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THE MAMMALS IN THE ZOOLOGICAL CULTURE OF THE MBUTI PYGMIES IN NORTH-EASTERN ZAIRE (*)

I MAMMIFERI NELLA CULTURA ZOOLOGICA DEI PIGMEI MBUTI NELLO ZAIRE NORD-ORIENTALE (*)

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ABSTRACT

This work deals with the mammals and their role in the zoological culture of the Mbuti Pygmies, hunter-gathcrcrs of the Ituri Forest of Zaire. The ethnozoological information was gathered in parallel to faunistic investigation. A checklist of the mammals inhabiting the Ituri Forest was compiled on the basis of both carefully selected literature and direct field research. Field work was conducted in many study sites (pygmy camps and agriculturalists' settlements) throughout the region. Several Mbuti hunters of each band were interviewed in order to ensure reliability to the information they were giving. Direct observation of their hunting activities, feeding habits and relations with animals were also carried out. **For** each mammalian species the exact words **of** the Pygmies were translated into English. From their own culture, the Pygmies gave a great deal of information about habits, food, interspecific relations, reproduction and behaviour of **59** species of mammals. Details we**re** also given by the Mbuti hunters on their own taboos, food restrictions, medicine and villagers' witchcraft, concerning mammals, as well as the utilization of animal parts for making objects and tools. Vernacular names of the mammals are reported in six local languages, as well as the names of plants which, according to the Mbuti, are used by the animals as food. The hunting techniques of the Ituri Pygmies are summarized together with quantitative data from 60 net casts and **4** bow-hunting days.

Key words: Ethnozoology, Mammals, Pygmies, Tropical Forests, Zaire.

RIASSUNTO

Nel presente lavoro vengono studiati i mammiferi nella cultura zoologica dei Pigmei Mbuti, cacciatori-raccoglitori della Foresta dell'Ituri in Zaire. Gli autori hanno condotto parallelamente sia l'indagine etnozoologica che ricerche faunistiche di base sui mammife-

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ri. Un elenco sistematico delle specie viventi nella regione studiata e stato compilato sia sulla base di osservazioni dirette che attraverso una revisione critica dei reperti citati in letteratura. Il lavoro è stato svolto in molte stazioni (campi pigmei e insediamenti di agricoltori) largamente distribuite nella regione. Diversi pigmei cacciatori di ciascuna banda sono stati intervistati per confrontare le risposte e verificare l'attendibilità dellc informazioni. Nello stesso tempo, sono state effettuate osservazioni dirette sulle attività di caccia dei pigmei, le abitudini alimentari e il loro rapporto con gli animali. Per ciascuna specie di mammifero, le risposte dei pigmei intervistati sono state tradotte in inglese: essi hanno così rilasciato una gran quantità di nozioni della loro cultura sui modi di vita, l'alimentazione, le relazioni interspecifiche, la riproduzione e il comportamento di 59 specie di mammiferi. Inoltre, i pigmei hanno fornito dettagli sui propri tabù, le restrizioni alimentari, la caccia, la medicina tradizionale e la magia, sempre riguardanti i mammiferi, nonché l'utilizzazione di essi per costruire oggetti ed utensili. Vengono riportati i nomi vernacolari dei mammiferi in 6 lingue locali e inoltre i nomi delle piante che secondo i pigmei formerebbero l'alimentazione naturale di ciascuna specie. Le tecniche venatorie indigene vengono sommariamente descritte con l'aggiunta di dati quantitativi sulle prede catturate durante 60 battute di caccia con le reti e 4 giornate di caccia con l'arco.

Parole chiave: Etnozoologia, Mammiferi, Pigmei, Foreste tropicali, Zaire.

CONTENTS

1. INTRODUCTION

All hunter-gatherer populations throughout the world are quickly changing their traditional way of life, under the economic and social pressures of the local dominant cultures. In **1968,** Murdock listed 27 groups of hunting-gathering people that were still in existence or had recently disappeared. The aim of ethnobiologists is to form a complete picture of the subsistence strategies of these native culture before they disappear.

African Pygmies are the largest group still in existence and their life represents a very interesting example of conditions that are not too diffe-

rent from those of our human forebearers. From recent studies on the Pygmies' social structure, technology, mobility and demography, Cavalli Sforza (1986) suggested that these nomadic and forest dwelling people are a model of Upper Paleolithic life.

The Pygmies' economy is entirely founded on the knowledge and exploitation of the natural resources of tropical rain forests: animals and plants. Consequently, the ethnobiological approach provides one of the most important contributions to the knowledge of these hunter-gatherers and should be carried out jointly by zoologists, botanists and cultural anthropologists. The reports of the latter aimed at outlining Pygmy life often lack detail concerning plants and animals.

A good example of ethnobiological investigations on African pygmies was carried out by French researchers (Bahuchet, 1985; Thomas & Bahuchet, 1981, 1983) who studied the Aka Pygmies from the Central African Republic .

In the present work, we attempted to investigate the zoological culture of the Mbuti Pygmies from the Ituri Forest (Zaire), proposing an analytical model of data presentation. We dealt with each single species of larger mammals, listed in systematic order.

Larger mammals are the main food source of meat of the Mbuti Pygmies and the most important subject in the study of their zoological culture. In the papers to come, we shall deal with other vertebrate and also some invertebrate classes of animals.

Ethnographic descriptions of the Mbuti Pygmies and reports on their relations with Bantu and Sudanic villagers were given by Schebesta (1929, 1931, 1933, 1938-50, 1952) and Turnbull (1961, 1965, 1976, 1983).

An active group of Japanese anthropologists studied the band size and composition, the hunting activities, territoriality and nomadism, as well as the plant and honey utilization, both for archers and net-hunters (Harako, 1976; Ichikawa, 1978, 1981, 1883; Tanno, 1976, 1981; Terashima, 1983, 1985). Hart (1978) described the recent transition from subsistence to market hunting since the late 1950; Bailey and Peacock (Harvard University) are carrying out research on food consumption and shortage.

2. THE STUDY AREA: THE MBUTI HABITAT

The Ituri Forest extends between 0-3 ^{o}N and 26-30 ^{o}E in the northeastern part of Zaire (Haut-Zaire Region). This large area (about 100,000 Km^2), including the forested basin of the Aruwimi-Ituri river, ranges in altitude from 600 to 1,200 m above sea-level. The ecological outline of this

area has been given by Japanese researchers (Itani, **1974;** Harako, **1976;** Tanno, **1976,1981)** and by Hart **(1986).**

Climatic data from eight localities of our study area were reported by Ergo and de Halleux **(1979).** According to these data, the zone of Wamba (western Ituri) shows a greater amount of rainfall (more than **1,900** mm) while the zone of Mambasa (south-eastern Ituri) shows a lower one (about **1,600).** In both the above mentioned stations, the mean annual temperature keeps to about **23** ^{o}C and the highest thermal excursion occurs throughout the first **3-4** months of the year. The duration of the dry season is about **3** months, the maximum value admitted by Aubreville **(1932, 1938)** for the tropical rain forest; it begins in December when the rivers' water and the amount of each day's rainfall decrease considerably. The wet season (rainy season) comes in March, but the weather changes are very gradual. The most rainfall occurs from April to October.

Comparing the climatic situation of the Ituri forest with that one of other afro-tropical rain forests, we can easily conclude that it is a relatively arid type of rain forest ecosystem with distinct seasonal changes and low temperature. It represents, in fact, the east end of tropical rain forest zone and shows transitional features between the evergreen rain forests (*forêts ombrophiles* or *forêts denses humides sempervirentes)* and the deciduous forests (*forêts tropophiles, forêts mesophiles* or *forêts denses humides semicaducifoliées*) (see Aubréville, **1959;** Lebrun & Gilbert, **1954;** Mangenot, Miège & Aubert, **1948;** Schnell, **1976).**

The vegetation of the Ituri Forest can be roughly classified as follows (Itani, **1974;** Harako, **1976):**

1) PRIMARY FOREST

a. Cynometra alexandri	dominant in the first layer
b. *Brachystegia laurenti*	" " " "
c. Gilbertiodendron dewevrei	" " " "

2) SECONDARY FOREST

3) SWAMP or MARSH FOREST

More than 80 percent of the present study area is covered by primary forest while less than 20 percent is represented by secondary and swamp forests. The three above mentioned types of primary forest (a,b,c) are dominated by arboreal species belonging to the Leguminosae Caesalpinioideae and form a mosaic with scattered secondary forests around the human settlements and swamp forests stretching along the river- basins. The topographical distribution of these forest types was reported by the above mentioned authors and also by Hart & Hart (1986): *Cynometm* is predo-

minant in the northern and eastern part of Ituri Forest region; *Gilbertiodendron* occurs in all the western and south-western part; *Brachystegia* forms a definite district in the intermediate zone.

In the *Cynornetru* and *Bruchystegiu* forests, among the undergrowth, many species of Maranthaceae grow profusely, while seldom occurring in the pure stands of *Gilbertiodendron*. The first two forest types, infact consist of polispecific plant communities (mixed forests) with several well-lit layers from the soil to the canopy. The latter, on the contrary, represents an almost monospecific guild of trees (single-species dominance 80 %) covering a dark and scarsely populated undergrowth.

In the secondary forests, lianas and brush are abundant under the trees *(Musanga cecropioides* is often dominant); wild palms and ferns populate densely the swamp forests stretching along the rivers and marshes.

From a phytosociological point of view, according to Lebrun & Gilbert (1954), we can state the following:

- *Bruchystegiu laurenti* is an evergreen species characteristic of the order "Gilbertiodendretalia dewevrei" (evergreen rain forest) and may originate own self-stands both for climatic and edaphical reasons;
- *Cynornetru alexandri* is an evergreen species characteristic of the order "Piptadenio-Celtidetalia" (semideciduous rain forest);
- *Brachystegia* and *Cynornetru* may associate themselves forming a transitional forest-type between the two phytosociological orders (mixed forest).

3. THE PEOPLE OF THE FOREST

It is usually assumed that the Mbuti Pygmies were the first forest-dwellers of the Ituri Subregion. They were roughly estimated by Putnam (1948) and Schebesta (1952) to number 35,000-40,000 in an area of approximately 100,000 km^2; the average population density was calculated at 0.4-0.5 person/km^2 (Hart, 1978; Ichikawa, 1978, 1983; Tanno, 1976).

At the present time, two main groups of Pygmies occur in the study area:

- the archers (Mbuti Efe) inhabiting the eastern and northeastern sectors of the forest;
- the net hunters (Mbuti Swa and Bakango) in the southern, central and western sectors.

The main difference between these two groups is that the former does not use nets for hunting. Bows and spears, on the contrary, are shared by all the Mbuti. Schebesta, Turnbull and other authors presumed that the use of nets was adopted from the agriculturalist Bantu. According to this theory, the Mbuti Swa and Bakango passed from a primitive hunting acti-

vity as archers to the more effective one of net hunters after the Bantu populations began to spread in the Ituri Forest. Harako (1976) and Tanno (1981) suggested that the archers do not use nets because of the low productivity of the **KUSA** vine (*Manniophyton fulvum*) in their habitat, the *Cynometra* and *Brachystegia* forest. On the contrary, this vine grows profusely in the *Gilbertiodendron* forest, which is widely spread therefore in the geographic range of net hunters. They can easily gather this plant in order to build or repair nets.

Drive hunt with nets **is** much more effective than the bow-arrow-hunting (Harako, 1976;Tanno, 1976) and allowed the Mbuti Swa to catch a larger number of prey in less time. On the other hand, net hunters became more specialized concerning the kind of prey, and this technique led them to catch mainly duikers.

The Bantu villagers had early contacts with Pygmies probably 2,000 years ago (Cavalli Sforza, 1986; Phillipson, in Bouquiaux, 1980). Archaeological records from forest areas are extremely limited and we have not exact information on the farmers' expansion to the Ituri Forest. Ethnographic description of Ituri Bantu (Bali, Bira, Budu, Ndaka and their relatives) and of Sudanic people (Lese and their relatives) were given by Van Geluwe (1956,1957,1960). All these non-pygmy people live in settlements in the clearings of the forest and along the roads and are dependent mainly upon their small plantations. Animal farming is very scarce and consists only of poultry and some goats. An interesting trapping culture was developed by these villagers in order to catch forest animals. However, most of their meat comes from the exchange relations with the Mbuti who provide them with meat and other forest resources and receive in return iron implements, tobacco and cultivated food (Hart, 1978). **A** recent investigation of Hart and Hart (1986) examined the forest food resources in order to determine whether they were adequate to support a hunting-gathering economy, without the agricultural food complement. These authors suggested that it is unlikely that the Mbuti Pygmies could have lived independently in the forest interior with its precarious resource base. Whether or not this theory is correct, at the present time, the cultivated products have become a necessity in the Pygmies' economy and the relationship between the two races has been intensified. This close mutual relation determined also a mixing of cultural elements and social change mainly in the Mbuti way of life. Pygmies, at present, **do** not have a language of their own but, in each tribal area they speak the language of the neighbouring villagers (Kibali, Kindaka, Kibira, Kibudu, Lese) with strong dialectal changes and a peculiar Mbuti phonetic (Schebesta, 1952). **Also** some customary features such as taboos, trapping techniques and social life elements have been acquired from the villagers.

Bakango are a group of net hunters inhabiting the Bali and Ndaka area, between Bomili and Bafwasende; they may be considered as a subdivision of the Mbuti Swa. According to Schebesta (1952) their language (Kikango) would be a dialect of the Bira-group.

4. FAUNISTICS AND ETHNOZOOLOGY

At the present time, the mammal fauna of the Ituri Forest is not yet well known. Although the older contributions of many authors (*) include many records of species from the Ituri Forest, there does not yet exist a faunistic check-list of mammals inhabiting this region, with detailed distribution ranges and habitat preferences. Dealing with the birds, on the contrary, has Schouteden (1963) drawn up a good list of 650 species from the whole "district de l'Ituri" including also the northern and eastern savannas. In this work, the author remarks upon the scarcity of faunistic records from the administrative area of Mambasa that is the Ituri Forest. This situation still has not changed. In the last years, Colyn (1986) has begun to publish data of field investigations on the mammals of the northeastern Zaire.

In order to realize our own ethnozoological research on the hunting-gathering people of the forest, we have also been carrying out faunistic investigation on their dwelling areas, attempting to write a check-list of the mammals inhabiting the Ituri Forest.

Such a faunistic approach implies both a critical review of zoological records, and direct observation in field in order to assemble missing data. In this research, we availled ourselves of the help of the forest people (Bantu, Sudanic, Pygmies) who led us in our search for animals, brought us captured animals and gave us cultural information on them (see the chapter *5)*. In this way, we have carried out two research lines:

- a contribution to the zoological culture of the hunting-gathering people and their subsistence strategies;
- a contribution to the knowledge of mammals in faunistics, ecology, ethology and feeding habits.

The ethnozoological research carried out still now by all the other authors were primarily concerning the hunting strategies of Pygmies and their ways of exploiting the environmental resources. Our research, on the con-

(*) We list here only the most important papers dealing with mammals of northeastern Zaire: Allcn, 1922a, 1922b, 1924, 1925; Allcn, Lang & Chapin, 1917; Allen & Lawrence, 1936; Allcn & Loveridge, 1942; Curry-Lindahl, 1956; Hatt, 1934,1936, 1940; Rahm, 1966; Schoutcden, 1947.

trary, concerns straight forwardly the zoological culture of the forest people.

5. METHODS AND STUDY SITES

In order to gather information about the zoological culture of the Pygmies and of their neighbouring villagers, we carried out field work across

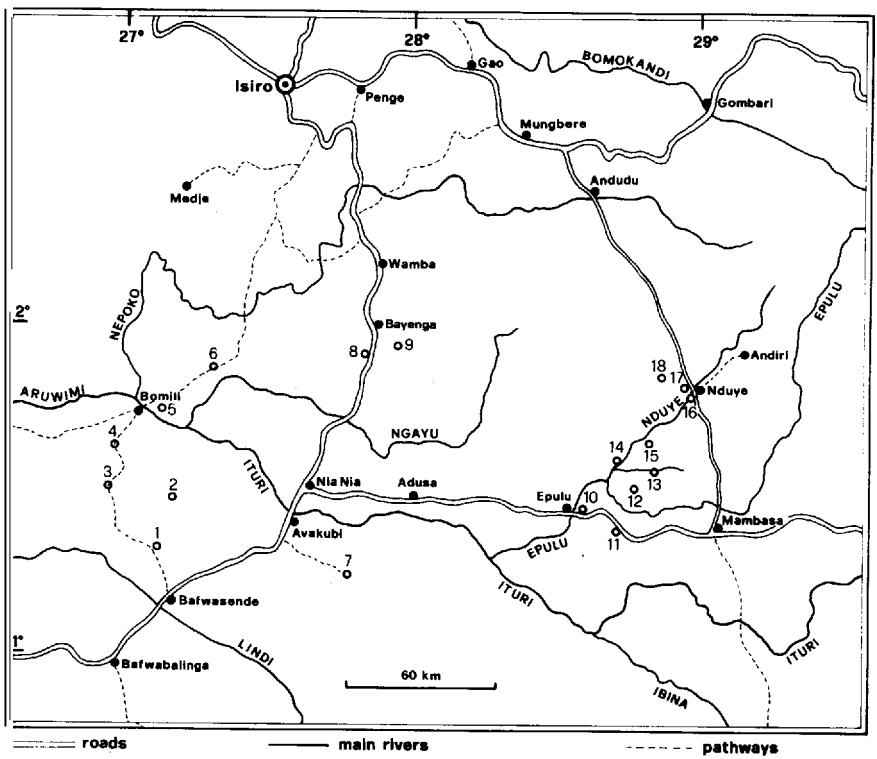

Fig. 1 - The Ituri Forest of Zaire and location of the study sites. 1. Bafwaguda; 2. Bafwabwane; 3. Bafwabenje; 4. Bafwamate; 5. Angbctima; 6. Bafwamanc; 7. Bafwamiti; 8. Bingo; 9. Alipanda; 10. Eboyo; 11. Babama; 12. Apa Kengetu; 13. Lubcyc; 14. Apa Mutelepu; 15. Makongo Tudu; 16. Bataka; 17. Andelifou; 18. Apa Njaro.

the forest, at different times, between **1984** and **1988:** August **1984,** February, August-December **1986,** September **1987,** January-February **1988.**

Interviews were made separately with Mbuti and with villagers to avoid interference between them, speaking Kingwana (the vehicular language of the region). Sometimes we had recourse to interpreters but never to the "Mbuti masters" (sensu Turnbull, **1976).** The influence of these latter people on the Mbuti answers would be dangerous because of their patronage/servitude relationship. The villagers, in fact, try to impose their culture on the Pygmies.

The Mbuti temperament was free and joyful but they got tired easily after overly long interviews. For this reason, a methodic investigation through questionaries was impossible. Most of questions were made in a scattered way, during the hunts and whenever animals were caught or observed in the field, as well as when their tracks, signs and rests were discovered. Our continuous care was to center the conversation on animals, in order to avoid boring the Mbuti. Luckily, the Mbuti were very interested in this subject and spoke readily.

All information was gathered from several persons to have a confirmation; sometimes the hunters of the same band answered in different ways and we followed them, disputing about some details. In all cases, in the end, one point of view was accepted by the entire group. According to Hart **(1978)** "the Mbuti have no formal structure to mantain knowledge" and their zoological culture is based on both current experience and the oral tradition harboured by the most influent people of the band.

Not all the mammal species were directely observed together the Mbuti. In order to obtain information about the other species, we had to show the Pygmies and the villagers many selected illustrations in colour (drawings and photographs) from zoological books and field guides. The risk and the limits of such an approach have been carefully evaluated and will be discussed in another methodological paper.

The ethnozoological information was gathered from 20 localities (Mbuti camps and agriculturalists' settlements) of the Ituri Forest (Fig. **1):**

Bafwaguda: **a Mbuti Swa camp** in the **Bali range.**
Bafwabwanc: **idcm.**
Bafwamanc: **a Bali** settlement **with** neighbouring **Mbuti Swa.**
Bafwamiti: **idcm.**
Bafwabcnjc: **idcm.**
Bafwamate: **idcm.**
Angbetima: **a Mbuti Kango camp in** the **Bali range.**
Bingo: **a Budu** settlement **with** neighhouring Mbuti **Swa.**
Alipanda: a Mbuti Swa camp **in** the Budu range.

Eboyo:	a Bira settlement with neighbouring Mbuti Swa and a group of recently emigrant Efe.
Apa Kengetu:	a Mbuti Swa camp in the Bira range.
Apa Mutelepu:	idem.
Makongo Tudu:	idem.
Babama:	a Bira settlement with neighbouring Mbuti Swa.
Nduye:	a Lese village and neighbouring Mbuti Efe.
Bataka:	a Mbuti Efe camp near Nduye.
Andelifou:	idem.
Apa Njaro:	a Mbuti Efe camp in the Lese range.
Lubeye:	a Lese settlement N-E of Babama, with neighbouring Mbuti.

6. RESULTS

In the following pages, we deal with all larger mammals occurring in the study area, listed in systematic order (Corbet & Hill, 1986). Taxonomic nomenclature was arranged according to Honacki, Kinman and Koeppl **(1982)** and revised by Colyn (in litteris).

For each species we translated to English the exact words of the Pygmies. They gave us information about the habits of 59 animal species, their daily rhythm, resting places, food, sociability, reproduction and behaviour. Interspecific relations with other animals and also with man, were related. Details were given by the Mbuti hunters on their own taboos, medicine and villagers' witchcraft, concerning mammal species, as well as the utilization of animal bodies for making objects and tools (ergology).

The human mind, of course, is not a computer, and much piece of information may have been forgotten by the Pygmies while they were talking to us.

During our conversations, the hunting techniques were the subject most appreciated by the Mbuti, who described their methods miming both themselves at work and the animals' reactions. Also the aggressive behaviour of animals, the dangers they present and the quality of meat, stimulated their interest in talking.

A further result was to discover the Mbuti ability to imitate the animal voice. These imitations were recorded on tape cassettes, from 4 bands (Bafwabwane, Alipanda, Apa Kengetu, Rataka). In the section 6.1 of the present work, each mammal species is listed with its scientific and English names. Vernacular names are underneath with initials of the languages within brackets. The exclamation mark (!) after the scientific names, means that a species was directly observed by us in the study area. At the end of each Mbuti's sentence, we report within brackets the name of the camp or the village where information was gathered.

The following initials were adopted for the languages:

Ba = Kibali
BaS = Swa dialect of Kibali
Ka = Kikango
Bu = Kibudu
BuS = Swa dialect of Kibudu
Bi = Kibira (=Kibila)
BiS = Swa dialect of Kibira (=Kibila)
Le = Lese
E = Efe
N- = northern dialect
E- = southern dialect
Ng = Kingwana

6.1. A "MBUTI'S ENCYCLOPAEDIA OF MAMMALS"

INSECTIVORES (Tenrecidae and Macroscelididae)

As stated above, we are not dealing with the small insectivores in this paper. Nevertheless, we did collect some information about the largest Insectivora species. They are 1 Tenrecidae and 1 Macroscelididae, the only insect-eaters falling within the forest people food.

Potamogale velox (Du Chaillu, **1860)** (!)
Giant Otter Shrew

VERNACULAR NAMES : AGBELEDO (Ba, Ka); ANZIGBELE (BaS); AKPELO (Bu); AGBEDU (BuS, Le, E); AMEPURU (Bi, BiS).

HABITAT and BEHAVIOUR - Active during the day and night. When the women go fishing, they find this animal in the water where it feeds and sleeps. It always comes out of the water to defecate in the same place (Alipanda). Daily activity. It sleeps under the fallen trunks of dead trees, out of water (Bataka).

FOOD - **Fish** and crabs (Alipanda, **Bataka).** It does not eat frogs (Alipanda).

HUNTING - Captured together with fish by women. These last make small dams (NAMU) with stones and woods on the river-sides, and then they remove water by leaves of Maranthaceae. Moreover, Bali and Mbuti easily find their home-ranges looking for the dung tracks and arrange traps on

the ground for catching them (Alipanda). When Lese and Efe arrange fish-pots in the water, the animal enters to feed (Bataka).

TABOOS - Only the elders eat them (Bataka).

ERGOLOGY - The skin is not eaten, but is dried by the men and made into a wrist-band which brings good luck (Bataka).

Rhynchocyon cirnei stuhlmanni Matschie, 1893 (!)
Giant Elephant Shrew

VERNACULAR NAMES : PAPA (Ba) , APEPE (BaS, Ka); APEPE, BADI (Bu, BuS); ABEKE, AMAPENGU (Bi, BiS); ABEKE (Le); ABE'E (E).

HABITAT and BEHAVIOUR - By day active, it builds a nest in the ground, covering the hole with dead leaves (Alipanda, Bataka). It runs so fast that it cannot be captured by dogs (Alipanda).

FOOD - Termites (Alipanda). It feeds mainly on some black and bad-smelling insects called PILI'O (Bataka).

HUNTING - Killed by APE arrows (Alipanda) . When driven by dogs, it shelters inside hollow trunks. Men then light a fire at the entrance to the hole driving the smoke inside by waving large leaves. Sometimes the shrew tries to escape and falls into the fire. Often, it refuges to come out and dies stifled. Then the hunters split the trunk with a hatchet to gather its body (Bataka).

TABOOS - Pregnant women may not eat this animal, otherwise their babies might be born with a very long nose (Alipanda, Bataka). Mbuti males may not eat this animal from the day of their circumcision up to the age of getting married. On the contrary, Bali people may eat it any time (Bafwaguda) .

LORISES (Lorisidae)

Lorises are represented by two species in the study area: *Perodicticus potto,* wide spread in the Ituri Forest; *Galagoides demidovi* with two subspecies, G. *d .anomurus* and G. *d. thomasi*, which occur respectively in the area north and south of the Aruwimi- Ituri river. All our information about bushbabies are concerning the last subspecies .

Perodicticus potto ibeanus Thomas, 1910 (!)
Potto

VERNACULAR NAMES: MANJETU (Ba); ANGILINDE (BaS, BuS, Ka); UNGOTU (Bu); ABAGU (Bi, BiS); ABENDE (Le, E).

HABITAT and BEHAVIOUR - Arboreal and nocturnal species, sleeps in the branches of trees (Alipanda, Bataka). Seldom seen on the ground, only when it needs to change trees and there are no people nearby (Alipanda). On the back of its neck, has horny point, and if grasped, the animal raises the head suddenly, injuring the hand of its captor (Bataka).

FOOD - Only resin and sap of MUKAMBA tree and BUSIW (= *Raphia*); in fact, when the intestine is opened, plenty or resin is always found (Alipanda). Fruits (Bataka).

HUNTING - Budu catch them with the same traps used for the squirrels but the Mbuti hunt them with wooden-tipped arrows. These arrows may be poisoned or unpoisoned, since the animal is not able to run away quickly. It cannot be grasped by hand when alive because it bites (Alipanda). All kinds of arrows (Bataka).

TABOOS - Pregnant women and parents of little children may not eat Potto otherwise their babies might fall ill in their breathing (Alipanda). Pregnant women and their husbands may not eat this animal otherwise they might have a very difficult delivery: the baby would grasp the mother's womb firmly like the Potto grasps the branches of the trees (Bataka).

ERGOLOGY - The skin is used to make a small container for snuff MUGOMBO (Alipanda). Some strips of Potto skin are fastened to the wooden trumpet MASENGO. During hunting, every time an animal is killed, the trumpet informs the others (Apa Njaro) . Strips of **its** skin are fastened to the wooden trumpet CHIMBE (Bi) or CHEI (E). The Mbuti blow it at the time of honey gathering for having a good luck (Epulu).

Galagoides demidovi thomasi (Elliot, 1907)
Demidoff s/Dwarf Galago/Bushbaby

VERNACULAR NAMES: SINZEZI (Ba); ESIYA (BaS).
No information.

Galagoides demidovi anomurus Pousargues, 1894
Demidoff s/Dwarf Galago/Bushbaby

VERNACULAR NAMES: ESIYA (Ka, BuS); ANDA (Bu); EPINJE, EPINZE, AKBANGA (Bi, BiS); BANGA', GBANGA', GBISI-GBISI (Le); BAGA, GBISI-GBISI, GBANGA' (E).

HABITAT and BEHAVIOUR - Arboreal and nocturnal species, sleeps into nests in small trees. Nests are made with leaves of LIDULI and cassava (Alipanda, Bataka). The nest is round with a hole in the middle; 3-4 nests can occur near each other. In the same nest, 2-3 individuals can sleep together (Bataka).

FOOD - Leaves and yellow ants from the trees (Alipanda); leaves (Bataka).

HUNTING - Unpoisoned, wooden-tipped arrow (Alipanda, Bataka).

TABOOS - Only the elders can eat bushbabies; married people run the risk of giving birth to large-eyes children (Alipanda). Only the pregnant women and their husbands must not eat galagos, for the same reason (Bataka).

MONKEYS (Cercopithecidae)

Twelve species of monkeys occur in the Ituri Forest (2 mangabeys, **1** baboon, *6* guenons and **3** thumbless monkeys). Most of them are very wide spread in the study area. Nevertheless, *Colobus rufomitratus oustaleti* seems not to occur south of the Aruwimi-Ituri river; also *C. guereza occidentalis* seems not to occur in the same area, with the exception of some eastern localities (Mawambi, etc.); on the contrary, C. *rufomitratus ellioti* inhabits only the forest south of the above mentioned river (Schouteden, 1947; Rahm, 1966; Colyn, in litteris). *Cercopithecus harnlyni* seems to be very rare and localized (Hart, **1986).**

The Mbuti and the villagers are very interested in monkeys and tell of them very much. Archers hunt them often and prize their meat. Many times the net-hunters chase them too with bows and arrows. All the Mbuti use poisoned arrows when the monkeys are in the trees and unpoisoned ones when these animals are on the ground (Alipanda, Bataka).

All the monkeys are named TEPE in Kibira and Kibira-Swa (Epulu, Makongo Tudu).

According to the Mbuti Swa, monkeys love the fruits MGBANDA of the TAA tree (Bafwaguda) and KODO of the MEAKODO tree (Bafwabwane).

The Mbuti say that different species of monkeys can associate and form mixed bands: *Cercopithecus wolfi denti, C. ascanius schmidti, Colobus rufomitratus oustaleti* and *C. guereza occidentalis* (Alipanda); *Cercopithecus mitis stuhlmanni* and *C. ascanius schmidti; C. wolfi denti* and *Colobus rufomitratus oustaleti* (Bataka).

According to the Mbuti, the Crowned Eagle, *Stephanoetus coronatus*, is the first enemy of the monkeys with the exception of baboons; the Golden Cat, *Profelis aurata*, on the contrary, cannot capture monkeys easily because it is not able to climb trees fast enough (Bataka, Alipanda). Other predators of monkeys are the Leopard and the Python (Alipanda, Bataka).

When the Pygmies imitate the call of duikers or of other animals, the monkeys come near "because they are very curious" (Makongo Tudu, Epulu).

The Mbuti Efe (Bataka) tell of the peculiar behaviour of all the thumbless monkeys as well as of *Cercopithecus mitis* and *C. ascanius*: they climb down from the trees and dig a hole in the ground in a place where there is plenty of salt. Each day they come back to feed in the same place, and eventually the hole becomes so wide and deep that they can enter inside of it. The black and white colobuses are the first to find such a good place and to dig the hole there; the other species follow them. The Pygmies know this behaviour well and, if they find such a hole, set an ambush there. They say that the red colobuses are the first to take fright, running away screaming. If the hole is not very deep, the hunters shoot their APE and O'RO arrows into it or kill the monkeys with their spears. If, instead, the hole is deep, they light a fire driving the smoke into the hole. The black and white colobuses come out and are killed either by the fire or by the spears. The guenons, instead, remain in the hole, dying inside. When the hunters no longer hear any noise, they go into the hole to gather the bodies.

The Mbuti Swa (Alipanda) do not mention the salt, but they do say that the black and white colobuses search for a special kind of ground (mineralised earth ?) which the buffalo and elephant like as well.

The skin of the hind legs of all the mangabeys, baboon, guenons and colobuses species are used to make the wrist- protector bracelets AKUBA (Alipanda) and **ASUBA** (Bataka). Moreover the skin of the tail is often wrapped around the bow as a lining. Only the middle piece of the bow is not lined, where the archer's hand must hold it (Alipanda, Bataka, Epulu). The Mbuti of Apa Mutelepu said that the skin of all monkeys is used to make wrist-bracelets, except that one of baboon and chimpanzee, because their skin is too hard. When the monkey skin is still fresh, it is filled up with moss and then dried in the sun.

The skin of black and white colobuses and of *Cercopithecus lhoesti* is used for children's clothing (Alipanda). The former is also used to make quivers (Eboyo) and hats (Bataka).

Concerning the alimentary taboos, we can distinguish three groups of species (Alipanda, Bataka):

A) *Cercopithecus mitis, Colobus rufomitratus, C. angolensis, Cercocebus albigena* and *Papio anubis*: no taboos, freely eaten.

B) *Cercopithecus ascanius, Colobus guereza* and *Cercocebus galeritus*: pregnant women, their husbands and the parents of new-born babies may not eat them otherwise the offspring may get a strong fever.

C) *Cercopithecus lhoesti, C. hamlyni* and *C. wolfi denti:* adults of child bearing age, may not eat the flesh of these species, in order not to give

their children (including their unborn babies) such a strong fever that they might die.

The foetuses of all monkeys are generally reserved to the elders (Alipanda, Bataka).

As regards *Cercopithecus hamlyni*, this primarily nocturnal monkey is not common in the study area and shows a discontinuous distribution. We never saw this species in the field. It seems to us the Mbuti do not know the life history of this animal very well and speak of it as a strange fellow of the forest.

Cercocebus albigena johnstoni (Lydekker, 1900) (!)
Johnston's Mangabey

VERNACULAR NAMES: AGBODU (Ba, BaS, Ka, BuS); AGBODI (Bu); ABUTU (Bi, BiS); AGBUTU (Le, E).

HABITAT and **BEHAVIOUR** - Active by day, sleeps on branches of trees in very large troops (Alipanda, Bataka). It plunders plantations (Alipanda, Bataka). Old males wander alone. Arboreal species, does not like to walk on the ground (Bataka).

FOOD - Fruits and young leaves (Alipanda, Bataka). Also cultivated products (Alipanda, Epulu). Honey of stingless bees (Bafwabwane). No salt (Bataka).

HUNTING - Killed by poisoned arrows (Alipanda). **O'RO** arrows (Bataka).

TABOOS and **ERGOLOGY** - See Monkeys.

Cercocebus galeritus agilis Riviéres, **1886** (!)
Agile (Crested) Mangabey

VERNACULAR NAMES: ANGAWA (Bu, BuS); ANGALA (Bi, BiS); ANGARA (Le, E).

HABITAT and **BEHAVIOUR** - By day active, sleeps on the trees forming very large troops (Alipanda, Bataka). Frequentely climbs down the trees but if it hears people or dogs in the distance, it climbs back up the trees again (Bataka).

FOOD - Fruits and young leaves, also cultivated products (Alipanda, Bataka). Millepedes, dung-beetles, earthworms, dead animals, salt (Bataka).

HUNTING - Killed by poisoned arrows (Alipanda); O'RO arrows (Bataka).

TABOOS - See Monkeys. Moreover, pregnant women and those having new-born babies may not eat this monkey; if they did, their babies might suffer illness in their breathing apparatus (Alipanda).

ERGOLOGY - See Monkeys.

Papio anubis tessellatus Elliot, 1909 (!)
Olive Baboon

VERNACULAR NAMES: MBOLO (Ba), MBASA (BaS, Ka, BuS); ABUWA (Bu); AKOLO (Bi, BiS); ME'BA (Le, E); ABULA (Ng).

HABITAT and **BEHAVIOUR** - Daily active, sleeps in trees in large troops. Very aggressive, can kill dogs (Alipanda, Bataka). It uses **GBERE** bamboo stick against dogs. If attacked by Leopard, the baboons beat it with **RUMA** bamboo stick. Either the Leopard or the Golden Cat can be killed by a band of angry baboons. The baboons cannot be captured by the Crowned Eagle (Bataka). Young baboons may sometimes be eaten by the Leopard (Alipanda).

FOOD - Leaves and fruits, berries of Maranthaceae, cultivated plants (Alipanda, Bataka). Dead animals, roots, salt, larves of dung-beetles, millepedes (Bataka).

HUNTING - Because of their habit of walking on the ground, baboons are easily taken in nets. Dogs are afraid of them. They are killed by **APE** arrows (Alipanda). Normally the Mbuti kill them with **APE** or O'RO arrows and if walking, also by spear (Bataka).

TABOOS - Pregnant women eat the baboons because they think that this will make their babies born with a beautiful long nose just right. Foetuses, instead, are reserved for the elders (Bataka).

ERGOLOGY - The skin is used to make a wrist-protector bracelet **AKUBA** (Bafwabenje).

Cercopithecus ascanius schmidti (Matschie, **1892)** (!)
Uganda Red-tailed Guenon

VERNACULAR NAMES: MBEKA, POMBOLI (Ba), NGEMA (BaS, Bu, Ka, Le, **E); TEFE (BuS); MBEKE** (Bi, BiS); KIDE (BiS).

HABITAT and **BEHAVIOUR** - Found in very large troops, sleeps in trees. Climbs down from the trees to eat in the undergrowth (Alipanda, Bataka).

FOOD - Fruits, mushrooms, cultivated plants (Alipanda); also dead animals and young leaves (Bataka).

HUNTING - This species and C. *mitis* come very near the villages to plunder the plantations. If the Mbuti find them in an isolated palm tree, they spread their nets out around the tree. Then, they shoot arrows and throw sticks and stones at the branches until the frightened monkeys climb down into the nets (Alipanda). See also Monkeys.

TABOOS and **ERGOLOGY** - See Monkeys.

Cercopithecus hamlyni (Pocock, **1907)**

Hamlyn's Guenon or Owl-Faced monkey

VERNACULAR NAMES: NDUGBU (Ba, BaS); MOTUBU (Ka); MUTUBU (Bu, BuS); MASALUPU (Bi, BiS); MUNDUGBU (Le, E); MAKADURU (E).

HABITAT and BEHAVIOUR - Sleeps in the trees in small groups of ***5-6*** individuals (Alipanda). Dwells near the rivers and feeds walking on the ground like the Baboon. Sleeps into the burrows, dug and left by crocodiles, in the ground above the water- level. If approached by people, this monkey drives into the water remaining under the surface for a long time without breathing. The crocodiles do not eat this guenon, which can swim very fast. If a dog attacks the monkey, it drags the dog into the water and drowns it. Then, takes the dog to its burrow to eat it (Bataka).

FOOD - Fruits and mushrooms (Alipanda). Crabs, fish, fruits, mushrooms, dead animals. No cultivated plants, salt and leaves (Bataka).

HUNTING - Because of its habit of walking, it is sometimes captured by nets, like the Baboon (Alipanda). O'RO arrows, when it rests on the trees or on the river-banks (Bataka).

TABOOS and ERGOLOGY - See monkeys. Some Pygmies do not respect the alimentary taboo for this species (Alipanda).

Cercopithecus lhoesti lhoesti (Sclater, 1898) (!)

L'Hoest's Monkey

VERNACULAR NAMES: SABIYA (Ba, Bu); SABILA (BaS, BuS, Ka, Bi, BiS, Lc, E).

HABITAT and BEHAVIOUR - Daily active, sleeps in trees in large troops (Alipanda, Bataka). Daily active and aggressive, can kill a dog if attacked (Bataka).

FOOD - Fruits, mushrooms, cultivated plants (Alipanda). Also dead animals; no salt (Bataka).

HUNTING and TABOOS - See monkeys.

ERGOLOGY - See monkeys. Bali and Mbuti use the skin to make a hat for the dance held during the period **of** circumcision (Bafwamane, near Bafwdguda).

Cercopithecus mitis stuhlmanni Matschie, 1893 (!)

Stuhlmann's Diademed Guenon or S. Blue monkey

VERNACULAR NAMES: SABA (Ba, BaS, BuS, Ka, Lc, E); CHABA (Bu), SAABA (Bi, BiS).

HABITAT, BEHAVIOUR and FOOD - See *C. ascanius schmidti.*
HUNTING - See C. *ascanius* and monkeys.
TABOOS and ERGOLOGY - See monkeys.

Cercopithecus neglectus (Schlegel, 1876) (!)
De Brazza's monkey or Chestnut-Browed Guenon

VERNACULAR NAMES: ELIMA (Bi, BiS); PONDE, PUNDO (Ka), MAKADW (Le); MA'ADUI (E).

HABITAT - Lives on the trees near the rivers, is able to swim very well (Epulu).
No other information.

Cercopithecus wolfi denti (Thomas, 1907) (!)
Dent's Guenon

VERNACULAR NAMES: OKELE (BaS); OKIELE (Ka); OKEE (Bu); MBENGI (BuS, Bi, BiS, Le, E); BE'GI (E).

HABITAT and BEHAVIOUR - Daily active, sleeps in trees in large troops (Alipanda, Bataka); it does not like climbing down from the trees (Bataka).

FOOD - Fruits, cultivated plants, mushrooms (Alipanda). Young leaves, fruits, cultivated plants; no salt (Bataka).

HUNTING, TABOOS and ERGOLOGY - See monkeys.

Colobus angolensis cottoni Lydekker, 1905 (!)
Cotton's Black and White Colobus

VERNACULAR NAMES: MBELE (Ba); MBELA (BaS, Ka, Bi, BiS), IGBOU (Bu); MUKO (Le); MU'O (E).

HABITAT and BEHAVIOUR - Daily active, sleeps in trees in the middle branches, in small troops (Alipanda, Bataka). Does not plunder plantations (Bataka).

FOOD - Forest fruits, mushrooms, earth (Alipanda); all fruits and young leaves, salt (Bataka).

HUNTING, TABOOS and ERGOLOGY - See monkeys.

Colobus guereza occidentalis Rochebrune, 1886 (!)
Congo Guereza or Abyssinian Black and White Colobus

VERNACULAR NAMES: SIGBOLOLO (Ba, BaS, Ka); ABA (Bu); AYOU, BOLOLO (BuS); BORO (Bi, BS); GBODURU (Le, E); GBUDULU (E).

HABITAT and BEHAVIOUR - See *C. angolensis cottoni.*
HUNTING, TABOOS and ERGOLOGY - See Monkeys.

Colobus rufomitratus ellioti Dollman, 1909
Elliot's Red Colobus

VERNACULAR NAMES - ANGBOKO (Ba, BaS).
No information.

Colobus rufornitratus oustaleti Trouessart, 1906 (!)
Oustalet's Red Colobus

VERNACULAR NAMES - ANVE, AZOI (Bu); ANGBOKO (BuS, Ka); ABUI (BiS, Bi); ABO'I (Le, E).

HABITAT and BEHAVIOUR - Sleeps in tree tops, in very large troops. Daily active (Alipanda, Bataka). Sometimes forms mixed bands together with the black and white colobuses (Bataka).

FOOD - Fruits, leaves, mushrooms (Alipanda). All fruits, young leaves, salt and bananas (Bataka).

HUNTING, TABOOS and ERGOLOGY - See monkeys.

APES (Pongidae)

Two species of apes are present in the zoological culture of the Mbuti Pygmies and of the villagers: chimpanzee and Gorilla. The former is wide spread in the study area but the latter does not occur in the Ituri Forest. The nearest dwelling place of the Gorilla is the Maiko National Park, south of Tshopo and Lindi river-basins. We do not know if this absence is due to extinction or to zoogeographical reasons. Nevertheless, the Mbuti recount about a mythical big ape occurring in the deep forest. They talk about it with fear, calling it AMEMANGAMANGA', APAMANGAMANGA' (Bi, BiS).

Most of Mbuti and many Bira villagers say that AMEMANGAMANGA' is neither a Gorilla (NGILA, in Kingwana) nor any other animal, but an evil spirit of the forest; a man-eater or a man-killer, and so they do not like to tell of it (Epulu). The Mbuti deal with Chimpanzee, by contrast, as normal animal game, even though they find its bearing and behaviour human.

Pan troglodytes schweinfurthi (Giglioli, 1872) (!)
Chimpanzee

VERNACULAR NAMES: BEBELEKO (Ba); SEKO (BaS, Ka); NGOYA (S-Bu); NGWE (N-Bu); TOBE (BuS); SIKO (Bi, Bis); DA'TO (Le, E); SOKOMTU (Ng).

HABITAT - This ape builds large nests by bending branches and twigs on the trees in which it stays the night (Angbetima, Alipanda, Bataka). The house of C. (ENDU-A-SEKO) is a pallet built in a tree and the female sleeps there; the male rests in a branch under the pallet in order to protect himself from the rain (Apa Mutelepu).

FOOD - Fruits, steams of Maranthaceae, tortoises, small duikers (*Cephalophus monticola*)(Angbetima). Fruits, mushrooms (Alipanda). Fruits, honey of IFA stingless bees (Bataka). Honey APISO of stingless bees (Apa Kengetu).

BEHAVIOUR - Chimpanzees live in bands of up to 10 specimens. They kill the leopards by beating them with a stick and thrashing their paws with wood or stones. When ever they meet a man, they run away, though sometimes they follow him, take him by the feet and beat him to death (Angbetima). They live in bands of up to 5 specimens and howl to enjoy the forest. Sometimes Budu people keep a baby chimp in the village, which learns to behave in a human manner. Meeting a man they run away, but they can kill people by biting and fighting with their hands and sticks. Afraid of the Leopard, they do not attack it (Alipanda). Chimpanzee kill tortoises thrusting a stick into their rectum but do not eat them. They do not plunder the plantations. The male and the female sleep together in the nest; if this is too small, the male lays down and lets the female sleep on his belly. They never attack man but, given chase, become aggressive fighting like men with hands and sticks. They can kill people picking them up and banging their bodies on the ground. They are afraid of reddish dogs and run away, if however the dog is black, they wait for it and kill it by pulling off its legs and tail. They cannot kill the Giant Pangolin because it has strong claws and hard scaly skin (Bataka). They howl and beat their feet on the buttresses of big trees, drum-ming, because they are happy with the forest (Apa Kengetu). When they scream out for joy, it means that in that part of the forest there are many ripe fruits, mainly EBAMBU (Apa Mutelepu).

HUNTING -The Bali villagers capture chimpanzee by the trap OSAKA-SA; the Mbuti learnt this technique recently (Bafwaguda). Adult chimpanzees, when struck by poisonous arrows cry like children (Alipanda). After the dogs have driven them up trees, the hunters shoot them down with APE and O'RO arrows (Bataka).

MEDICINE - Burnt and triturated chimpanzees bones, mixed with salt, and kept in duikers' horns, are used to medicate fractures. If a man breaks his arm, the Mbuti make an incision in his skin and put this medicine **(MYA-BUNUKO)** together with saliva into it (Bafwabwane). **As** above, but the medicine takes the name of the SEKO tree whose inner part is ground into powder and mixed with the same ingredients. Such an operation can also prevent fractures (Angbetima).

TABOOS - Everyone may eat chimpanzees as well as their foetuses; it is a very good meat (Alipanda, Bataka).

ERGOLOGY - A good skin for drums (Bataka).

RATEL and OTTERS (Mustelidae)

The family Mustelidae is represented by three species: two otters (Lutrinae) and the Ratel or Honey Badger (Mellivorinae). Otters are wide spread and common in the numerous rivers of the Ituri Forest but are only an occasional game for the pygmies, and so are not well known by them. Vernacular names are often shared by the genus ***Aonyx*** and ***Lutru.*** Pygmies lack hunting techniques for aquatic animals and gave us little information about them. ***An*** old hunter said about *Aonyx congica* : "I cannot tell you how many cubs this animal bears, because I never killed a pregnant female" (Alipanda).

The Ratel is not widely distributed in the rain forest areas, and records of it are very scattered (see: Schouteden, 1947).

Mellivora capensis cottoni (Lydekker, 1906)

Ratel or Honey Badger

VERNACULAR NAMES: BEBEU (Bi, BiS); NDELE (BiS); KULU-KULU (Lc); ULU-ULU, URU-URU (E).

HABITAT and BEHAVIOUR - Daily active, sleeps under the fallen trunks of dead trees. Solitary. Leopard and Golden Cat fear it because it bites and scratchs (Bataka).

FOOD - Feeds on underground honey, produced by the NGAPU bees; feeds also on dead animals, although, at times, is also a predator of *Cephalophus dorsalis* and C. *monticola* (Bataka).

HUNTING - Dogs follow its scent in order to kill this aggressive animal which defends itself very hard. Mbuti shoot it with APE arrows (Bataka).

TABOOS and ERGOLOGY - No taboo. The skin is good for eating but also used to make drums. Foetuses are reserved for the elders.

Lutra maculicollis Lichtenstein, 1835

Spotted-necked Otter

VERNACULAR NAMES: NZIDI-NZIDI (BaS); AKAKAA, ANZIMBA (BuS); FINDI-FINDI (Bi, BiS, Lc, E).

HABITAT and BEHAVIOUR - Daily and by night active, sleeps in hollow trunks, along river banks (Alipanda).

FOOD - Fishes and crabs; no frogs (Alipanda).

HUNTING - Roused by dogs, it is killed with APE arrows (Alipanda).

TABOOS - Parents of little children cannot eat this otter because their babies would risk a dangerous case of dysentery (Alipanda).

Aonyx congica congica (Loennberg, 1910)
Congo Clawless Otter

VERNACULAR NAMES: NDIBI-NDIBI (Ba, Ka); NZIDI-NZIDI (BaS); NGBUNDU-NGBUNDU **(Bu);** MBUNDI-MBUNDI (BuS); ESIFI **(Bi,** BiS); FINDI-FINDI (Le, E).

HABITAT and BEHAVIOUR -Active by night, sleeps in the water (Bafwabwane). Nocturnal and diurnal, sleeps in natural cavities along the rivers. Eaten by crocodiles (Alipanda).

FOOD - Fishes and crabs (Bafwabwane). Fishes and NGAINO crabs; no frogs (Alipanda).

HUNTING - APE arrows and traps (Bafwabwane). Out of water, when found near river banks, it is liable to attacks by dogs; Mbuti kill it with APE arrows (Alipanda).

ERGOLOGY - Skin is used to make hats (Bafwabwane). Beautiful skin; the Mbuti give it the Budu people. Sometimes Mbuti used the skin to make **a** container for snuff (Alipanda).

GENETS, CIVETS and MONGOOSES (Viverridae and Herpestidae)

These two families have undergone an extended adaptive radiation in the African Continent, as is shown by the pattern of high generic diversity: 9 genera and **13** species in the study area. The identification of some species involve taxonomic problems, the genets for example (see: Cabral, 1970); other species (such as the mongooses) possess no striking characteristic making possible an easy understanding between us and the Pygmies, during our interviews.

Moreover, some species are not a very frequent game of the Pygmies and so the information that they gave us was uncertain and full of gaps. For example, it would seem that not all the hunters know neither all these species nor their names; sometimes the same vernacular name was given **to** different species by hunters of the same band who stalk to-

gether in the forest every day. This is a problem that needs to be confirmed and discussed on the basis of further investigations.

The list of the species which occur in the study area is the following:

Viverridae	***Poiana richardsoni ochracea*** Thornas & Wroughton, 1907	(!)
	Genetta pardina schoutedeni Cabral, 1970	
	G. rubiginosa Pucheran, 1855	
	G. servalina bettoni Thomas, 1902	(!)
	G. victoriae Thomas, 1901	(!)
	Osbornictis piscivora J. A. Allen, 1919	
	Viverra civetta congica (Cabrera, 1929)	
	Nandinia binotata intensa Cabrera & Ruxton, 1926	(!)
Herpestidae	***Herpestes ichneumon centralis*** (Loennberg, 1917)	
	Herpestes naso microdon J. A. Allen, 1919	
	Atilax paludinosus macrodon J. A. Allen, 1924	
	Crossarchus alexandri Thomas & Wroughton, 1907	(!)
	Bdeogale nigripes Pucheran, 1855	(!)

In the following pages we shall give detailed information for the species which the Mbuti Pygmies detect indubitably and generic information for the problematic groups.

Poiana richardsoni ochracea Thomas & Wroughton, 1907 (!)
African Linsang

VERNACULAR NAMES: USOLIMA (Ba); AMANYABOLO (Bi, BiS).

BEHAVIOUR and FOOD - This small genet feeds on the villagers' chickens. When this carnivore bites a chicken on the neck, the bird runs away screaming with pain, with it clinging to its back (Babama).

Genetta victoriae Thomas, 1901 (!)
Giant Genet

VERNACULAR NAMES: KUNDISI (Ba), MOTEGENE (Bu); TOKPO' (BuS); APANDINGA (Bi, BiS); PANDIMA (Le); EGBO (E).

HABITAT and BEHAVIOUR - Active both by day and by night, solitary and biting, sleeps in the hollow trunks of dead trees (Alipanda). **So**litary and active by night, dwelling in deep forest, sleeps in trees, among vines. The Mbuti Efe do not know it very well (Bataka).

FOOD - Dead animals, chickens, PAMBAA fruits, bananas, oil palm fruits (Alipanda). Termites (Bataka).

HUNTING - Dogs flush it out and hunters shoot it with every kind of arrow (Alipanda). Like other genets (Bataka).

TABOOS - Only the elders may eat it. Women do not eat this animal because of its strong smell. Men cannot eat it otherwise their offspring might have diseases of the respiratory system (Alipanda). Foetuses are eaten by the elders (Bataka).

ERGOLOGY - The skin is good for making hats. The hunters wear these hats when they go looking for monkeys. The monkeys come near out of curiosity: believing the skin to be a leopard, they continue to look on, petrified with fright (Alipanda). ASUBA wrist-bracelet (Bataka).

During the ELIMA womens' initiation, a skin of this species is put on the head of a girl who leads the dancing (Epulu).

Genetta spp. (other than G. *victoriae*)
Genets

VERNACULAR NAMES: AKEKA, ASIMBA (Bi, BiS); NYAMEBIKA, LEGU, AKOLOBE (Ba); AKEKA(BaS); MOCHEGENI, ASIMBA (BuS); NDELEKE' (Le); NDELEHE' (E).

HABITAT and BEHAVIOUR - Active by night, solitary species, sleep in trees and among vines (Bataka).

FOOD - Chickens, *Guttera*, *Francolinus*, dead animals, termites (Bataka).

HUNTING - Killed with APE arrows when sleep in the vines (Bataka).

TABOOS - Not all the Pygmies eat them (Bataka).

ERGOLOGY - Skin is used for the ASUBA wrist-bracelets and as a dancing hat (Bataka).

Viverra civetta congica (Cabrera, 1929) (!)
African Civet

VERNACULAR NAMES: DINDI (Ba, BaS, Ka); ECHWE (Bu, BuS); SAMU (Bi, BiS); CHAMU (Le, E); LIBOBI (Ng).

HABITAT and BEHAVIOUR- Daily and by night active (Bafwabwane). Nocturnal (Alipanda, Bataka). Solitary, sleeps in the hollow trunks of dead trees (Bafwabwane, Bataka). Does not inhabit the deep forest but rather occurs around the human settlements and plantations (Alipanda). The Leopard does not feed on the Civet because of its leopard-like skin; the Golden Cat does not attack the Civet believing it to be a Leopard (Bataka) .

FOOD - Fruits, also cultivated products (oil palm fruits and bananas), leaves, millepedes, dead animals (Bafwabwane). Mais, papaya, oil palm fruits, SESA leaves, dead animals, moreover is a predator of *Neotragus ba-*

tesi and rodents (Bataka). Oil palm fruits, bananas, papaya and dead animals (Alipanda).

HUNTING - Is lured into nets and traps with bananas, oil palm fruits and dead snakes as bait. Killed also with APE arrows when flushed out by dogs (Bafwabwane). Roused by dogs and killed with arrows; sometimes captured by nets for antelopes (Alipanda). Flushed out and chased by dogs, the tired animal is killed by APE arrows (Bataka).

TABOOS - Pregnant women and their husbands cannot eat the Civet otherwise the baby might be born with a very big belly; also the parents of a little child cannot eat it for the same reason: the child will fall ill of dropsy. Foetuses are reserved for the elders (Bataka).

ERGOLOGY - Skin is used to make hats (Bafwabwane).

Nandinia binotata intensa Cabrera & Ruxton, 1926 (!)
Two-spotted Palm Civet

VERNACULAR NAMES: PITA (Ba, BaS, Ka, Bi, BiS); PAA (Bu, BuS); BANZO' (Le); BAJO' (E).

HABITAT and BEHAVIOUR - Active by night; daily rests in trees hidden by the leaves (Alipanda). Active by night, sleeps in trees tops among the entangled vines (Bataka). By night, climbs on the ***Raphia*** palms and puts its tail inside the top cavity, dipping it into the alcohol. When the tail **is** soaked, the animal takes it up and sucks, drinking until it gets drunk (Babama).

FOOD - Dead animals, forest and cultivated fruits (Alipanda); forest and cultivated fruits, termites and ants, birds (chickens, *Guttera, Francolinus, Centropus,* herons, nightjars); not eggs (Bataka).

HUNTING - If the Mbuti discover its resting site among the leaves of trees, they shoot it with every kind **of** arrows. If the animal falls down, the dogs attack it (Alipanda). Dogs flush the Palm Civet out and can kill it after a short pursuit. If the tired animal climbs into a tree, the hunters shoot APE arrows at it (Bataka).

TABOOS - Pregnant women and their husbands cannot eat the Palm Civet otherwise the baby might be born with a much too narrow rectum. In that case, the rectum need to be widened with an APE arrow tip or with a razor-blade. Foetuses are eaten only by the elders (Bataka).

ERGOLOGY - Like the skin of *Genetta victoriae* (Alipanda). The skin may be used for ASUBA wrist-bracelets and also to cover the **bow.** Moreover, the Mbuti give this skin the Lese people who put it on their heads during the dances (Bataka).

Herpestes spp.
Mongooses

VERNACULAR NAMES: GBONGBO (BaS); BONGOBO (Ka); ALOSABA (Bu); MZINA (BuS); PAKEE-KEEKE (Bi, BiS); KOU'TOKO (Le); OUTO'O (E).

HABITAT and BEHAVIOUR - Diurnally and nocturnally active, during the heat of the day sleep in hollow trunks or inside holes in the ground (Bafwabwane, Alipanda). Biting species (Alipanda).

FOOD - Snakes, insects (also butterflies), millepedes, rodents, bananas, oil palm fruits, elephant dung (Bafwabwane). Termites, mushrooms, many of the forest fruits, snakes, ants (Alipanda).

HUNTING - Dogs drive them out of their holes and the hunters then shoot them with APE arrows (Bafwabwane, Alipanda). As other mongooses, they bite dogs and can break nets (Bafwabwane); they pass through holes in the nets and run away (Alipanda).

Crossarchus alexandri Thomas & Wroughton, 1907 (!)
Alexander's Cusimanse

VERNACULAR NAMES: ANZANZA (Ba, BaS); TOTO (Ka); MUKENGYE (Bu); GBOLOGBOLO (BuS); GBOROGBORO (Bi, BiS, Le, E); NBOROKBORO (E).

HABITAT and BEHAVIOUR - Diurnally and nocturnally active, biting, sleeps in holes between the roots of big trees (Bafwabwane). Daily active, sleeps in holes of tree trunks in troops of up to 10 specimens. Biting species (Alipanda). Daily active, lives in troops of up to 10 specimens and sleeps in holes in the trunks of dead trees (Bataka).

FOOD - Butterflies, insects, snakes, bananas, oil palm fruits, leaves (Bafwabwane). Earthworms, termites, millepedes, butterflies, beetles (Alipanda). Earthworms, FILIKO' (= bad-smelling black insects), termites, dead animals, snakes (Bataka).

HUNTING - Dogs flush it out and the hunters shoot it with APE arrows; also caught by traps, using bananas or dead snakes as bait (Bafwabwane). Captured and killed by dogs. Sometimes dogs flush it out and then the Mbuti kill it with a stick blow on the head. If it rests in its hole, it is killed by smoke (Alipanda). Dogs find it by its scent and follow it until it takes refuge in its den. The hunters get it out with smoke and kill it with APE arrows (Bataka). Dogs find it by chance and it takes refuge in a hole. Dogs dig around and when the Cusimanse becomes visible the most courageous dog grasps its muzzle to get it out, throwing it on the ground. An archer then kills it with an APE arrows (Epulu).

TABOOS - No taboos. **Also** the skin is eaten (Bafwahwane, Bataka).

Bdeogale nigripes Pucheran, 1855 (!)
Black-footed Mongoose

VERNACULAR NAMES: SESEI (BaS, Ka); LIBOMBI (Bu); BATAKUMBO (BuS); NDELE (Bi, BiS, Le); ESAFU (E).

HABITAT and **BEHAVIOUR** - Diurnally and nocturnally active, biting, sleeps in holes between the roots of big trees (Bafwabwane). Active by night, sleeps in the dens of *Atherurus africanus* after killing it (Alipanda). Solitary, biting, and aggressive against both dogs and men, daily active, sleeps in the hollows trunks of dead trees. The Leopard and the Golden Cat will not attack because are afraid of it (Bataka).

FOOD - Fruits, oil palm fruits, bananas, insects, butterflies, snakes, (Bafwabwane). Rodents (also *Atherurus*), ants, termites, mushrooms (Alipanda). Termites, **BAKALO'** insects, dead animals (Bataka).

HUNTING - Killed by arrows or traps, using bananas or dead snakes as bait. Flushed out by dogs (Bafwabwane). Dogs enter the den and have a hard fight against the mongoose (Alipanda). Dogs flush it out of the den and the Mbuti shoot it with **APE** arrows (Bataka).

TABOOS - No taboos. People do not eat the skin because of its bad smell. Most people do not like to eat this animal for this reason (Alipanda). No taboos. Also foetuses are eaten by all (Bataka).

HYAENAS (Hyaenidae)

Hyaenas do not occur in the study area but only in the open forests of the north and east Ituri Region. Some residential Mbuti from Epulu to Nduye recognized photographs and coloured drawings of the spotted Hyaena and said that such animal did not occur in their exploration range. Although many other Mbuti did not recognize the figures, but they did know the connection between the term **FISI (Ng)** and their vernacular names **TIPI (Bi,BiS), AUNGA (Le), NONI** (E). Sometimes the term AUNCA is used *to* name the Lion, and this fact is due to confusion within stories and tales. Really, the Hyaena only entered the zoological culture of the Ituri Pygmies through travellers tales diffused by oral tradition. The provenence of these stories is the bands dwelling in the north-east, who surely meet both lions and hyaenas.

CATS (Felidae)

The Leopard, the Golden Cat and the African Wild Cat are the feline species occurring in the study area. The first two species cover an important place in pygmy culture. The last one (*Felis lybica rubida* Schwann) was recorded from Mawambi and Epulu (Schouteden, **1947)** but it could deal also with some feral specimens of the Domestic Cat. However, it plays a secondary role as a lesser "shemeki" (= cousin, in Kingwana) of the Golden Cat and we have not other information about it.

The image of the Leopard and the Golden Cat, and the relations these have with other animal species, as recounted to us by the Pygmies on the basis of their natural historical lore, which forms part of their cultural patrimony, are suggestive, showing the clash of observed reality with **a** mythological dimension. These animals represent, in fact, the only two mammal species capable of competing with Pygmies as large predators, having the same potential prey.

Moreover, the Leopard, in certain circumstances, also behaves **as** a predator of man. Interference with Mbuti hunting activities by this cat is very frequent. Sometimes, as we directly observed ourselves (Makongo Tudu), the Leopard rushes up on hearing the Pygmies imitating the antelope bleating, which they do perfectly.

Panthera pardus (Linnaeus, 1758) (!)
Leopard

VERNACULAR NAMES: LOLI (Ba); MABITI (BaS, BuS, Ka); KWEYI (BU); MABILANGA (Bus); **MOLI** (Bi ,BiS); KA'U (Le); **A'U (E);** CHUI **(Ng).**

HABITAT - Sleeps on the ground. When the female has cubs, she puts them in between the roots of big trees. The L. climbs on the trees in order to hunt monkeys, and also lays there the bodies of its kills in the branches. Normally it eats its kill on the ground or on the branches of trees. It feeds also on **AMASA** leaves (a herb). The L. kills almost every animal in the forest but cannot overpower neither the Elephant, nor the Buffalo, the males of Sitatunga nor the Giant Pangolin. Chimpanzees in troop can kill the L. pounding its paws with stones and sticks, throwing it then into the water. They pound the L. paws because its power is in the claws. See also: *Pan troglodytes.* (Bafwabwane). The L. feeds on all the animals excluding the Elephant and the Buffalo (too big), the Baboon (the troops are too aggressive), *Neotragus batesi* and *Cephalophus monticola* (too fast), the Golden Cat (being its brother). The **L.** pursues the monkeys either on the ground **or** in trees. Sometimes it climbs into a low tree and imitates the bleating of *Cephalophus monticola:* this call attracts not only the duikers, but **also** ma-

kes the monkeys come out of curiosity. Active by day and by night, the L. preys on Chimpanzee when alone, pangolins (waiting for them to stretch themselves out) and large ground-walking birds, such as the ***Guttera*** species. It feeds also on mushrooms, fruits (oil palm fruits, **MUPOMBI, MASA, MBAU)** and some herbs. In fact, eating an animal entirely with skin and hair, can give it a stomach-ache, and so it feeds on herbs as a aid to digestion (Alipanda). Baboons treat the **L.** in the same way as Chimpanzees do, smashing its paws and leaving it to die. Solitary, the **L.** sleeps in the natural cavities among rocks. Nightly and sometimes daily active, eats its prey on the ground carrying the left-overs into the branches of trees. It feeds on the head of its prey as well. The L. eats almost every animals in the forest, including terrestrial and domestic birds, dogs and goats. It cannot overpower, Elephant, Buffalo (except calves), Chimpanzee and Baboon. These primates are very aggressive towards it. Chimpanzees carry it up into trees and beat it with sticks on the bottom until death. Baboons in troop, use the same treatment with **RUMA** bamboo sticks. The Leopard fears the Crested Porcupine because it shoots its sharp quills at it. The L. also fears the Sitatunga's horns, but sometimes it succeeds in taking it by surprise in an ambush. It is not able to catch the Dwarf Antelope because it runs so fast and jumps very high. The Golden Cat is not eaten because it is a close relative. The **L.** avoids facing the Black-footed Mongoose and the Honey Badger because these animals are very aggressive. Moreover, it will not attack the African Civet because the coat of this animal has spots like its own. Tortoises are not eaten because they cannot be removed from their shell (Bataka).

RELATIONS **WITH MAN** and WITCHCRAFT - Before starting their hunt, the Mbuti burn a handful of AMASA herb (eaten by Leopard) filling the nets with the smoke for good luck. When a L. meets a man, it normally runs away, but sometimes will attack and eat him. **A** Bali sorcerer can instruct the L. to kill people. The sorcerer gathers the ground trampled underfoot by that person and calls the **L.** while he is preparing a magic potion. Mbuti sometimes succeed in killing it with **APE** arrows but do not eat it. The skin and claws are given to the sorcerers. Bali people, on the contrary, eat the **L.,** capturing it by building a cage-trap with sticks and fastening a dog inside. When the L., attracted by the howling dog, enters the cage, it is killed by spears (Bafwabwane). The L. is not eaten by the Mbuti because it is a friend of their Bali masters. These engage the animal to kill disobedient Mbuti (Angbetima). When the L. meets a lone man may attack him, but normally runs away; if the Mbuti find it with a kill, they steal it from the feline. When this happens, the L. follows the people until they reach their huts. Then it takes its revenge by killing a dog during the night and carrying it away. Sometimes the L. is trapped in the nets and is killed by **APE** arrows

and eaten. In the past, the Mbuti could not eat it because it was reserved for the "vips" of the Budu villages (sorcerers, chief and his counciliors); in that time the coat was given to the chief of villagers, while the meat and the fangs were reserved for the eminent old Budu. These made necklaces with the fangs and ate the meat. Today, the Mbuti trade it, like any other game (Alipanda). The Mbuti stick a twig of a certain plant into the ground, near the MOSANDATELE (= central fire), to keep the **L.** at a distance, but this is an old custom on the way to oblivion; only very **old** people remember the name of this plant (Apa Kengetu). While the L. is eating an animal, if feels that the Mbuti are coming, it brings its victim into a tree and hides itself. If the Mbuti are very near, it gives up its prey letting the Pygmies steal it. In this case, it follows the hunter up *to* their huts, and if finds a dog at night, carries it away. Sometimes it can ever come into a hut and carry away a man while the others are sleeping. People are awoken by the screaming person in danger in the darkness. The day after, the hunters go to **look** for him in the forest, returning to camp with his body. That very day, the Mbuti desert the site and go to make a new camp far away. They will never come back in that place because there the forest became bad (Bataka). Lese people capture the L. with cage-traps. They use a young goat as bait; making it cry, by putting red ants into the rectum of the goat (Nduye).

TABOOS - See RELATIONS WITH MAN and WITCHCRAFT. The L. can be eated only by elders (Apa Kengetu).

Profelis aurata aurata Temminck, **1827** (!)
Golden Cat

VERNACULAR NAMES: OSOLIMI, MAKOLOLI (Ba); AKALWA (Bas); AGALWA (Ka), EGABASOTI (Bu,Bu$); AGASOTI (BUS), ESELE (Bi,Bis); **A'KA** (Le); A'A (E).

HABITAT, BEHAVIOUR and FOOD - By night active, rests under fallen trunks, not climbing in trees. For this reason, is not able to catch monkeys easily. It does not know to imitate the duikers' bleating and so must follow the tracks of its prey on the ground. The G.C. has the same prey as the Leopard and is also able to catch *Cephalophus monticola.* Baboons do not treat it in the same way of Leopard. It feeds also on fruits and mushrooms; AMASA herb as digestive (see Leopard); (Alipanda). Daily active, it sleeps in natural cavities among rocks. It climbs into trees to rest but eats on the ground. It feeds on small prey than the Leopard, also *Cephalophus monticola* and *Neotragus batesi,* because it is an agile predator, but is not able to catch the Chevrotain which runs into water quickly. Moreover, it does not capture monkeys (because they run in the trees), Honey Badger (because is very aggressive), African Civet (because its leopard-like skin) and tor-

toises (because of their hard shell). The G. C. fears the Black-footed Mongoose and the Aardvark and these, for their part, fear it. The adults of Yellow-backed Duiker are too large for it. The baboons treat it in the same way of Leopard: follow it in troop, leaving it do die, as do the chimpanzees beating it on its head with a stick and throw it on the ground until death. It also feeds on termites, but not on herbs (Bataka).

RELATION WITH MAN and HUNTING - The G. C. does not attack man, but when it falls in hunting nets, it becomes dangerous; the Mbuti kill it with **APE** arrows. When they find a G. C. with a kill, they attack it, robbing it of its prey; it neither follows them nor tries to kill a dog as revenge (see Leopard) (Alipanda). When flushed out by dogs, it climbs into a tree and the hunters shoot it with **APE** arrows (Bataka). After the G. C . has been killed, **an** archer shoots SA'U arrow through one of its front claws, symbolizing in this ways that the animal's weapon has been nullified (Apa Njaro).

TABOOS - Lese people say that only toothless old people can eat the G. **C.** because when a man feeds on this animals, his gums become putrified and his teeth fall out (Nduye). Foetuses are reserved for the elders (Bataka).

ERGOLOGY - Skin **is** used to make the **ASUBA** wrist-bracelet (Bataka). It **is** a rare game and therefore, the skin is rarely used to make **ASUBA** (Apa Mutelepu).

ELEPHANTS (Elephantidae)

The Elephant is the largest mammal of the Ituri Forest. The Elephant hunting techniques were described by Putnam **(1948)** and Schebesta (1941, **1952).** According to them, the present form of hunting is a recent development in answer to the needs of the villagers whose plantations were often plundered by elephants. For this reason they encouraged the Mbuti to kill these animals, in order both to protect their produce and to obtain ivory and meat.

Harako (1976) discussed the social importance of the Mbuti hunters who killed elephants and their standing in relations with the villagers .

In african languages, the Elephant is usually called by several names. **As** regards the ethnotaxonomy of Bira and Bira-Swa people, we found the following names (Apa Mutelepu):

MBONGO	**general name of the Elephant**	**(Bi)**
AMAUKA	" " "	**(Bis)**
ALIKA	**male**	**(Bis)**
MALIKA	**male**	**(Bi)**
ALEGBE	**female**	**(Bis)**
MALEGBE	**female**	**(Bi)**
KOYOMALIKA	**young male**	**(Bis)**
KOYOMAMALEGBE	**young female**	**(Bis)**
MBASAMALIKA	**young male**	**(Bi)**
MBASAMAMALEGBE	**young female**	**(Bi)**

Loxodonta africana cyclotis (Matschie, 1900) (!)
Forest or Round-eared Elephant

VERNACULAR NAMES: MBONGO (Ba, Ka, BuS, Bi, Bis); BEPE (BaS); TOKU (Bu); AMAUKA (BiS); U'KU, O'KO (Le); U'U, O'O (E); TEMBO (Ng).

HABITAT, BEHAVIOUR and **RELATIONS WITH MAN** - Active by day and by night, sleeps on its feet during the hottest hours (Bafwabwane, Alipanda, Bataka). Elephants live in troop and plunder the villagers' plantations mainly of bananas (Bafwabwane). If a man **is** charged by an elephant, he must run behind a big tree (Bafwabwane, Alipanda, Bataka). ***An*** elephant will attack man only if, among the hunters, there is one who **is** the husband of a pregnant woman. The Mbuti never set their nets if elephant tracks are visible, because these animals can destroy them, dragging them far away. Elephants go eat earth in the same place as monkeys and buffaloes (Alipanda). During the dry season, the elephants congregate near large rivers because they like to have a wash and it is only there that they can find water enough to bathe in (Bataka). When many elephants are roaming throughout a zone of the forest, other game animals are disturbed and move away (Apa Mutelepu).

FOOD - Fruits and leaves, also bananas (Bafwabwane, Alipanda, Bataka).

HUNTING - The Mbuti of Bafwabwane and of all neighbouring bands do not hunt elephants and so, they do not know the hunting techniques for them (Bafwabwane). The Mbuti follow elephant and plunge their spear into its belly while the animal is sleeping (Bafwamiti). When the Mbuti kill an elephant they leave the remains; after some days there will be many antelopes eating the remaining meat there (see Duikers). The Mbuti of Alipanda do not hunt the elephants (Alipanda). The Mbuti follow the elephant tracks, surround the animal and cut the tendons of the hind legs; then they plunge the spears into its belly and flanks. Another system is to take the animal by surprise while it **is** sleeping and plunge the spear into the belly (Bataka, Makongo Tudu). The elephant hunters are the strongest and most courageous young men of several bands. During the dry season, some bands

assemble at a meeting near a Lese village or a Mbuti camp, starting a dance with the women that lasts for several nights. At the end of this ceremony, the selected hunters go off with their face and chest black painted (Andiri).

TABOOS and ERGOLOGY - The tip of an elephant's tusk, is used to make the KOLYA hammer, a tool used in the making of bark clothes. The tusk tip is driven into a forked stick and the surface of the cut side of the tusk is engraved in a grid-like pattern (Apa Kengetu). Tusks are given to the chief of Lese villagers, while the hairs are used to make bracelets. *Also* the foetuses are eaten by alls (Bataka). The ears are used to make drums (Andiri).

DASSIES or HYRAXES (Procaviidae)

Only one species occurs in the study area:

Dendrohyrax dorsalis emini Thomas, 1887 (!)
Emin's Tree Dassie

VERNACULAR NAMES: NGOYO'(Ba); KWASA (BaS, Ka); NGOYA (S-Bu); KPAA (N = Bu); SOKA (Bus); SUKA (Bi, Bis); YAMA (Lc, E); ELOKA (Ng).

HABITAT and BEHAVIOUR - Arboreal species, active by night, sings in trees as it climbs. It climbs down only to drink and to change its tree. It sleeps in holes of trunks, and two or three specimens can live together (Bafwabwane). During the day it sleeps in a hole high in the tree. Active by night, it sings when it is changing its tree. It lives together with its female and a single cub, climbing down for eating (Alipanda). It sleeps in couples in hollows high in the trees, singing on their tops, but never when it climbs down to the ground. During the night ,it may change its tree while looking for food (Bataka). To defecate, dassies choose the largest branches of a tree where they have dens; they do not let droppings fall down and do not defecate in dens (Apa Mutelepu).

FOOD - Leaves, ants, MAGPA fruits, oil palm fruit (Bafwabwane). Arboreal ferns (KOMBWA), epiphytic plants, leaves of AZALO vine, cassava and sweet potatoe leaves (Alipanda). Bushes, leaves (UCHU, DUDU), and leaves of arboreal ferns LUSU (Bataka).

HUNTING - Pygmies hearing its voice at night, locate the tree and put some leaves on the ground in order to recognize the place, the next morning. Then, one man climbs up into the tree with a knife, and a fire-brand to smoke the animal out. The Dassie is killed by knife when it comes out,

or by the arrows of the other men if it jumps down. The Mbuti do not try to capture the Dassie by hand because it can bite. This hunting technique is not always sure because the animal may change its tree during the night (Bafwabwane).

The Mbuti of Alipanda think that the technique of marking the tree where the Dassie's voice is heard is useless, because this animal changes its resting place often during the same night. During the day, if they see a hole likely to be a Dassie's den, they climb up the tree, and have two strategies for capturing it: the first is the usual smoking technique; the second makes use of a special vine called ONGOSA. This is rough and sticky and they thread it into the hole, then whirl it round the animal's body. Then, they yank out the vine violently, pulling the animal to the ground where it is killed by **APE** arrows (Alipanda).

In order to find this animal without fail, they must hear its voice not by night but early in the morning when it has finished its nocturnal roaming, and getting ready to go to sleep in its den. They mark the place breaking a twig under the tree, and come back later to catch it . If the den is a deep hole, a man puts a fire-brand into the opening and blows on it, in order to drive the smoke inside. If the hole is not deep, the animal will jump down as soon as it sees the hunter, and be killed by **APE** arrows. The arrow may be also shot the den if it is not too deep (Bataka).

TABOOS and ERGOLOGY - The skin and teeth have a magic power to bring luck in net hunting. For this reason, single teeth and pieces of skin are put on nets and on necklaces (Bafwabwane). Skin is used to make snuff containers. Pregnant women may not eat it, otherwise their babies might be born with short fingers (Alipanda). Skin and teeth bring good luck, and are arranged in necklaces and put over the hut opening. Pregnant women and their husbands may not eat it, otherwise their babies might be born with three fingered hands. Foetuses are eaten only by the elders (Bataka).

AARDVARK (Orycteropidae)

Although included in the Red Data Book of I.U.C.N., the Aardvark is very common and wide spread in the Ituri Forest. Its tracks and dens are visible everywhere. This can be explained by the abundance of termites and ants which represent its food source and perhaps in this region its home range radius may well be smaller than the normally estimated size (30 km radial lenght).

During their hunts, the Pygmies detect an Aardvark den, they must decide if whether to capture it suddenly, or come back to the site later.

Orycteropus afer erikksoni Loennberg, 1906 (!)
Aardvark

VERNACULAR NAMES: AGBOLOBI, TINGAMBA (Ba); KEBE (BaS, Ka); INGBO (Bu); KINGBO, MOBINDO (Bus), **MUBINDO (Bi, BiS); GIBO (BiS); ALU'FEI (Le); ALUFEI, INGBO (E); TUMBA (Ng).**

HABITAT and **BEHAVIOUR** - Active by night and solitary, sleeps in holes which it digs itself in the ground (Bafwabwane, Alipanda, Bataka). These are very deep, which have more than one exit. The Leopard feeds on it, while the Golden Cat fears its strong claws (Bataka).

FOOD - Ants and termites (Bafwabwane, Bataka); also earth (Bataka). Termites and **MANDUKUNI** ants (Alipanda).

HUNTING - One man kills it in its den with a knife; it is not able to bite (Bafwabwane). The hunters take a fire-brand and blow smoke into the den **(YEGI).** A machete is fastened on the tip of a pole and, when the animal comes out, it is thrust into its neck. It is a dangerous animal because of its strong claws (Alipanda). When the Mbuti try to capture it by smoking it out, it sometimes can escape away because the den has more than one exit. If dogs get into the den, the A. kills them by spitting out with its poisonous saliva. Sometimes dogs find it resting outside of its den in hollow trunks, and the hunters can kill it with **APE** arrows (Bataka).

RELATIONS WITH **MAN** and **WITCHCRAFT** - The skin is eaten, while teeth are used to make bracelets which protect from witchcraft (Bafwabwane). Teeth are used to make a bracelet. The animal must be butchered near a large river, never in the camp. All the bones must be thrown together where the river-water is very deep, in order to prevent some ill-intentioned person from recuperating them, and bringing them back to the camp or village. If a bone is thrown in to the camp all the people will soon die (Alipanda). Aardvark dung is an irritant which hurts the feet; it is used as a poison for catching fish in small rivers and ponds. The Lese use this poisonous dung to kill people, putting it in their food. Pregnant women with labour pains are scarified on their back, arms and legs; the powdered claws of the A. is put on the scars and delivery will normalized. Pregnant women ill with yaws (framboesia) must eat a little A. meat to prevent the baby dying from this disease. When people are dying of poisoning, they must drink a cup of water with powdered teeth of this animal. This will make them vomit every thing up, and save them. The Lese people say that **A.** claws have two powers: if someone scratches the back **of** a widow with one, all her next husbands will die; if one scratches the ground of a village, all the inhabitants will die (Bataka).

TABOOS - Pregnant women, their husbands, and the parents of any small infant may not eat the Aardvark (Bataka).

PIGS (Suidae)

Two species of pigs occur in the study area, the Bush Pig and the Giant Forest Hog. Both are wide spread in the Ituri Forest and represent important game for the Pygmies, and an occasional, but much appreciated, source of food for the villagers. According to the Mbuti, the G. F. Hog is not as common as the B. Pig and locally, it seems to be very rare. In the eastern part of the Ituri Forest where the trasitional mixed forest types dominate, it seems to be more frequent. It is really a grazer, adapted to the forest edge biotopes, rather than to the primary rain forest (Delany and Happold, 1979).

Potamochoerus porcus ubangensis Loennberg, **1910** (!)
Bush Pig or Red River Hog

VERNACULAR NAMES: NGOYA'(Ba, Bi, BiS); NGEA (BaS, Ka); NEMBO (Bu); NGOA (BuS); TI'KO (Le); TI'O (E); NGULUBE (Ng).

HABITAT and BEHAVIOUR - Active at night and early in the morning. Cubs are white-spotted and like the Chevrotain (Bafwabwane). Daily and nightly active, it rests during the warmest hours (Alipanda). Active from sunset to dawn (Bataka). If it is surrounded by net hunters it becomes enraged and is able to destroy the out stretched nets; for this reason the Mbuti avoid putting nets where bush pigs are roaming (Apa Kengetu, Apa Mutelepu).

FOOD - Fruits, earthworms, cassava and peanuts (Bafwabwane). Cassava, sweet potatoes, dead animals, earhtworms, fruits (Alipanda, Bataka). It feeds on plant roots and is able to make a tree fall by eating away its roots (Bataka).

HUNTING - OSAKASA traps (Bafwaguda). The Bali catch it by traps while the Mbuti kill it with APE arrows, poisoned and unpoisoned. Seldom it is captured with nets or killed by spears (Bafwabwane). It falls into the nets or is flushed out by dogs and killed with APE arrows (Alipanda). The Efe follow the tracks and surround the sleeping herd. Some of the hunters, together with dogs, drive the herd towards the archers linedup on the other side. Dangerous and biting, these animals are killed with APE arrows (Bataka).

TABOOS - The skin is also eaten. Teeth are thrown away. Pregnant woman may not eat it for the fear of not having milk for their babies (Alipanda). Foetuses are reserved for the elders (Bataka).

Hylochoerus meinertzhageni Thomas, **1904**
Giant Forest **Hog**

VERNACULAR NAMES: BOKO (Ba, BaS); EDULE (Ka), ODE (Bu, BuS); EKUMA (Bi, BiS); BALIKE (Le); BALI'E (E); NGULUBE NYEUSI (Ng).

HABITAT and BEHAVIOUR - Daily and nightly active, rests during the warmest hours. When surrounded by a hunting group, can destroy their nets (Alipanda). Suckling-pigs are brown (Bafwabwane). Gregarious, it sleeps under fallen tree trunks, and is active from the sunset to dawn (Bataka, Bafwabwane).

FOOD - Cassava, yams, fruits, oil palm fruits, earthworms (Bafwabwane). Cassava, yams, sweet potatoes, banana plants, the same fruits of the Bush Pig, roots, earthworms, dead animals (Alipanda). leaves, fruits, yams, earthworms, dead animals, sweet potatoes, cassava (Bataka).

HUNTING - OSAKASA trap, APE arrows (poisoned and unpoisoned), nets, but seldom with spears (Baswabwane). APE arrows kill it only if they hit it the heart (Alipanda). As the Bush Pig (Bataka).

TABOOS and ERGOLOGY - No taboo; foetuses are eaten only by the elders (Bataka). The skin is eaten, and the teeth are thrown away (Alipanda).

HIPPOPOTAMUS (Hippopotamidae)

The Hippo is not wide spread in the study area; it seems to occur in the lower course of the Nduye river and at its confluence with Epulu river (according to the Mbuti of Apa Kengetu and Bataka). Another population is said to occur in the Aruwimi river, west of Bomili (according to the Bali and Mbuti of the Bomili area). No records of this species are reported in the scientific literature for the Ituri Forest. Nevertheless, the presence of vernacular names in the zoological culture of Ituri people suggests that there have been times when the species spread along the river basins from the forest edge and savannas to the Mbuti ranges. The Mbuti net-hunters from the environs of Mawambo told Tanno (1976) they "had previously caught a hippopotamus ... very near the Ituri river". As will be clear from looking at the scant, and often fantastic, information that we were able to gather on this species from our informants, it is evident that the Hippopotamus is not at ail well known by the Mbuti hunters; but it rather animal which, for them, is shrouded in legends.

Hippopotamus amphibius (Linnaeus, 1758)

Hippopotamus or Hippo

VERNACULAR NAMES: DUPA (Ba, BaS, Ka, **Bu); KILI** (Bi, BiS); AVO (Lc); AFO (E).

HABITAT and BEHAVIOUR - Nocturnal, rests on the river banks. It can attack a man and eat him; it nourishes it cubs with human flesh. Male and female live in couple (Bataka). It dwells in the Nduye river near the confluence with the Epulu river. The Mbuti know its voice, but to sight it is very difficult. The H. eats aquatic plants but also grass in the clearings and the abandoned plantations (Apa Mutelepu).

FOOD - Leaves and meat, also human flesh (Bataka). Aquatic plants and grass (Apa Mutelepu).

HUNTING - No hunt because is dangerous (Bataka).

CHEVROTAINS (Tragulidae)

This family is represented by only one genus and one species in Africa. Very common and wide spread in the study area along the water-courses.

Hyemoschus aquaticus Ogilby, **1841** (!)

Water Chevrotain

VERNACULAR NAMES: MANGUNGU (Ba); AMBAKA, AMBAGA (BaS, Bu, BuS, Le, Ka); AMBA'A (E); AHELE (Bi, Bis); APELUPA, APELE (BiS); SINDULA (Ng).

HABITAT and BEHAVIOUR - Active by night, it lives along the river banks (Bafwabwane, Alipanda, Bataka). Also active early in the morning, it sleeps under the trees (Bataka).

FOOD - Fruits and leaves (Bafwabwane, Alipanda, Bataka); also sand (Bataka); dead animals (Alipanda, Bataka).

HUNTING - It falls into the OSAKASA traps; sometimes the Mbuti can catch it by hand diving into the river. Killed beating it with the flat part of the machete, not with the blade (Bafwaguda). Hunted with nets, it is killed by beating its head and neck with **a** stick (Alipanda). The Mbuti follow it, looking for its tracks and if the dogs flush it out. Killed with APE arrows (Bataka).

TABOOS - Pregnant women may not eat it until they have detached one of its hooves and fastened it on their waists. Before delivery they must burn the hoof and breath in the smoke (Alipanda). Foetuses are eaten only by the elders. **If** either **a** pregnant woman or her husband eat the foetus, a breach birth will result (Bataka).

ERGOLOGY - Skin is used to make the drums, but is not very durable (Bafwabwane).

OKAPI (Giraffidae)

The actual geographic range of this species extends from the forested areas south of the Ubangi river (Abumonbazi) to the northern sector of the Virunga National Park (Sernliki river and M. Hoyo). It also occurs south of the Ituri river in the Tshopo and Maiko river basins. Older records stated its presence in the Lomami, Lomela and Sankuru regions. (See: Schouteden, 1932, 1936; Verschuren, 1978; Sidney, 1965; Colyn, 1986).

Although the distribution of Okapi is wider than that one of the Mbuti Pygmies, nonetheless most of records of this species come from the Aruwimi-Ituri Forest (between Wamba and Mambasa). The Mbuti and Okapi are the ecological symbols of the northeastern Zaire forest.

Okapia johnstoni Sclater, 1901 (!)
Okapi

VERNACULAR NAMES: NDUMBO (Ba, BaS); MUNDUMBE **(Bu, Ka);** UNDUMBE (BuS), UNDUPE (BiS); MBOTE (Bi, BiS, **Le,** E).

HABITAT and BEHAVIOUR - Active at night and early in the morning, sleeps among the leaves of fallen trees (Bafwabwane). At the first light, when the forest is still shrouded in mist, the **O.** utters its call from the depths of the forest and even people of the villages can hear it (Bingo). The **O.** is king **of** the animals (Apa Kengetu). Daily active and solitary, the **O.** does not bite, although it kicks; it is found everywhere in the forest and is eaten by Leopard (Bataka). It sleeps among the rocks (Angbetima).

FOOD - Fruits, leaves (Bafwabwane, Alipanda); leaves (Bataka); also dead animals (Alipanda).

HUNTING - When it falls into the nets, it destroys them; it is killed with APE arrows; the Mbuti must give the skin only to the chief of Bafwamate village (Bafwabwane). Dogs follow and surround it; killed with APE arrows (Alipanda, Bataka). Killed with spears (Epulu, Nduye). The Mbuti follow its tracks and the smell of its urine (Apa Kengetu).

TABOOS - Foetuses can be eaten only by the elders; if a pregnant woman or her husband eat a foetus, a breach birth will result (Bataka).

WILD CATTLE (Bovidae, Bovinae)

Along with the Elephant, the Forest Buffalo represents the biggest game in the Mbuti habitat; neither net-hunters nor archers can **kill** it easily and especially fear the aggressive behaviour of Buffalo. This animal is only a very occasional game for the Mbuti and, unlike in the case of the Ele-

phant, there is no custom of collective hunts. Perhaps, because of the negative balance between the amount of meat obtained and the risk, a collective chase to the Buffalo, would not be profitable enough to justify such an effort.

Syncerus caffer nanus (Boddaert, 1785) **(!)**
Forest, Red, or Dwarf Buffalo

VERNACULAR NAMES: TIBI (Ba); TIPI (BaS); NZALI **(Ka);** NDOPO (N- Bu); EKBAKANJO **(S-Bu);** NZALE (BuS); NJALE (Bi, BiS); NJILELE , ALIPI (BiS); TU'-PI, KEKO (Le); TU'PI, E'HO (E); MBOKO (Ng)

HABITAT and BEHAVIOUR - Active at night and early in the morning, sleeps during the warmest hours. If it smells a man's scent in the forest, it stops to perceive it better, and then charges. People must lay on the ground pretending to be a fallen trunk. Believing the man to be a trunk, the B. will jump over him. The men must then crawl away slowly (Bafwabwane). It sleeps among the rocks (Angbetima). Daily and nightly active, it lives in herds of up to 20 specimens. If a man with a pregnant wife meet it in the forest, the B. will charge him (Alipanda). Active at night, it lives in herds and sleeps in shady and cool places. Only young specimens are eaten by the Leopard. Two colors forms occur in the Efe range, the first one black, and the second one, red (Bataka). People must climb into trees, to save themselves (Alipanda, Bataka). When walking in the forest to gather fruits and mushrooms, women must sing and shout to scare away Buffaloes (Epulu, Eboyo).

HUNTING - Bali sorcerers forbid the Pygmies to kill Buffaloes; if they find a dead Buffalo in the forest, they must not touch it. Some time ago, the Mbuti hunted it, shooting APE arrows into its heart, and then the horns were given to the Bali people (Bafwabwane). The Mbuti hunt it very seldom, because it is dangerous; only if there are many hunters, can they kill it with APE arrows. When the animal dies they observe the direction that the muzzle on the earth points. People living in villages or camps lying in that direction, will fall ill of a cough (Alipanda). Dogs follow its tracks and an isolated buffalo will fight against them; in that moment, the hunters scattered around it will kill it with their spears (Bataka).

FOOD - Leaves, many kinds of fruits and dead animals (Bafwabwane). Leaves, fruits and earth (in the same places of elephants and colobuses) (Alipanda). Leaves, herbs, dead animals (Bataka). They frequent the clearings and the abandoned plantationswhere many herbsgrow profusely (Apa Mutelepu).

TABOOS - Bali sorcerers forbid the Mbuti to kill them (Bafwabwane). The red buffalo is not eaten by the parents of a small baby, otherwise he will die. Foetuses are reserved for the elders (Bataka).

BUSHBUCKS (Bovidae, Tragelaphinae)

Three species of *Trugelaphus* (sensu lato) are recorded from the study area. T. *scriptus* seems to be rare and we have not succeeded in obtaining any information about it. *T. spekei* shows an irregular pattern of distribution and is closely related to the marsh habitats and mainly spread along the rivers. It may be that it carries out seasonal movements from one area to another, according to the water level in marsh soils. *T. euryceros* is the best known species in the culture of the forest dwelling people, and shows a wide pattern of distribution in the Ituri Region.

During this preliminary phase of the research, we were not clear if the Pygmies distinguished *T. scriptus* and *T. spekei* as two different entities, because we lacked scientific data on the syntopic occurrence of these two species for all stations. By contrast, we did succeeded in understanding that the strong sexual dimorphism of these animals, induces the forest people (at least in the west-district: Bali and Budu areas) to treat respectively males and females of Sitatunga as belonging to different species.

Sitatunga is not a frequent game for Pygmies, because of its scattered distribution and of its water habits. This species seldom falls into nets because it is found only on marsh soils where net hunting is not profitable. When it takes fright, it flees into the water, remaining hidden there except for the tip of its nose. Thus the Pygmies are not very familiar with these animals. Bira people say that sometimes Sitatungas can live very near the villages in rivers and marshes, but nobody notices their presence because of their nocturnal activity. Since, this species is so poorly known by local inhabitants, they fail to recognize its sexual dimorphism. The absence of horns in the female, and the different colours of the two sexes help perpetuate this confusion.

Tragelaphus euryceros Ogilby, 1857 (!)
Bongo

VERNACULAR NAMES: MBANGANA (**Ba,** BaS, **Bu,** BuS, Ka); **SOLI** (Bi, BiS, Le, E); **NGELAPA** (BiS); **SUNU (Ng).**

HABITAT and **BEHAVIOUR** - Active by day and by night, lives in the forest on the hills. Rests during the warmest hours of the day (Rafwahwa-

ne). Active during the day and during the night, lives in couple (Alipanda). Active by day and solitary, defends itself vigorously against dogs. It is not eaten by the Leopard who fears its horns (Bataka). The LOKO-A-BASOLI tree is used by Bongo as a medicine for its eyes (Apa Mutelepu).

FOOD - Leaves and fruits (Bafwabwane, Bataka). Leaves and dead animals; if the Mbuti kill an elephant and leave the remains of its carcase at the spot of the kill, after a few days, they come back again in order to capture the Bongo, other antelopes (duikers), and wild pigs, all of whom have rushed up to eat the flesh (Alipanda).

HUNTING - Killed with APE arrows, seldom with spears. Bali do not kill it, because they believe that if a man kills a Bongo, will soon be killed. In fact, formerly, if someone killed a B., he gave the skin and the horns to sorcerers. Later, people began to sell the skin to traders, thus stirring up the sorcerers' anger. These last issued a prohibition against killing this animal and condemned to death any transgressor of this law (Bafwabwane). Flushed out by dogs and killed with APE arrows (Alipanda). Followed by dogs, turns on them and fights them with its horns. Killed with APE arrows and spears (Bataka).

TABOOS, ERGOLOGY and WITCHCRAFT - Bali sorcerers use the skin for making clothes, and the horns as containers for their medicines (see also HUNTING) (Bafwabwane). Pregnant women may not eat it, otherwise the baby might be born with pustules on his skin. Horns are used to make ALUMA trumpets (Alipanda). Skin is used to make leather belts; horns are given to the Lese people (Bataka). The Mbuti give the horns to the Lese people to make TUE-TUE trumpets. When Lese agriculturalists need to cut down a tree in order to enlarge a plantation, they play this trumpet and the neighbours, hearing the sound, will not come near (Andiri).

Tragelaphus spekei gratus Sclater, 1880 (!)

Sitatunga

VERNACULAR NAMES: DENGU (♂), NGABE (♀) (Ba, BaS, Ka); AFEFELIANA (♂) (BaS); MAJOGBO (♂), NGABE (♀) (Bu, BuS); MAGABWE (♀) (Bu); AMAKPOBOU (Bi, BiS); AGBU' (Le, E); APO'BOU (E).

HABITAT and BEHAVIOUR - Rest and sleep in water; active from evening to early morning (Bafwabwane). Daily and nightly active, solitary (Alipanda, Bataka). Sleep near rivers where the vines are thickly entangled (Bataka). (See also: Leopard).

FOOD - Herbs, leaves, cassava and banana leaves, caoutchouc fruits, earth (Bafwabwane). Cassava and sweet potato leaves, forest leaves and fruits, dead animals (Alipanda). Sweet potatoe and forest leaves (Bataka).

HUNTING - Dogs flush them out and they take refuge into river water; killed with **APE** arrows to the heart. The male defends itself courageously against dogs and men (Bafwabwane, Alipanda, Epulu, Bataka). Very rare species, is seldom captured by archers (Bataka). Sometimes it reveals its presence in the marshes near villages plundering plantations by night and so is killed with APE arrows (Bafwabwane, Epulu, Eboyo).

TABOOS and ERGOLOGY - No taboos because is a very rare game and almost never captured (Bataka). Skin is eaten, horns not utilized (Bafwabwane). Skin is used to make folding chairs and horns to make **ALUMA** trumpets for playing at dances (Alipanda).

DUIKERS (Bovidae, Cephalophinae)

The duikers are the most important game of the Mbuti Pygmies and also represent the chief meat resource of the other human populations which inhabit the Ituri Forest. These animals are likewise the object of an extensive meat trade among Pygmies, local villagers and outsiders who come from larger, often distant, settlements outside forest, for economic reasons. The evolution from the traditional exchange of meat between the Pygmies and the villagers to this ever more extensive trade activity was described in detail by Hart (1978). The duikers, in fact, are the commonest and most advantageous game of the forest, for many reasons: a high population density in relation to body size, the high quality of the meat and the ease of hunting. Six species of duikers occur in the study area and they are all wide spread. Nevertheless, not all the species are common to the same degree. *C. monticola, C. callipygus* and C. *dorsalis,* for example, would **se**em to be the commonest species, while *C. leucogaster* would seem the rarest, according to our own observations. We do not know if our data, based on the number **of** specimens captured by pygmies, is in keeping with the real population density of the antelopes. Some species, in fact, may be more easily captured than others on account of their ecology and behaviour. The importance of the duikers in the Pygmies' subsistence economy would warrent aspecial paper concerning them; in this work, we attempt only to give an outline of this subject.

Hunting methods for duikers were described by Harako (1976), **Tan**no (1976), Terashima (1983) etc., from the eastern Ituri region.

Throughout the west and central parts of our study area, the duikers are mainly captured in nets during collective hunts, in which women and

children also take part. Moreover, the hunters, stalking in the forest, prod the hollow trunks with their spears in order to discover the hidden duikers {observed at Makongo Tudu). The captured specimens are killed by beating them on the neck with the blunt edge of a machete or by wringing their neck. Another method consists in beating their head with a stick. Otherwise, the Mbuti who trade with muslim villagers, kill duikers cutting their throat with a knife, in order to present the meat to their "masters" according to muslim dietary rules (observed at Bafwaguda, Epulu, Mambasa, Apa Mutelepu, Makongo Tudu, Apa Kengetu).

The Mbuti of Bafwabwane capture duikers also with the OSAKASA trap, using a KODO fruit as bait.

In the eastern part of our study area, on the other hand, the Mbuti Efe hunt all game with arrows. They lie in ambush in a tree where they know that duikers will return to eat the fallen fruits. An other hunting technique consists in imitating the bleating of duikers while waiting for them in the branches. Sometimes, a Leopard falls into the ambush, deceived by the perfect imitation. The Mbuti Efe of Apa Njaro lie in ambush held up by a trestle-like support made with two sticks fastened together with the branches of a **DAU** tree. They call this construction **E'I** or **EBAKA.** One archer only remains on the E'I, waiting for the antelopes to come looking for the fallen fruits of the tree and shoot them with arrows. Other hunters wait nearby, ready to pursue the wounded prey, together with dogs (observed at Apa Njaro).

Also the Mbuti of West Ituri (Alipanda, Bafwaguda) sometimes chase duikers with arrows. They lure the animals imitating the bleating, or wait for them in the branches of **MEAKODO** trees where they come to feed on the fallen fruits.

The Mbuti gave us the following information, general concerning all duikers: ,

HABITAT, BEHAVIOUR and **FOOD** - The duikers have no den and **sle**ep at the base of large trees on a bed of leaves (Epulu) or take shelter near fallen tree trunks (Bafwabwane). They are preyed upon Leopard and Golden Cat (Alipanda, **Epulu,** Bataka); also the Honey Badger may be a predator of C. *dorsalis* and *C. monticola* (Bataka). During the day, the duikers hide theirselves in dense undergrowth and places full of vines.

Hair of their tails may be fastened to nets, in order to have a good chance of catching them (Apa Mutelepu). All duikers like to eat the fruits of the **DAU** tree (Apa Njaro). The red duikers, *C.dorsalis* and C. *nigrifrons*, like the **KODO** fruits (Bafwabwane).

ERGOLOGY - Horns are used *to* make containers for the medicine **MYA-BUNUKO** (see: Chimpanzee) and the **ANZO'** drug. The latter is used to make the facial pictures and is made by burning and triturating the hoo-

ves, tail and muzzle of duikers, mixed with salt and palm oil. This substance is also applied on skin scarifications (Bafwabwane). The drug ABI, for the facial pictures, is made with the hooves, tail and muzzle of duikers, mixed with salt, palm oil and fruits usually eaten by duikers. All these substances are burnt, triturated and then stored in a duiker horn, mainly of C. *sylvicultur* (Angbetima).

MEDICINE - The urinary bladder of a duiker is used to treat people for dislocated arms (a women was seen to receive a urinary bladder of a duiker, during the prey-sharing, in order to treat her dog which suffered from a dislocated paw)(Bafwabwane).

The skin is used to make drums and quivers. Details are given for each species.

Cephalophus callipygus weynsi Thomas, 1901 (!)
Weyns' Duiker

VERNACULAR NAMES: MAKPOLO (Ba); ANGE' (BaS), **INGE' (Ka);** MONGEE (Bu); **MONGELE (BuS); NGE (Bi,** BiS); **MU'NJU** (Le, **E); MUNGELE (Ng).**

HABITAT and **BEHAVIOUR** - Active by day, a biting species (Alipanda). Active by day, sleeps under fallen tree trunks and lives in couples. It does not bite but may be dangerous because of its horns (Bataka).

FOOD -Fruits, leaves, millepedes, **BAKANYA** caterpillars, insects (Bafwabwane). As other duikers (Alipanda). **All** fruits, young leaves, mushrooms, dead animals (Bataka).

HUNTING - See Duikers.

TABOOS - The mother of a baby up to the age of 2 years, cannot eat it, otherwise her son might be ill (Alipanda). Foetuses are eaten by all (Bataka).

ERGOLOGY - Skin is used to make quivers and drums (Bafwabwane, Bataka).

Cephalophus dorsalis castaneus Thornas, 1892 (!)
Bay Duiker

VERNACULAR NAMES: SINZEMBI **(Ba); KUWA** (BaS); **KWA (Ka);** ENDO **(BU); KUPA** (BuS); **KUFA** (Bi, BiS); I'TI (Lc, **E); LENDU** (**Ng).**

HABITAT and **BEHAVIOUR** - Active by night (Bafwabwane, Alipanda, Epulu, Bataka). Bites (Bafwabwane). It does not bite but is dangerous because of its horns (Bataka). Sleeps on a bed of leaves at the base of trees (Epulu). Solitary, sleeps under fallen tree trunks (Bataka).

FOOD - Fruits, leaves, dead animals (Bafwabwane). As other duikers may be dangerous because of its horns (Bataka).

TABOOS - No taboos, also foetuses are eaten by all (Bataka).

ERGOLOGY - Skin is used to make drums and quivers (Bafwabwane, Bataka). BABA quivers (Bafwaguda).

Cephalophus leucogaster Gray, **1873** **(!)**
White-Bellied Duiker

VERNACULAR NAMES: SESI (Ba); SEKE (BaS, Ka, BuS, Bi, BiS); SONDO (Bu); TA'U (Le, E); SONDE (Ng).

HABITAT and **BEHAVIOUR** - Active by day (Bafwabwane, Alipanda, Bataka). Sleeps under the trees, is found in couples. It does not bite but may be dangerous because of its horns (Bataka). It is very shy: when the net cast begins, it is always the first animal which falls into nets because it starts to run as the women begin their beating and screaming work. It has two holes in the folds of the inner side of its limbs: some say that such holes are used by the animal for whistling but others held that this is not true (Apa Mutelepu).

TABOOS - As for C. *callipyus* (Alipanda). Foetuses are eaten only by the elders. The parents of a little baby, or a pregnant woman and her husband, cannot eat it, otherwise the baby would die, or parturition would occur feet first (Bataka).

ERGOLOGY - Skin is used to make drums and quivers (Bafwabwane); ILO'O quivers (Bataka); quivers, drums and camp-stools (Alipanda).

Cephalophus **monticola** aequatorialis Matschie, 1892 **(!)**
Blue Duiker

VERNACULAR NAMES: MBOLOKO (Ba, Ng); ALWA (BaS, BuS, BiS, Ka); SOTI (Bu); MBOKO' (Bi, BS); MEDI (Le, **E).**

HABITAT and **BEHAVIOUR** - Active by day; if rain falls, the Blue Duiker takes shelter in hollow trunks (Alipanda). Active by day, sleeps under fallen tree trunks; normally found in small groups of 2-3 individuals. It does not bite. Is eaten by the Honey Badger and the Crowned Eagle (Bataka).

FOOD - Fruits, rotten leaves, earth, insects and other blue duikers if found in traps (Bafwabwane). Fruits and dead animals (Alipanda). Fruits, yams, the low growing leaves of *Musanga,* mushrooms, dead animals (Bataka).

TABOOS - The parents of an infant cannot eat it, otherwise the child will die. Foetuses are eaten only by the elders (Bataka). The husband of a pregnant women cannot eat it, otherwise she might get a fever (Apa Njaro).

ERGOLOGY - Children use its skin to make quivers; also men may do so **as** well if they lack better materials (Bafwabwane).

Cephalophus nigrifrons nigrifrons Gray, 1871 (!)
Black-fronted Duiker

VERNACULAR NAMES: ABOLO (Ba); APOSO (BaS); ABOSO (BuS, Ka); ABOO (Bu); APASANGA (Bi, BiS); APAUKAMBU (BiS); DAKA (Le); DAA (E); ABOLE (Ng).

HABITAT and BEHAVIOUR - Diurnal activity (Bafwabwane, Alipanda, Epulu, Bataka). It always dwells near the marsh areas (Apa Mutelepu). Sleeps under the fallen tree trunks. It does not bite but may be dangerous because **of** its horns. Youngs are black (Bataka).

FOOD - Fruits, leaves, insects (Bafwabwane). Fruits, leaves, dead animals (Bataka).

TABOOS - Pregnant women and their husbands, as well as the parents of an infant, cannot eat it. Foetuses are eaten only by elders (Bataka).

ERGOLOGY - A good skin for making drums (Bataka). Skin is used to make quivers or drums (Alipanda, Bafwabwane).

Cephalophus sylvicultur (Afzelius, 1815) (!)
Yellow-backed Duiker

VERNACULAR NAMES: KULUBO', MBESE', ADUNGBA' (Ba); MBALO (Ba, Ka); AMBI (Bu); ADILI (BuS); ATI (Bi, BiS); ETUBU (BiS); TO'CHI (Le, E); MWIMBO (Ng).

HABITAT and BEHAVIOUR - The Mbuti know the difference between young and adult. The first is reddish with a white stripe on the back; for this reason is called KWA as is the Bay Duiker, because they closely resemble one another (Bafwabwane).

Some hunters say that is does not bite but **is** dangerous bacause of its horns; other say that it may also bite. Sometimes, it may break the nets (Angbetima). Active from the evening to the early morning (Bafwabwane). Active **by** night, bites and charges (Alipanda). Solitary and active by day, sleeps in sheltered places, among entangled vines (Bataka).

FOOD - Fruits, leaves, insects, dead animals (Bafwabwane). **As** other duikers (Alipanda). Fruits, leaves, dead animals, mushrooms (Bataka).

HUNTING - See Duikers . If captured by nets, it is killed with APE arrows shot in the heart at short distance (Alipanda). Dogs pursue it until it stops exhausted. Killed with APE arrows (Bataka).

TABOOS - Foetuses are eaten only by the elders (Bataka).

ERGOLOGY - Skin is used to make drums and quivers (Bafwabwa-**ne).** The horns are used to store the MANGA drug; the Mbuti of Alipan-

da do not know how to prepare this drug but acquire it from the Mbuti of the Ndaka area, in the direction to Nia-Nia. MANGA is applied as a vertical line from the forehead to the nose, or as a horizontal line over the eyebrows. Sometimes, it is put into skin scarifications of the wrists. This drug is important for obtaining good luck during the hunt (Alipanda). A similar good luck drug is made by the Mbuti Efe, with the roots of SOSOU tree. They call it LIANGA'. The roots are burnt, triturated, and mixed with palm oil and then stored in the horns of yellow-backed duikers. Before hunting, the drug is put in the scars of forehead and wrists (Bataka).

DWARF ANTELOPES (Bovidae, Neotraginae)

Only one species occurs in the study area. It seems to be wide spread and rather common.

Neotragus batesi harrisoni Thomas, 1906 **(!)**
Bates' Dwarf Antelope

VERNACULAR NAMES: AMBIOMBIO (Ba); AMBILO (BaS, Ka, BuS, Bi, BiS); TENGU (Bu); AULE, EBOYE (BiS); APO'PO (Le, E); ATETA (Ng).

HABITAT and **BEHAVIOUR** - Solitary and active either by day or night (Bafwabwane, Alipanda). Nocturnal, sleeps in sheltered places and avoids the damp; it likes to sleep under the fallen trunks (Bataka). It does not bite but may be dangerous because of its horns (Alipanda, Bataka). Is not eaten by the Leopard, because it runs fast and jumps soo high. On the contrary, it is eaten by the Golden Cat and the Crowned Eagle (Bataka).

FOOD - Forest fruits, cassava leaves, dung, earth (Bafwabwane). Forest fruits and leaves, leaves of peanuts and of sweet potatoes, dung and dead animals (Alipanda). Fruits, leaves, mushrooms, leaves of cassava, sweet potatoes and peanuts (Bataka).

HUNTING - As the small duikers (Bafwabwane, Alipanda, Bataka, Apa Mutelepu, Makongo Tudu). When the Mbuti capture it, if they do not have a knife, they break its legs to prevent it from running away; then, they call somebody with a knife (Apa Mutelepu).

TABOOS - Pregnant women, if they wanted to eat it, must fasten its hooves to their waist. Foetuses are eaten only by the elders (Bataka). Women cannot eat it (Apa Kengetu).

ERGOLOGY - Formerly, the Mbuti used its horns to make arrow tips (Alipanda). The skin is dried putting it on a tree trunk; then, it is given to Bira smiths who use it to make bellows for blowing on the fire. It is a very hard skin (Apa Mutelepu).

PANGOLINS (Manidae)

Three species of pangolins, or scaly anteaters, occur in the study area, but their distribution is rather scattered and not all the species live together in every zone of the forest. For example, the Mbuti hunters of Alipanda say that only black-bellied pangolins occur in their home range, while those of Bafwabwane know only the white-bellied ones. The Giant Pangolin is the rarest, nonetheless, it is a species which occurs everywhere in the Ituri Forest. We were unable to determine whether, in the natural ecosystems, this phenomenon of species pairing, implied by pygmy terminology, really occurred in every zone. If it does, it may be a result of competition between the species. Equally, however, the pygmy taxonomy, may itself be an example of "hypodifferentiation" (sensu Cardona, 1982). In other words, as regards the pangolins, the Pygmies might only make use of a categorization according to body size.

The Bali people and the Mbuti Swa of Bafwaguda catch the pangolins by **OSAKASA** traps, but this system is not indigenous to pygmy culture. When a specimen of one of the two arboreal species is sighted, a hunter climbs into the tree and strikes the animal with a stick causing it to fall to the ground. According to the Mbuti, these animals are not aggressive and never bite: men can seize them by the tail and carry them to the camp alive (Alipanda, Bataka). The Mbuti Efe said that, in order to find them, they look at the **NJETO** birds (Pycnonotidae ?) which make a loud noise, "mobbing" pangolins. In the camp, they put the animal inside boiling water alive because in this way, according to them, the scales can be easily taken off (Bataka).

Pregnant women do not eat pangolins in order not to have a difficult delivery: otherwise, the baby would ball up inside mother's womb and would not come out easily. Foetuses are eaten only by the elders (Bataka).

Manis gigantea (Illiger, 1815) (!)
Giant Ground Pangolin

VERNACULAR NAMES: SIKAKA **(Ba);** TOPE (BaS, Ka, Bi, BiS); **KATE** (Bu); **KEKAKA** (BuS); **KA'TE** (Lc); **A'TE** (E).

HABITAT and **BEHAVIOUR** - Nightly active. When it meets a man, it quickly rolls itself up into a ball. Often stands erect on its hind legs (Bafwabwane, Alipanda, Bataka). Sleeps in holes of the ground, or among the tree roots, but it does not dig its own burrows (Bafwabwane). It sleeps in

Aardvark burrows, or in hollow trunks (Alipanda). It digs its own burrows (Bataka). The Leopard and the Golden Cat are not able to kill it because it can roll itself up (Alipanda). The Golden Cat and the Chimpanzee cannot kill it; the Leopard, by contrast, bites the pangolin on the neck killing it (Bataka).

FOOD - Ants (EBABE and BANJAKU) and termites (NDONGE and TAKPA) (Alipanda). Ants, termites and SOSO (arboreal insects)(Bataka).

HUNTING - It can be smoked out of its hole, and then killed by a knife thrust in the belly (Bafwabwane). When walking in the forest, the Mbuti always check burrows and hollow trunks; they get the animal out of smoke, and kill it beating with a stick on the head or cutting off its tongue (Alipanda), One man goes into the burrow and binds the animal with a vine; five men are neces sary for getting it out.It is killed with a spear thrust in the belly, or by cutting its tongue off. It does not bite or scratch (Bataka).

TABOOS - See Pangolins.

ERGOLOGY - Claws are used like those of the Aardvark (Bataka).

Manis tetradactyla (Linnaeus, 1766) (!)
Long-tailed or Black-bellied Pangolin

VERNACULAR NAMES: ONGA (Bu); ELOPA (BuS); EBOSO (Bi); EBAMBU, ALUNGAMBI (BiS); O'KU (Le); O'HU (E); KABANGA (Ng).

HABITAT, BEHAVIOUR and FOOD - Daily and nightly active, sleeps in the tree hollows, or in the holes of the oil palm tree. It feeds on termites, ants, and oil palm fruits (Alipanda).

HUNTNG - See pangolins. If the animal takes refuge in a hole, the Mbuti smoke it out (Alipanda).

TABOOS - See Pangolins.

Manis tricuspis (Rafinesque, 1821) (!)
White-bellied or Three-cusped Pangolin

VERNACULAR NAMES:SIGBANGA (Ba); ELOWA (BaS, Ka); EBOSO (Bi); EBAMBU, ALUNGAMBI (BiS); O'KU (Le); O'HU (E); KABANGA (Ng).

HABITAT and BEHAVIOUR - Nocturnal species, sleeps in trees, holding on to the branches with its tail (Bafwabwane). Nightly active, sleeps in tree hollows (Bataka).

FOOD - Termites and ants, both on the grounds and in the trees (Bafwabwane); also KOKOKO insects (Bataka).

HUNTING and TABOOS - See Pangolins.

RODENTS

In the following pages we are only able to deal with some representative species of larger rodents. The taxonomic problems and faunistic gaps make it impossible for us to present a complete checklist of rodents in this study area, and to prepare an ethnozoological study on this insufficiently investigated fauna. **A** fuller treatment of this topic is projected for the future, following the completion of new field work carried out together with rodent specialists. Generally, on the basis of our preliminary surveys, we only suggest that the Pygmies do not know very well the smaller rodents, as these are not part of their every-day game, but serve **only as** an occasional source of food.

SQUIRRELS (Sciuridae)

Six species **of** squirrels are recorded from the study area:

Heliosciurus rufobrachium rubricatus J. A. Allen, 1922
Protoxerus stangeri centicola (Thornas, 1906)
Funisciurus anerythrus (Thornas, 1890)
Funisciurus pyrrhopus akka De Winton, 1895
Paraxerus alexandri (Thomas & Wroughton, 1907)
Paraxerus boehmi emini (Stuhlmann, 1894)

Only ***P. stangeri*** and ***F. pyrrhopus*** were directely observed by us during our expeditions. We shall deal with the squirrels together with other smaller mammals, in the next study. At present, we are limiting ourselves *to* writing about the Giant Forest Squirrel which presented no problems of identification in field on the basis of Mbuti information.

All little squirrels are captured by the traps called **MAGBONGE** (Ba) or **MUPOKO** (BaS). In fact, the Mbuti say that they learnt to make and use this traps from the Bali people; catching animals by traps is not an indigenous pygmy custom. The trap is baited with a **KODO** fruit from a **MEAKODO** tree. Sometimes the squirrels are killed with **SOWA** arrows (Bafwabwane); **YANGBEE** and **ECHOA** arrows (Alipanda); **SA'U** arrows (Bataka). In any case, we are dealing with arrows that are not iron-tipped, either poisoned or unpoisoned. The Mbuti Efe can also capture the squirrels by **SIGBA** traps gathered from Lese people (Bataka).

Protoxerus stangeri centricola (Thomas, **1906)** **(!)**
Giant Forest Squirrel

VERNACULAR NAMES: ADIKIKI, ABINGO (Ba); ADIKIKI (BaS); GBITI-GBITI (Ka); UMBOO (Bu); BANGU, PANGU, MBABU (BuS); PANGU (Bi, BiS); PENGA (Le); A'O (E).

HABITAT and BEHAVIOUR - Daily active, sleeps in the hollows of trees (Bafwabwane, Alipanda, Bataka). Eaten by *Stephanoetus coronatus* and by *Kaupifalco monogrammicus* (Bataka).

FOOD - Forest and cultivated fruits, cassava, oil palm fruits (Bafwabwane, Alipanda). Many kinds of forest fruits (Bataka).

HUNTING - The Mbuti get it out of the holes by smoke, and kill it with SOWA arrows (Bafwabwane). This squirrel is not driven out by smoke, but dies inside its hole; often killed by wooden arrows (Alipanda). The Mbuti Efe kill it with APE arrows if the animal is close, or with O'RO arrows if it is far (Bataka).

SCALY-TAILED FLYING SQUIRRELS (Anomaluridae)

Three species of *Anomalurus* and two of *Idiurus* occur in the study area:

Anomalurus beecrofti (Frazer, 1842)	(confirmed by Colyn, in litteris)
A. *derbianus* (Gray, 1842)(=*A. jacksoni* De Winton, 1898)	( )
A. pusillus (Thornas, 1887)	( )
Idiurus macrotis Miller, 1898	( )
I. *zenkeri* (Matschie, 1894)	(recorded by Allen, 1922)

Nevertheless, we succeeded in obtaining only two names of flying squirrels in every zone we surveyed. The Pygmies from every band said that they know two species "kabila mbili" (Kingwana): a larger and a smaller one. This corresponds to the difference in body size range between the *Anomalurus* and Idiurus species:

	Head +Body	Tail	Total lenght
Anomalurus	21-39	13-30	34-69 cm
Idiurus	6,5-11	7-19	13,5-30 cm

We may suggest that the Pygmies do not take small differences into account among these species, which are not part of their every-day game. The same considerations we made about Pangolins, may be valid also for most of rodents.

Anomalurus sp.

Large scaly-tailed squirrels

VERNACULAR NAMES: ALEBI (Ba); AMBOLO (Ka); NABOBOLIKO, KABOBOLIKO (BaS); OWOGO (N-Bu); AVO (S-Bu); ADODO (BuS); EMBOLO (Bi, BiS); ALOPI (Le); ALOBA (E).

HABITAT and **BEHAVIOUR** - Mainly active by night (Bafwabwane, Alipanda). Active by day and by night (Bataka). They sleep inside of tree hollows (Alipanda, Bataka); on the branches of trees (Bafwabwane). Arboreal species, which do not walk on the ground, but fly among trees, and climb the trunks with their strong claws (Alipanda, Bataka). Attacked by dogs on the ground, they defend theirselves by biting (Bafwabwane).

FOOD - Leaves and ants, no fruits (Bafwabwane). Moths **EAPOPEA,** the bark of the **ANGO'** tree, the arboreal ferns **IMBUMBU** (Alipanda). Insects **SASA** and **NENENE'** (Bataka).

HUNTING - SOWA arrows; if on the ground, they are killed by a blow from a stick (Bafwabwane). When the Mbuti find their holes, one man climbs into the tree to get them out with a stick, while another hunter shoots wooden arrows at them from the ground (Alipanda). Efe do not eat these animals and shoot arrows at them only for hunting practice (Bataka).

TABOOS - None. The Efe do not eat them though there is no interdiction against it (Bataka, Apa Njaro).

WITCHCRAFT - The skin is burnt and ground into a powder to make the drug **BAU'**; by night, Bali people blow this powder into the face of a victim, and he becomes unable to defend himself (Bafwabwane).

Idiurus sp.

Pygmy scaly-tailed squirrels

VERNACULAR NAMES: AKAITO (Ba); AKALOKO (BaS); KALOGO **(Ka); OWOGO (N-Bu); AVO (N-Bu); ELUBU (BuS); EMBOLO (Bi, BiS); ALOPI (Le); ALOBA (E).**

HABITAT and **BEHAVIOUR** - Nightly active, they sleep in tree holes (Bafwabwane, Alipanda).

FOOD - Leaves (Bafwabwane); MUKUNI and other vine species (Alipanda).

HUNTING - See *Anomalurus.*

TABOOS - Pregnant women may not eat these animals, otherwise their baby might be born without a rectum, penis or vagina, and vomit for his entire life (Bataka).

GIANT POUCHED RATS (Muridae, Cricetomyinae)

In Zaire, the genus Cricetomys is represented by two or three species, each with several geographical and ecological forms involving many taxonomic problems. In our own study area, most of specimens recorded in the zoological literature were classified as *C. emini* Wroughton. The giant pouched rats are prized as an important source of food by most of Zairian populations and are captured with different trap systems by the different tribes. For the pygmies, however, these animals represent an only occasional game and are mainly caught by smoking them out of their dens. The Mbuti say that these animals do not come out, dying rather inside their holes. The hunters must dig out the dens to get the bodies (Bafwabwane). Sometimes the giant pouched rats run out quickly; then only the dogs can capture them. Many Mbuti make slip-knots with vines and put them in front of the holes. This last is a technique learnt from the villagers (Alipanda). The Mbuti Efe also follow the same system (Bataka). No taboos or ergology.

Cricetomys emini Wroughton, 1910 (!)
Emin's Giant Rat

VERNACULAR NAMES: FAMU (Ba); EPEPE (Ba, Ka); SOMBA (Bu); MOOMBA (BuS); APOLO (Bi, BiS, Le, E); CHIMBA UDONGO (Ng).

HABITAT and **BEHAVIOUR** - Nightly active (Bafwabwane, Bataka); daily active (Alipanda). Biting species, it sleeps in holes which it digs in the ground (Bafwabwane, Alipanda, Bataka, Epulu).

FOOD - Fruits, including those of the oil palm tree (Bafwabwane); fruits, roots, cassava and sweet potatoes (Alipanda, Bataka).

PORCUPINES (Hystricidae)

Two genera of porcupines occur in the study area, *Hystrix* and *Atherurus*. The scarcity of faunistic data of the Crested Porcupine from the Ituri Forest does not let us say which form really inhabits this zone. Perhaps, it deals with *H. galeata* Thomas, 1893, recorded from the north-eastern savannas (Hatt, 1940; Schouteden, 1947). Not all the pygmy bands know this animal which seems to occur only in the north-eastern sector of the Ituri Forest, probably tied to open and rocky areas.

The genus *Atherurus* is represented by the single subspecies ***A. africanus centralis*** Thomas, which is very common and wide spread in the region.

Hystrix sp.
Crested Porcupine

VERNACULAR NAMES: KUYI, KULI (Bu); KULI (BuS); NJINGI (Bi, BB); **IKULE (Le); I'ULE (E); NUNGU (Ng).**

HABITAT and **BEHAVIOUR** - Nocturnal, sleeps in dens dug in the rocks. Solitary. The Leopard is afraid of its sharp quills, and does not attack it (Bataka).

HUNTING - Because of its habit of shooting its quills behind it, the Mbuti hunters face it from the front, shooting it with iron-tipped arrows. When it takes refuge into its den, the hunters get it out by smoke (Bataka).

FOOD - Forest fruits, oil palm fruits, pumpkin seeds (Bataka).

Atherurus africanus centralis Thomas, 1895 **(!)**
African Brush-tailed Porcupine

VERNACULAR NAMES: BENGWA (Ba); NZIKO (BaS, Ka, BuS); NGILE (Bu); NJIKO (Bi, BiS); FELE (Le); FEDE (E).

HABITAT and **BEHAVIOUR** - Nightly active, it digs its holes among the tree roots (Bafwabwane). Nocturnal, sleeps among the tree roots, under rocks, and in hollow trunks (Alipanda). Nocturnal, sleeps in its own holes dug under the rocks (Bataka). Eaten by the snake **EBENE** (Bafwaguda).

FOOD - Cassava, fruits, and young leaves (Bafwabwane). Cassava, and fruits (Alipanda). Cultivated products and forest fruits (Bataka).

HUNTING - Bali people and, today, also the Mbuti, capture this animal by the **OSAKASA** trap (Bafwaguda). The Mbuti surround the tree where the porcupine has dug its den and set their nets around the tree. Dogs dig into the hole, widening it, until the animal comes out to defend itself, biting and fighting with the dogs. If there are no nets, the hunters wait for the porcupine, and then kill it with their arrows (Bafwabwane). Dogs follow it to its den; the Mbuti light a fire in front of the hole and the animal dies inside its den. Sometimes, captured by nets, is killed by thrashing it (Alipanda). Dogs flush it out of its hole and the Mbuti shoot it with **APE** arrows (Bataka).

6.2. MAMMALS FOOD

The feeding habits of mammals inhabiting the tropical forest of Africa are still almost unknown. Herbivorous species feed on many wild plants (fruits, leaves, and roots) but little detail occurs in the scientific literature. The Mbuti experience as forest-dwellers and shrewd observers of animal habits may provide uswithmuch information. Duringourconversations with the Mbuti, they cited many vernacular names of plants which, according to them, form part of the animals' nourishment. Furthermore, they listed also the cultivated products that are eaten by animals when they plunder the villagers' plantations. According to the villagers, the impact of wild animals on their small plantations is very strong (Tab. **8);** their own trapping techniques, and the hunting activities of Pygmies serve also to control ani- mal populations around the settlements. Many of wild and cultivated plants are used as bait in traps made by the villagers, a technique recently learnt also by Pygmies. Some wild plants are localized and then used as ambush sites by the Pygmies (mainly the archers) who wait for the animals to come to eat the fruits.

In the tables 1-7, we list the vernacular names of plants eaten by mammal species according to different Mbuti bands. We have not yet proceeded to taxonomic identification of these plants because this research objective will require a lot of time. Such information, of course, should be verified throughout experimental research on captive animals, in order to become part of our scientific background as well. In any event, these data represent the cultural background of natural history of the Mbuti Pygmies at the present time.

6.3. LITTER SIZE OF MAMMALS

A review of litter size of some African mammals was given by Delany & Happold (1979). According to these Authors, the number of young produced by each species can vary greatly because of the environmental conditions which may have a direct or indirect influence on the enbryonic mortality and resorption. In rodents, Neal (1968) proved that very different proportions of resorbing embryos may occur in localities a few kilometers apart. In temperate ecosystems, montain populations of mammals seem to have a steady increase in litter size, compared with those of the lowlands. In the African continent, such a variation associated with altitude has not yet been confirmed, because of contradictory data.

Tab. 1 - Vernacular names of forest plants eaten by mammals according to the Mbuti Swa of Bafwabwane. F = Fruits; L = Leaves

Locality: Bafwabwane Language: Kibali-Swa	ABELE	BUTE	KODO	LIBE	MBOLI	BIKANDEI	LOKABA	BELELE	PISO	MUKOMO	MBAU	AMASA	ESULU	MAGPA	EBAMBU	BAMBUKA-OKO	TETENGU	ASANDE	BAMBUKA-BONGO	BAMBUKA-NZEGU	BAMBUKA MBAU	ANGO
Protoxerus stangeri	F	F	F	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Funisciurus sp.	-	F	F	F	-	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Atherurus africanus	-	-	F	-	-	-	-	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-
Cricetomys spp.	-	-	-	-	-	-	-	F	-	F	-	F	-	-	-	-	-	-	-	-	-	-
Panthera pardus	-	-	-	-	-	-	-	-	-	-	-	-	F	-	-	-	-	-	-	-	-	-
Loxodonta africana	-	-	-	-	-	-	-	-	-	-	-	L	-	-	-	-	-	-	-	-	-	-
Dendrohyrax dorsalis	-	-	-	-	-	-	-	-	-	-	-	-	-	F	-	-	-	-	-	-	-	-
Hylochoerus meinertzhageni	-	-	F	-	-	-	-	-	-	-	-	-	-	-	F	-	-	-	-	-	-	-
Tragelaphus euryceros	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	F	F	-	-	-	-	-
Cephalophus nigrifrons	-	-	-	-	F	-	-	-	-	-	F	-	-	-	-	-	-	F	F	-	-	-
C. callipygus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	F	F	F
C. leucogaster	-	-	-	-	-	-	-	-	-	-	F	-	-	-	-	-	-	F	-	-	-	F

Tab. 2 - Vernacular names of forest plant eaten by mammals according to the Mbuti Swa of Alipanda. F = Fruits; L = Leaves; B = Bark; S = Sap and Resin; V = Vine

Locality: Alipanda Language: Kɔudu-Swa	AMBANGANE	LIDUU	MBAU	MBALO	PAPATA	ALOMBI	EDUU	MATAPE	MUPOMBI	PAMBAA	MUKANGBA	BUSIYU	ANGO	IMBUMBU	MUKUNI	BUKOLU	ABEE	NGASO	IGBENDE	NDAY	MABESE
MONKEYS																					
Papio anubis	-	L,F	L	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cercocebus albigena	F	-	L	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C. galeritus	F	-	L	F	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cercopithecus mitis	F	-	L	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C. ascanius	-	-	L	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C. wolfi denti	F	-	L	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C. hamlyni	-	-	L	F	-	-	F	F	F	-	-	-	-	-	-	-	-	-	-	-	-
C. lhoesti	F	-	F	F	F	F	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-
Colobus rufomitratus	-	-	L,F	L,F	L,F	L,F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pan troglodytes	-	-	F	F	-	-	F	F	F	F	-	-	-	-	-	-	-	-	-	-	-
Perodicticus potto	-	-	-	-	-	-	-	-	-	-	S	S	-	-	-	-	-	-	-	-	-
Galago demidovi	-	L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RODENTS																					
Anomalurus spp.	-	-	-	-	-	-	-	-	-	-	-	-	B	L	-	-	-	-	-	-	-
Idiurus spp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	V	-	-	-	-	-	-
Protoxerus stangeri	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	F	F	-	-	-	-
Atherurus africanus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	F	-	F	F	F	F
Cricetomys spp.	-	-	F	-	F	-	-	-	-	-	-	-	-	-	-	-	-	F	-	F	F

Tab. 3 - Vernacular names of forest plants eaten by mammals according to the Mbuti Swa of Alipanda. F = Fruits; L = Leaves; B = Bark; R = Roots; V = Vine.

Locality: Alipanda Language: Kibudu-Swa	MBAU	MUPOMBI	MASA	PAMBAA	UNGUO	ANGO	ABEE	IGBENDE	BUSYA	AMBAKA	TOU-TOU	IBYATOKU	KOMBWA	AZALO	BAIBA	POU	MBEBE	ESIPA	OKANGI	PAPATA	ALOMBI	MUKOSO	AMBANGANI	KANGI	AZAMBEKA	ABOKO	AFULU	OBI
CARNIVORES																												
Nandinia binotata	-	-	-	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Genetta victoriae	-	-	-	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Panthera pardus	F	F	L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Profelis aurata	F	F	L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HERBIVORES																												
Loxodonta africana	-	-	-	L	-	F	F	F	L	L	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dendrohyrax dorsalis	-	-	-	-	-	-	-	-	-	-	-	-	L	V	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamochoerus porcus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	F	F	F	F	R	-	-	-	-	-	-	-	-	-
Hyemoschus aquaticus	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	F	F	-	-	-	-	-	-	-
Okapia johnstoni	F	-	-	-	-	F	-	F	-	L	-	-	-	-	-	-	-	-	-	-	-	L	F	-	-	-	-	-
Syncerus caffer	F	-	-	-	-	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	F	-	-	L	L	L	-	-
Tragelaphus euryceros	F	-	-	-	-	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	L	L	-	L	-	L	L	-
T. spekei	F	-	-	-	-	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	F	-	-	-	-	-	L	-
Cephalophus monticola	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	F	-	-	F	-	-	-	-	-
C. dorsalis	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	F	-	F	-	-	F	-	-	-	-	F
C. sylvicultur	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	F	-	F	-	-	F	-	-	-	-	F
Neotragus batesi	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	F	F	-	F	L	-	-	-	-

Tab. 4 - Vernacular names of forest plants eaten by mammals according to the Mbuti Efe of Bataka. F = Fruits; L = Leaves.

Locality: Bataka Language: Efe	NGOCHA	NGILIPIKEKI	NGONGO	NZEI	ATOPAPA	ROFOPAPA	ANJOAFAPAPA	MBESEPI	ATOPI	ROFOPI	MBADO	KOLUKEKI	MBESEKEKI	MATAKUFEPO	MAKALASEI	A'TO	TAKU	KELEBABA	KANGBATASI	ELU
MONKEYS																				
Papio anubis	F	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cercocebus albigena	-	-	-	F	F	F	F	L	L	L	F	-	-	-	-	-	-	-	-	-
Cercopithecus hamlyni	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Colobus guereza	-	-	-	F	-	-	-	-	-	-	F	F	F	F	F	-	-	-	-	-
Pan troglodytes	F	-	-	F	-	-	-	-	-	-	F	-	-	-	-	F	F	-	-	-
Perodicticus potto	-	-	-	F	-	-	-	-	-	-	-	-	-	-	-	-	-	F	F	-
Galago demidovi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	L

Tab. 5 - Vernacular names of forest plants eaten by mammals according to the Mbuti Efe of Bataka. F = Fruits; L = Leaves.

Locality: Bataka Language: Efe	ATONGO	NDOKOKEKI	VGEROFE	TA'O	ORO	GBULITI	CHOBI	CHOMBI	GBUTE	ABELE	EWE	NGOLI	OO'O	OLA	ME	'AKU	JNGENGE	IFOU	NGETI	DILI-NDILI	SEGARA	ZEI	OTU-TOTU	ESA	INIKEKI	MAMOGBOGBORO
RODENTS																										
Funisciurus sp.	F	F	F	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hystrix sp.	-	-	-	F	-	F	F	F	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Atherurus africanus	-	-	-	-	-	-	-	-	-	-	F	F	F	F	-	-	-	-	-	-	-	-	-	-	-	-
Cricetomys sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	F	F	F	F	F	-	-	-	-	-	-	-
Thryonomys swinderianus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	L	L	-	-	-	-	-
CARNIVORES																										
Nandinia binotata	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	F	-	-	-	-	-	F	F	-	-	-
Viverra civetta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	L	-	-
INSECTIVORES																										
Rhynchocyon cirnei	-	-	-	-	-	-	-	-	-	-	-	-	-	-	F	-	-	-	-	-	-	-	-	-	F	F

Tab. 6 - Vernacular names of forest plants eaten by mammals according to the Mbuti Efe of Bataka. F = Fruits; L = Leaves; R = Roots.

Locality: Bataka Language: Efe	CHOMBI	UCHU	DUDU	LUSU	AMBELE	TOU-TOU	BUTE	TAKU	MADINDA	BULITI	MBONGBO	ANGO	APA	**DATU**	INGA	UJI	**SESA**	MBULELE	NGANGI	**MBOLUKEKI**	AGBAMA	WA	MONDOLOKAPI	**POPO**	NGANGIPI	MBAKAPI
HERBIVORES (other than antelopes)																										
Loxodonta africana	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dendrohyrax arboreus	-	L	L	L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamochoerus porcus	-	-	-	-	F	F	F	F	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hylochoerus meinertzhageni	-	-	L	-	-	-	-	-	-	-	L	F	F	F	R	-	-	-	-	-	-	-	-	-	-	-
Hippopotamus amphibius	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	L	L	L	L	-	-	-	-	-	-	-
Hyemoschus aquaticus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	F	F	L	L	-	-	-
Okapia johnstoni	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	L	L	L
Syncerus caffer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	L	-	-	-	-	-	-	-

Tab. 7 - Vernacular names of forest plants eaten by mammals according to the Mbuti Efe of Bataka. F = Fruits; L = Leaves.

Locality: Bataka Language: Efe	NGANGI	TOU-TOU	ANGO	AGBAMA	BILOKO	UBUTELE	POBO	ASIMBA	BARWA	SUMBAKEKI	KINI	MBIRO-MBIRO	SOU-SOU	BUTOBO-KOCHI	OPI	KELEBASA	NDOKO	BEIKEKI	CHOLE	MUNDUKUGBU	ATIPI	ALE'I	ASIMBATI	AWA-AWA	AMBU	UCHEKEKI	DAU
ANTELOPES																											
Tragelaphus euryceros	L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cephalophus monticola	-	F	-	F	F	F	F	F	F	F	F	F	F	F	F	L	-	-	-	-	-	-	-	-	-	-	F
C. nigrifrons	-	F	-	F	F	-	-	-	F	-	-	-	-	-	-	-	F	F	F	L	L	-	-	-	-	-	F
C. sylvicultur	-	-	F	F	-	-	-	F	-	-	-	-	-	-	F	-	-	-	-	-	-	F	-	-	-	-	F
C. callipygus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	F
C. dorsalis	-	F	-	-	F	-	-	-	-	-	F	-	-	-	-	-	-	-	-	-	-	F	L	L	L	L	F
C. leucogaster	-	-	-	F	-	F	-	F	-	-	-	-	-	-	-	-	-	F	-	-	-	-	-	-	-	-	F
Neotragus batesi	-	-	-	-	F	-	-	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tab. 8 - Cultivated plants eaten by mammals, according to the Mbuti Swa (Alipanda) and the Mbuti Efe (Bataka). B = Banana (*Musa* sp.); C = Cassava *(Manihot esculenta)*; *G* = Groundnut *(Arachis hypogaea);* M = Maize (*Zea mays);* **O** = Oil Palm fruits *(Elaeis guineensis)*; Pa = Papaya *(Caricapapaya);* Po = **Sweet** Potato *(Zpomoea batatas)*; Pu = Pumpkin (*Cucurbita* sp.); R = Rice (*Oryza sativa);* S = Sugar cane (*Saccharum officinarum*); T = Taro *(Coiocasia esculenta)*; Y = Yams (*Dioscorea* spp.).

	Mbuti Swa (Alipanda)	Mbuti Efe (Bataka)
Rhynchocyon cirnei	**O**	
Papio anubis	C, M, **O,** Pa, Po, S	B, C, M, Pa
Cercocebus albigena	B, **O,** Pa	
C. galeritus	C, G, O, R, **S**	M
Cercopithecus mitis	**O,** Pa	**B, M, O**
C. ascanius	B, **O,** Pa	**B, M, O**
C. wolfi denti	**O,** Pa	B, M, **O,** Pa, Pu
C. lhoesti	B, M, **O,** Pa, R	M
Colobus guereza		B
C. rufomitratus		B
Pan troglodytes	Pa	
Manis tetradactyla	**O**	
Protoxerus stangeri	B, C, O	**O**
Funisciurus sp.	C, O	
Hystrix sp.		**O,** Pu
Atherurus africanus	C	C, Po, T
Cricetomys sp.	**C, O,** Po	C
Thryonomys swinderianus	C, M, **Po**, R, S	M, **R**
Nandinia binotata	B, **O,** Pa	B, **Pa**
Viverra civetta	B, **O,** Pa	M, **O,** Pa
Genetta victoriae	**B, O**	-
Bdeogale nigripes	**B, O**	-
Crossarchus alexandri	**B, O**	
Herpestes ichneumon	**B, O**	
Loxodonta africana	B	**B**
Dendrohyrax dorsalis	C, **O,** Pa	
Potamochoerus porcus	c , G, **Po**	**C, PO**
Hylochoerus meinertzhageni	B, C, **O,** Po, Y	c , **Po**
Tragelaphus spekei	B, **C**	C, **Po**
Neotragus batesi	C, G, **Po**	C, G, **Po**

Tab. 9 - Litter size of mammals: number of offspring for a single birth, according to the Mbuti Swa (Alipanda) and thr Mbuti Efe (Bataka), compared with data from the scientific literature.

	Mbuti Swa (Alipanda)	Mbuti Efe (Bataka)	Haltrnorth & Diller (1980)
Potamogale velox	1	1	Unknown
Rhynchocyon cirnei	1	3	1-2
Papio anubis	1	1	1
Cercocebus albigena	1	1	1
C. galeritus	1	1	
Cercopithecus mitis	1	1	
C. ascanius	1	1	
C. wolfi denti	1	1	
C. hamlyni	1	1	
C. lhoesti	1	1	1
Colobus rufomitratus	1	1	1
C. guereza	1	1	
C. angolensis	1	1	1
Pan troglodytes	1	1	1(-2)
Galago demidovi	1	2-3	1-?
Perodicticus potto	1	1	1
Manis tricuspis	1	1	
Manis gigantea	1	1	1
Manis tetradactyla	1		1
Anomalurus spp	1	1	1(-3)
Idiurus sp.	1		Unknown
Protoxerus stangeri	2	1	1-3
Funisciurus spp.	1-2	2	1-2
Hystrix sp.		1	2(1-4)
Atherurus africanus	1	2	1-4
Cricetomys emini	6	2	2-4
Thryonomys swinderianus	2-6	1	4(2-6)
Aonyx congica			2-3
Lutra maculicollis	1		Unknown
Mellivora capensis		1	1-2
Nandinia binotata	1	1	2-3
Viverra civetta	1	6	2(1-4)
Genetta victoriae	1	1	Unknown
Genetta spp.	1	1	Unknown
Bdeogale nigripes	2	1	1
Herpestes ichneumon	2		2-3
Crossarchus alexandri	4	3	Unknown
Panthera pardus	2	3	2-4(1-6)
Profelis aurata	1	1	Unknown
Orycteropus afer	1	1	1(-2)
Loxodonta africana	1	1	1
Dendrohyrax dorsalis	1	1	1(-3)
Poramochoenis porcus	4-5	5	3-6(-10)
Hylochoerus meinertzhageni	1	5	1-4(-8)
Hippopotamus amphibius		1	1
Hyemoschus aquaticus	1	1	1
Okapia johnstoni	1	1	1
Syncerus caffer	1	1	1
Tragelaphus euryceros	1	1	1
Tragelaphus spekei	1	1	1
Cephalophus monticola	1	1	1
C. nigrifrons	1	1	1
C. sylviculiur	1	1	1
C. callipygus	1	1	1
C. dorsalis	1	1	1
C. leucogaster	1	1	1
Neotragus batesi	1	1	1

During our interviews with the Mbuti Pygmies, the hunters of two bands (Swa of Alipanda, Efe of Bataka) gave us credible informations about the litter size, providing us with data not very different from that available from the scientific literature (Table 9). The Mbuti, in fact, after having killed an animal, open it and share also the inner organs among the people of the band. Eventual foetuses are considered a valuable food and are mainly given to the elders. In conseguence, their knowledge on litter size, should reflect the facts. In some cases, the Mbuti confessed their ignorance about some species. An old Swa hunter of Alipanda, for instance, answered that he could not tell us how many cubs the Congo Clawless Otter bore, because he had never yet killed a pregnant female.

The little differences between data gathered from Swa and Efe may be explained as follows:

- Swa (net-hunters) and Efe (archers) have different hunting techniques and this fact may involve a different frequence of capture of some prey;
- Alipanda and Bataka occur respectively in the western and in the eastern sectors of Ituri Forest: the first band lives in the *Gilbertiodendron,* while the second occurs in the *Cynometra* forest. Local abundance of some mammals can vary because of environmental conditions (forest types), as well as the information of Mbuti on them;
- As stated above, the litter size may have a topographical variation, and the same species, living in two distinct forest types, may present different reproductive rates.

6.4. MBUTI HUNTING TECHNIQUES AND TOOLS

6.4.1. Archery

The hunting activities of the Mbuti Pygmies were carefully described by the Japanese eco-anthropologists (Harako, 1976; Tanno, 1976; Ichikawa, **1983;** Terashima, 1983). In this paper, we briefly deal with this subject in order to help the reader understand many sentences of our "Mbuti Encyclopaedia of Mammals" and to underline the new information which emerged during our field work.

The hunting techniques used by the Efe archers represent the most primitive subsistence strategies of the Mbuti Pygmies. In past times, when the Pygmies were the only forest- dwellers, they used only wooden arrows and spears, both with a fire-hardened wood point tips.

The bow-hunters occasionally walk alone in the forest; more often, they lie in ambush for animals from tree branches, a technique called EBA-

KA (=EBAGA, E'I). Both these methods do not produce enough meat to satisfy the Mbuti family needs. Therefore, the daily technique of the archers is a collective and dynamic beat-hunt (MOTA) carried out by at least 5-6 men of the same camp unity. Larger-scale collective beat-hunts (BEGBE) are made occasionally by cooperating pygmies of different bands.

The women's job is gathering the forest products or taking part in BEGBE as beaters or playing a symbolic part in the MOSIRO hunt (=MUSILO: Terashima, 1983).

Iron arrowheads and spear blades, nets and perhaps also dogs, were introduced by the agriculturalist people (Bantu and Sudanic) when they invaded Ituri. Nets, in particular, were brought in by Bantu people. For this reason, the Bantu-related Mbuti (Swa) became net-hunters while the Sudanic-related Mbuti (Efe) remained archers (Harako, 1976).

At present, simple wooden arrows and poisoned arrows are used by the archers to bring down the arboreal quarry; these arrows in fact, are lighter and can travel a longer distance. Iron-tipped arrows, on the contrary, are used to shoot terrestrial animals: they must be shot at very short distance and directed to a vital spot. When the arrows are shot in the trees, in fact, many of them remain entangled among the branches and Pygmies cannot allow themselves to loose the iron tips obtained by trade exchange with the villagers. *Also* the iron-tipped arrows may be lost in the dense undergrowth, but normally, to recover them on the ground is easier than if arrows were shot in tree branches. The advantage of iron-tipped arrows is the immediate death of the animals hit in vital spots at short distance; poisoned arrows, on the contrary, often compel the hunters to track the wounded animals.

Net hunters, too, use arrows in the same way as archers but seldom and not very successfully; normally they shoot animals if they detect them during the net hunts. Otherwise, after having located the range of an animal or its den, they come back to the place in order to catch it.

Before the introduction of iron, the Mbuti may have arranged the arrow tips in other ways, in order to obtain a strong hunting tool (APE-like) for killing terrestrial quarry. In fact, the Mbuti of Alipanda told us, formerly, their ancestors made the arrow tips with horns of the Dwarf Antelope, *Neotragus batesi*. The horns of this species are short and light, with very hard and sharp tips. It would be very interesting to verify if this memory occurs also in other pygmy bands (both archers and net-hunters).

The net-hunters of Bafwaguda (Bali range) may poison their wooden-tipped arrows with MGBANDA, the only poison they know. According to them, the iron-tipped arrows can also be poisoned, but we never saw this. They say that a man accidentally scratched by a poisoned arrow may save himself by drinking palm oil at once.

Wrist-protectors are bracelets made of animal skin and guard the archer's arm against the snap of the bow-string. Tanno (1981) reported only monkey skin was used to make wrist-protectors, but we found that other mammal species may be used for this purpose: Two-spotted Palm Civet, Genets (Bataka); Golden Cat (Apa Njaro).

We also discovered other materials used to make quivers (duiker skin, according to Tanno): Black and White Colobus (Eboyo); the skin of Blue Duiker represents a quiver-material only for children (Bafwabwane).

Moreover, the skin used for bow decoration may be not only of monkeys but also of other animals as the Two-spotted Palm Civet (Bataka).

An interesting implement that we observed at Bafwaguda (net-hunters) is KASALENGO, a wrist bracelet made of a leave of Maranthaceae. When the hunter shoots an arrow, such a leave-bracelet utters a strong bursting noise together with the snap of the bow-string. The Mbuti said that such a noise informs the other hunters that their fellow has shot an arrow.

Table 10 shows the vernacular names of the hunting tools in four dialects spoken by the Mbuti Pygmies. Only the term APE (= iron-tipped arrows) is shared by all the Mbuti groups, perhaps owing to the fact that the iron-tips represent a recently introduced element.

Tab. 10 - Vernacular names of the hunting tools in four dialects spoken by the Mbuti Pygmies.

	Bali-Swa	Budu-Swa	Bira-Swa	Efe
Bow	MANGE	MANGE	MANGE	SIBA
Unpoisoned arrows	CHUA	ESEKI	SUA	SA'U
Poisoned arrows	SOWA	YANGBEE ECHOA	MUTALI	O'RO
Iron-tipped arrows	APE	APE	APE	APE
Poison	MGBANDA	SONGO	MUTALI	MUBALI
Wrist-protector bracclct	AKUBA	AKUBA	AKUBA	ASUBA
Quiver	BABA	BABA	BABA	SOBA
Spear	LJKONGA	EKONGA	EKONGA	TI'PE

6.4.2. Net-hunting

Net-hunters adopt a single method, which consists of a large collective beat-hunt with women as beaters. The animals are driven into a circular barrage formed by several nets. The men take their seats inside the circle, each one near his own net, hiding themselves among the undergrowth and keeping ready to fall on the game. The traditional techniques of killing the animals vary according to the species captured and the size of the game. We deal with these techniques, one by one, in the chapter "Mbuti's Encyclopaedia of Mammals". The Mbuti who are in close contact with muslim Bantu kill game cutting their throat with a knife, in order to present the meat to their "masters" according to muslim rules.

During our stay among the Pygmy bands, we observed many beat-hunts carried out with nets. Table 11 shows the number of captured or escaped animals as observed during 60 net casts. Within 13 days of hunting, the Mbuti caught 57 mammals (53 duikers); a further **34** mammals escaped from nets **(28** duikers). In other words an average of 93% of the Mbuti net-hunters' mammal game is represented by duikers. More than 60% of the game escapes from the nets. In fact, the small antelopes and carnivores very often escape by sliding away through the large-mesh nets; the larger ungulates (as *Cephalophus sylvicultur*) can easily break the nets.

A more extensive investigation of the number of captured game, supported by a statistic analysis throughout the Ituri Region, may provide us with a measure of the pygmy- hunting impact on the mammals' populations in the study area.

6.4.3. Other techniques

The economic life of all the Mbuti groups (both archers and net-hunters) depends mainly on two different systems of collective hunt.

Nevertheless, many other hunting techniques are adopted in order to enlarge the game range and to extend the source of meat (Tab. 13).

Spears are mainly used to kill elephants during occasional collective hunts carried out by the most courageous young men belonging to different bands. Nevertheless, spears are always carried by some hunters during the net hunts. They may be used to kill larger and aggressive mammals like wild pigs, bushbucks and buffaloes, if they are found accidentally during the hunts. Moreover, between rounds of the net-hunting, when the Mbuti were stalking in the forest from one netting site to another,

Tab. 11 - Number of animals caught or escaped from nets during 60 net casts.

Locality	date	nets	♂♂	♀♀	children	dogs	casts	captured mammals	escaped mammals
BAFWAGUDA	7.10.85	4	6	4	1	4	6	1 H. aquaticus 2 C. nionticola	1 C. dorsalis 1 C. monticola 1 C. nigrifrons
ANGBETIMA	22.10.85	17	17	4	1	5	4	6 C. monticola 1 C. sylvicultur	
APA KENGETU	22.11.85	9	9	3	?		4	2 C. callipygus	2 C. sp.
	23.11.85	10	10	7	3		6	1 C. sylvicultur 1 C. dorsalis 5 C. monticola	4 P. porcus
APA MUTELEPU	14.9.87	14	14	13	5	1	1		
	15.9.87	14	14	13	5	1	4	2 C. monticola 1 C. leucogaster 1 N. batesi	1 C. sylvicultur
" "	16.9.87	14	14	13	5	1	6	3 C. callipygus 4 C. monticola	1 C. sylvicultur 1 C. monticola
" "	17.9.87	13	13	13	4		6	1 C. callipygus 3 C. monticola	2 C. leucogaster 1 C. callipygus
" "	18.9.87	11	11	11	6	1	6	5 C. monticola 1 C. dorsalis	1 C. callipygus 1 C. dorsalis 1 C. sylvicultur
" "	19.9.87	14	14	5	3	1	4	1 G. victoriae 2 C. nionticola	1 Cr. alexandri 1 C. leucogaster 1 C. monticola 1 C. callipygus 2 H. aquaticus
" "	20.9.87	12	12	8	3	1	3	1 C. monticola 1 C. leucogaster	
" "	21.9.87	11	11	13	3	1	6	2 C. callipygus 6 C. nionticola 1 N. batesi	5 C. callipygus
" "	22.9.87	13	13	7	3		4	1 C. callipygus 2 C. nionticola	3 C. callipygus 1 C. leucogaster 1 H. aquaticus

Tab. 12 - Number of animals caught during 4 hunting days by the Efe archers (Apa Njaro).

Locality	date	hunt type	♂♂	♀♀	children	dogs	casts	captured animals
APA NJARO	13.12.85	Motamani	12	-		3	4	1 Crossarchus alexandri 1 Hyemoschusaquaticus
APA NJARO	14.12.85	Motamani	12	-		3	4	1 Cephalophus monticola
APA NJARO	16.12.85	Mosiro	15	2	2	3	7	1 Crossarchus alexandri 1 Profelisaurata 1 Cephalophus dorsalis 1 Cercopithecuslhoesti
APA NJARO	17.12.85	Motamani	15	-		3	5	2 Crossarchus alexandri 1 Cercopithecus lhoesti

Tab. 13- Hunting techniques for catching mammals, according to the Mbuti Swa (Bafwabwane, Alipanda) and Efe (Bataka). A = APE, iron tipped arrows; Pa = Poisoned arrows; Ua = Unpoisoned arrows; N = Nets; Sp = Spears; T = Traps; St = Stick; Sm = Smoke; K = Knife or machete; D = roused by dogs; V = ONGOSA vine; H = by hands.

	Net-hunters (Bafwabwane)	Net-hunteh (Alipanda)	Archers (Bataka)
Potamogale velox	-	T	T
Rhynchocyon cirnei	-	A	Sm
Pun troglodytes	T	Pa	A, Pa
Papio anubis	-	A, N	A, Pa, Sp
All monkeys	A, Pa	A, Pa	A, Pa
Cercopithecusmitis	-	A, N, Pa	A, Pa, Sm
C. *ascanius*	A, N, Pa	A, N, Pa	A, Pa, Sm
Colobus spp.	-	A, Pa, Sm	A, Pa, Sm
Perodicticus potto	-	Pa, Ua	A, Pa, Ua
Galago demidovi	-	Ua	Ua
Aonyx congica	A, T	A, D	
Lutra maculicollis	-	A, D	
Mellivora capensis	-		A
Viverra civetta	A, D, N	A, D, N	A, D
Nandinia binotata	-	A, D, Pa	A, D, Pa
Genets	-	A, D,	A, D,
Mongooses	A, D, T	A, D, Sm, St	A, D, Sm
Panthera pardus	A		
Profelis aurata	-	A, D	A, D
Loxodoritaafricana	-		K, Sp
Dendrohyrax dorsalis	A, K, Sm	A, V	A, Sm
Orycteropus afer	K	K, Sm	A, D, Sm
Potamochoerus porcus	A, N, Sp, T	A, D, N, Sp	A, D, N, Sp
Hylochoerus meinertzhageni	-	A, D, Sp	A, D, Sp
Manis tricuspis	T		H, St
Manis tetradactyla	-	H, Sm, St	
Manis gigantea	K, Sm	Sm, St	K, Sp, V
Flying squirrels	Pa, St	Ua	Ua
Cricetomys spp.	Sm	D, Sm, T	D, Sm, T
Hystrix sp.	-		A, Sm
Atherurus africanus	A, D, N, T	D, N, Sm	A, D
Squirrels	Pa, T, Ua	Pa, Ua	Ua
Protoxenrsstangeri	Pa, Sm	Pa, Sm, Ua	A, Pa
Hyemoschus aquaticus	A, D, H, N, T	H, A, N	A, D, H
Okapia johnstoni	A, N	A, D	A, D, Sp
Syncerus caffer	A	A	A, Sp
Tragelapliusspekei	A, D	A, D	A, D
Tragelapliuseuryceros	A, Sp	A, D	A, D, Sp
Duikers	A, D, N, T	A, D, N	A, D
Neotragus batesi	N	N	

they were observed (Makongo Tudu) to prod the hollow trunks with their spears, in order to discover duikers or other eventual hidden animals.

The Mbuti Pygmies do not have a trap culture, and their nomadic way of life did not favour the development of trapping techniques. Nevertheless, some Mbuti groups, at present, spend much of their time in sedentary life around the Bantu settlements and have recently learnt to arrange traps like the villagers. They use simple models of snare-traps made with vines. The animals are attracted using fruits or meat as bait. In another paper, we shall deal with trapping techniques.

The OSAKASA trap (Bali and Bali-Swa), is used to catch a large range of animals (Bafwaguda): rodents, ungulates, pangolins, chimpanzee, and wild pigs. The trap **MAGBONGE** (Bali) or MPOKO (Bali-Swa) is mainly used for catching rodents (Bafwabwane).

Many other secondary techniques were observed, used to catch mammals which hide themselves in dens or in trees. The utility of dogs emerged during the observations of these secondary techniques, in tracking and locating quarry. One of these methods consists of making animals emerge from their dens with smoke (see: Elephant Shrew, mongooses, Hyrax, Aardvark, pangolins, giant pouched rats, squirrels, etc.).

Another technique is setting ambushes in places where the animals go to eat mineralized and salt earth. Such a hunting technique was described above (see: monkeys),

6.4.4. Hunt restrictions and taboos

Not all the people of a band necessary take part in the daily hunt. Regarding the archers, as explained before, only men go hunting (**MOTA-MANI** hunt), sometimes together some women (MOSIRO hunt). The old men usually rest in the camp or practise **EBAKA** hunt.

As regards the net-hunters, the elders have the right to remain at home and let their sons or other relatives bring their own nets. More often, they carry out personal bow-hunting near the camp.

Menstruated women and their husbands have to rest in the camp and go to catch fish for **3** days. If they violate this norm, the "disease" of the women will continue for 10 days or more. In such case, the Mbuti make a cut in the woman's tongue and she must spit blood on all the nets, in order to re-establish the good luck (Apa Mutelepu).

When the catch has been poor, Pygmies lay the blame on somebody and have long discussion on this fact. Often, young hunters are in fault because they had bad dreams. Harako (1976) wrote about a young man who was blamed because he dreamed an elephant the night before. **If** so-

mebody has dreamed of large rivers, it is a bad sign because it means "rain and cold nets" (Apa Kengetu). Another bad presage is to dream of the animals whose names cannot be pronounced before starting to hunt (Apa Kengetu, Apa Mutelepu). Many names of domestic and wild animals cannot be pronounced before starting and during the hunt. If people violate this norm, the hunt would be luckless. In the first place, the names of domestic animals are forbidden (in order of importance: goat, sheep, cow, dog, cat); secondly, some wild mammals. The Mbuti net-hunters of Apa Kengetu listed the names of these species, as follows:

Potamogale velox
Rhynchocyon cirnei
Cercocebus albigena
C. galeritus
Cercopithecus lhoesti
C. wolfi denti
G. neglectus
Colobus guereza
AMEMANGA-MANGA (Gorilla-evil)
Galago spp.
Anomalurus spp.
Idiurus spp.
Thryonomys spp.
Aonyx congica
Lutra maculicollis
Viverracivetta
Herpestes ichneumon
Bdeogale nigripes
Profelis aurata
Orycteropus afer
Loxodonta africana
Dendrohyrax dorsalis
Bats

6.5. MAMMALS AS FOOD

All the larger mammals of the Ituri Forest serve as food for the Pygmies; bats, smaller ground-rodents and shrews are never eaten.

The existence of several kinds of food restrictions and taboos was formerly mentioned by Putnam (1948), Schebesta (1941, 1952) and Turnbull (1965). According to these authors, some divergences occur between archers and net-hunters. The most important food restrictions for the archers (Schebesta, 1952) would concern the totemic animals (usually: Leopard, Buffalo and Chimpanzee) which are believed to have given birth to single clans. Other taboos would be acquired during initiation and would not be connected with the clan totem. Among the net-hunters of Epulu, Putnam (1948) observed a certain degree of instability as regards the food restrictions. Totemic animals occurred (antelopes and monkeys were the most frequent) but these would not be regarded as representing the ancestors themselves: they would only be associated with the human ancestors in some myth. Other taboos were observed by children and during crisis periods such as puberty, pregnancy and mourning.

A recent and careful analysis of the food restrictions of the Bira-speaking Mbuti in the Tetri region was given by Ichikawa (1978, 1987). This author listed several species of totemic animals (1978) which cannot be killed nor eaten, such as the Leopard (the most frequent), the AKODA squirrel (*Funisciurus* sp.), the Buffalo, the Chimpanzee, the Owl-face Monkey, the Porcupine and the Dwarf Antelope. Of the 57 species of mammals regarded as food by the Tetri hunter-gatherers, 48 are prohibited or avoided by at least some Mbuti (Ichikawa, 1987), and four types of food restrictions may be distinguished:

-NGINISO : totemic animals which each descent group is prohibited from eating;
-MUZIRO : animals which must be avoided because they may spoil the net hunting;
-KWERI : animals which may cause an illness to people and to their children:
-EKONI : animals which may cause deformation of a newborn child or difficult delivery.

Both **KWERI** and **EKONI** are avoided only in a certain period of the human life ("conditional restrictions") and may present local variations.

We did not carry out investigations on totemic animals, which would require a cultural anthropological approach. As zoologists, we limited ourselves to gathering information on the "conditional food restrictions" and those associated with net hunting, as referred to us by the Mbuti of two bands. Such restrictions concerned either the age and sex of people or some period of their life cycle: pregnant women and their husbands, children being circumcised, the parents of a newborn baby, and, in some cases, the adults of child-bearing age.

Nevertheless, it is very hard to understand if taboos were part of the ancient Pygmy tradition or more recently acquired under the influence of Bantu and Sudanic people of the villages.

Whenever we discovered a taboo involving all the people of a band, the Pygmies themselves said that the prohibition was imposed on them by the villagers. For instance, the Leopard cannot be eaten by the Mbuti dwelling in the range of Bali people because the latter compel the Pygmies to respect this animal (see: Leopard).

However, some differences occur in the food restrictions of Pygmies and those of their neighbouring villagers: for instance, Lese people of Nduye cannot eat the Golden Cat while their "servants", the Mbuti Efe of Bataka, do not have conditional food restrictions regarding this species.

A wide-spread taboo concerns the menstruated women and their husbands, who cannot eat any kind of meat. During the menstrual days, both the partners must abstain from hunting and rest in the camp or go to catch fish. Also pregnant women, during the first 3 months of pregnancy, cannot eat meat (Apa Mutelepu).

The foetuses of most mammal species are considered a valuable food and reserve for the elders, perhaps because of the tenderness of the meat.

Table 14 shows the alimentary taboos and food restrictions of two Pygmy bands: the net-hunters of Alipanda (Ḅudu range) and the archers of Bataka (Lese range). In addition to these taboos, the children undergoing circumcision cannot eat several species of animals. In this regard, the Mbuti net- hunters of Apa Mutelepu (Bira range), listed the following forbidden species of mammals:

Cercocebus albigena	*Potamochoerus porcus*
C. galeritus	*Hyemoschus aquaticus*
Cercopithecus ascanius	*Cephalophus nigrifrons*
C. wolfi denti	*C. sylvicultur*
Colobus guereza	*C. dorsalis*
Bdeogale nigripes	*Neotragus batesi*

All the information comes from our conversations with the Pygmies and may lack data which they forgot. They were not asked to explain the origins of these food restrictions. The information may represent only what the Pygmies wanted to let us know about their alimentary taboos, rather than their current norm.

However, if such information is true, all these taboos would have a very important impact on the exploitation of the animal resources of the forest by humans. The existence of these taboos may be considered a survival strategy of the forest people (Pygmies and villagers, jointly) because the outcome is a higher diversity in the exploitation of mammal species and a lower human impact on the animal populations. The same outcome is assured by the large range (spectrum) of mammal species captured by the Pygmies, so that each species brings a small contribution to the Mbuti life without danger for its own conservation. In fact, the bow-hunting activities of Efe, who show the most primitive techniques, encompass the largest variation of prey, including not only duikers **(20-50%** of kill) but also many monkeys, carnivores, rodents, birds and so on (see Table **12).**

The net-hunt, on the contrary, represents a more recent way of exploiting animal resources. Through utilizating nets, the Swa became a more specialized hunter group and capture mainly duikers (more than 80% of kill), ravaging a higher number or specimens from their natural populations (see Table **11).**

A subject of conversation appreciated by the Pygmies was the quality of meat, according to their taste. The Mbuti Efe from two bands (Ba-

taka and Andelifou) listed the following species of mammals, in order of decreasing tastiness:

BATAKA	ANDELIFOU
Potamochoerus porcus	*Loxodonta africana*
Hylochoerus meinertzhageni	*Potamochoerus porcus*
Syncerus caffer	*Pan troglodytes*
Pan troglodytes	*Cercopithecus mitis*
Cephalophus nigrifrons	*Colobus guereza*
C. callipygus	*Cephalophus sylvicultur*
C. leucogaster	*Hyemoschus aquaticus*
Cephalophus monticola	*Neotragus batesi*

According to Turnbull (1965) Chimpanzee and Buffalo "have the last possible interest among Mbuti as source of food; Chimpanzee would be "avoided for its semihuman appearance" while Buffalo would be "unpleasant-tasting". According to our data, instead, both Chimpanzee and Buffalo figure among the most appreciated kinds of meat, even though they represent only an occasional game. In the *Gilbertiodendron* forest, 10 km West from Epulu, we observed a Mbuti band (net-hunters) shooting many arrows at a troop of chimpanzee, in order to kill and eat them.

Writing about the Leopard, Turnbull (1965) reported that it would never eaten by the Pygmies because the animal itself could have eaten human meat. On the contrary, the net-hunters of Apa Kengetu, told us that Leopard can be eaten, but only by the elders, like all valuable foods.

When the Pygmies find the corps of an animal which has recently died, they inspect the body carefully with the aim of understanding the cause of the death. They are able to recognize the signs left by predators or the bites of poisonous snakes. The Mbuti net-hunters of Apa Mutelepu diagnosed the death of a Red Colobus killed by a Crowned Eagle (*Stephanoetus coronatus*) and that of a Black-fronted Duiker killed by a snake bite. Whenever they understood the reason of the death, they brought the dead animals to the camp and ate them.

If a dead animal is discovered during a net-hunt, inside the circle of nets, its body must be divided between the beater (more often a woman) and the owner of the nearest net. In fact, they said: "if the animal were alive, it would have fallen into that net" (Apa Mutelepu).

7. CONCLUSIONS

This preliminary investigation provides only a large-scale outline of the role of mammals in the zoological culture of Ituri Pygmies and of their

Tab. 14 - Alimentary taboos according to the Mbuti Swa (net hunters/Alipanda) and Efe (archers/Bataka). Pr = food taboos for pregnant women and their husbands; Pa = food taboos for parents of new-born babies; A = food taboos for adults of child-bearing age; E = meat reserved for the elders; F = foetuses reserved for the elders.

	Mbuti Swa (Alipanda)	Mbuti Efe (Bataka)
Potamogale velar		E
Rhynchocyon cirnei	Pr	Pr
Papio anubis		F
Cercocebus albigena		F
C.galeritus	Pa, Pr	F, Pa, Pr
Cercopithecus ascanius		F, Pa, Pr
C. wolfi denti	A	A
C. hamlyni	A	A
C. lhoesti		A
Colobus guereza	Pa, Pr	Pa, Pr
Perodicticus potto	Pa, Pr	Pr
Galago demidovi	E	Pr
Lutra maculicollis	Pa	
Mellivora capensis		F
Viverra civetta		F, Pa, Pr
Nandinia bbiotata		F, Pr
Genetta victoriae	E	F
Profelis aurata		F
Dendrohyrax dorsalis	Pr	F, Pr
Orycteropus afer		Pa, Pr
Potamochoerus porcus	Pr	F
Hylochoerus meinertzhageni		F
Manis spp.		F, Pr
Idiurus spp.		Pr
Hyemoschus aquaticus	Pr	F
Okapia johnstoni		F
Synceruscaffer		F, Pa
Tragelaphuseuryceros	Pr	
Cephalophus monticola		F, Pa
C. nigrifrons		F, Pa, Pr
C. sylvicultur		F
C. callipygus	Pa	
C. leucogaster	Pa	F, Pa, Pr
Neotragus batesi		F

hunting like. More specialized research could be carried out in order to describe in detail the ethnozoological aspects of single bands in different topographic areas and linguistic ranges.

The results show a large and deep zoological culture and a special interest of Pygmies to understand the wildlife subjects. Obviously, the best known animals are those more often used as food by the Mbuti, either owing to their tastiness or because they are easy to capture using the traditional hunting techniques. Nevertheless, we found also a zoological interest unconnected with subsistence necessities, but motivated only by human curiosity.

The information on eco-ethology of mammals which emerged from our interviews may also be an incentive for zoologists to verify this ethnoscientific patrimony on the basis of scientific research on these not yet well-known forest animals.

The impact of Pygmy hunters on the animal populations of the forest remained harmless throughout many centuries because of their nomadic way of life, alimentary taboos and the wide spectrum of prey.

More recently, after the introduction of nets, many groups of Mbuti changed their hunting activities and undertook an intensive exchange activity by providing an increasing amount of meat to the villagers. At present, a wide-ranging commercial trade of meat is carried out by Pygmies and the faunal sources of the forest have dwindle.

Only a careful plan of development concerning faunistic monitoring, game farming and exploitation, promotion of livestock and fishery, can guarantee the conservation of these endangered ecosystems together with benefits for residential people.

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