	34
16	*Lophuromys luteogaster*	3	2	5
17	*Malacomys longipes* Milne-Edwards, 1877	11	6	17
18	*Nannomys cf. grata* [N. grata (Thomas & Wroughton, 1910)]	29	3	32
19	*Oenomys hypoxanthus luteogaster* Hatt, 1934	2	5	7

20	*Praomys cf. jacksoni* [*P. jacksoni* (De Winton, 1897)]	69	36	105
21	*Praomys misonnei* Van der Straeten & Diertlen, 1987	14	8	22
22	*Praomys sp* (Thomas, 1915)	0	3	3
23	*Rattus sp* [Rattus Fischer, 1803]	3	1	4
24	*Stochomys longicaudatus* (Tullberg, 1893)	5	11	16
	Total of rodents	220	137	357
	Overall	326	163	489
	Specific Richness	21	20	24

egend: S1= rainy season and S2 = dry season

From the table above, 8 species of shrews were captured during the rainy season (S1) (*C. olivieri, C. denti, C. c. Littoralis, C. c. Dolichura, P. schoutedeni, S. congicus, S. remyi and S. jonhstoni*) and 13 rodent species (*H. cf. lunaris, H. stella, Lemniscomys sp., L. dudui, L. luteogaster, M. longipes, N. cf. grata, O. hypoxanthus, P. c. Jacksoni, P. misonnei, Rattus sp. And S. longicaudatus*). While in the dry season (S2), 6 species of Shrews were captured (*C. olivieri, C. denti, C. c. Littoralis, C. ludia, crocidura sp.* and *S. congicus*) and 14 species of rodents. In the dry season, *Praomys sp* is the species that was added to the 13 captured earlier during the rainy season. *C. cf. Dolichura* and *P. schoutedeni* species were only captured at S1 and *C. ludia* and *Crocidura sp*, *Praomys sp* were captured only at S2.

During the two seasons, 489 small mammals namely 132 Shrews and 357 Rodents were captured. There were 326 specimens for the rainy season (106 shrews and 202 rodents) while in the dry season there were 163 (26 shrews and 137 rodents). The captured shrews belong to 5 genera (*Crocidura*, *Paracrocidura*, *Scutisorex*, *Suncus* et *Sylvisorex*) and 10 species (*C.* cf. *olivieri*, *C. denti*, *C.*cf. *dolichura*, *C. ludia*, *C.*cf. *littoralis*, *Crocidura* sp, *S. congicus*, *P. schoutedeni*, *S. johnstoni* et *S. remyi*). Gambalemoke [9-10] reported 5 genera of shrews (*Crocidura*, *Paracrocidura*, *Scutisorex*, *Suncus*, *Sylvisorex*). Out of all the captured shrews, *Crocidura* genus is the most diversified with at least 6 species and also in a large number. This obervation is similar to previous studies carried out by [11, 15].

It is for the second time that *S. cf. Remyi* is reported in Kisangani region as it was reported for the first time in the survey carried out at UMA [16]. According to this survey [16], *S. remyi* is genetically related to *S. infinitesimus* but different morphologically. What was considered to be *S. infinitesimus* in Kisangani region is genetically distant from *S. infinitesimus* found in Kenya. This observation led to the concern of examining the real status of *S. cf. infinitesimus* from Kisangani and *S. infinitesimus* from Kenya. Now, the same concern is extended to *S. cf. Remyi*.

5.3 Comparative biodiversity of different habitats

In this section, the comparison is made between contiguous habitats taken 2 by 2.

Table 3: Comparative table of inter-habitat biodiversity

Habitats	Sectional Index (Hβ)
FPM-FG	0.88487241
FS-JV	0.89355948
CC-TC	0.97125676
TC-BR	0.33094464
JV-CC	0.84214408
JV-BR	0.58044752

(Legend: FPM : Mixed Primary Forest ; FG : Forest at *Gilbertiodendron dewevrei ;* CC: Surroundings of the fields ; FS : Secondary Forest ; TC : Tour du Camps ; JV : Old fallow ; BR : Edges of streams).

It results from the table, the Shannon-Wiener beta index (Hβ) shows that there is a great diversity that differs according to the biotopes. However the most diverse are CC-TC (0.97); FS-JV (0.89), FPM-FG (0.88), JV-CC (0.84) and the habitat remains less diversified as the index tends to 0, in particular 0.333 0.58. The edge of the streams is the most diverse in rodents (14 species) and the surroundings of the field are more diversified in shrews (7 species). The specific richness for shrews and rodents varies from habitat to habitat following the search for food for survival.

Captures were made in 7 habitat types and by comparing habitats in pairs, the Shannon-Wiener beta index (Hβ) shows that populations are similar for habitats FPM-FG, FS-JV, CC -TC, JV-CC and JV-BR while TC-BR habitats are similar.

Lemiscomus striatus

Crocidura sp

Praomys sp

5. Conclusion and suggestions

This study focuses on the systematic inventory of rodents and insectivores (shrews and rodents) in the Rubi-Télé hunting domain Sukisa checkpoint (PK 208, Route Buta / Banalia). The capture was performed during two seasons namely the rainy season between 17 and 28 August 2013 and the dry season between 27 January and 3 February 2014. The technique of trapping in line based on the use of 3 types of traps was used: Pitfall, Sherman and Victor. We installed 10 lines for the rainy season and 5 lines for the dry season. The lines worked differently. For both sessions of the capture, sampling provided a total of 489 specimens including 357 rodents and 132 shrews. In the rainy season we captured 326 specimens including 220 Rodents and 106 Shrews and in the dry season 163 specimens including 137 Rodents and 26 Shrews. Captures were made in 7 habitat types and by comparing habitats in pairs, the Shannon-Wiener beta index (Hβ) shows that populations are similar for habitats FPM-FG, FS-JV, CC -TC, JV-CC and JV-BR whereas TC-BR habitats are similar. We had different sex ratio between shrews and rodents of which 1.4% of rodents and 0.8% of shrews that sex was not identified. We suggest that similar studies be carried out on the small mammals of the Rubi-Télé hunting domain to learn more about its biodiversity in order to give more importance to the management of this hunting domain.

6. Références

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