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FOLK KNOWLEDGE OF FISH AMONG THE SONGOLA AND THE BWARI: COMPARATIVE ETHNOICHTHYOLOGY OF THE LUALABA RIVER AND LAKE TANGANYIKA FISHERMEN

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ABSTRACT A field survey in collaboration with the Institut de Recherche Scientifique (presently Centre de Recherche en Sciences Naturelles) was carried out near Kindu and Baraka, Région du Kivu, République du Zaïre (Sept. 1979-Feb. 1980 and Sept.-Dec. 1983).

The folk knowledge of fish is described in detail for the two areas. The author identified 100 species from the Lualaba River and 97 species from Lake Tanganyika.

Songola fishermen (Enya subgroup) along the Lualaba (upper reaches of the Zaïre, formerly the Congo) River have 108 vernacular names and 12 inclusive folk categories of fish, consisting of six levels of categorization. There are 18 series of "growth fishe" fish which have two to four different vernacular names according to their life-cycle stages. All the "growth fishes" of the Enya are large-sized fishes and their names change by growth size. The thresholds for the different names seem to be related to the mesh sizes of traditional fishing nets.

Bwari fishermen of northern Lake Tanganyika have a simpler system of folk classification than the Songola-Enya. They have 79 vernacular fish names and 4 inclusive folk categories, consisting of three levels. There are 8 "growth fishes". They were diverse in body size and a small clupeid ndagaa, one of the most abundant and important fishes for the Lake Tanganyika fishermen, has as many as four life-cycle stages that determine its market price.

The difference in the folk knowledge of the fish between these two peoples might be understood by the difference in the composition of the fish fauna of the two areas; in Lake Tanganyika while small-sized cichlid species (called inclusively as *.LENDA* by the Bwari) are abundant, it is the *ndagaa* that prevails in today's catch.

A comparison of the fish names among 15 peoples of Central Africa suggested that fish nomenclatures of Bantu societies have little similarity between independent water systems. I found only two stems having a universal distributrion in Central Africa: *.nyik.* for electric catfish and *.sembe* for lung-fish.

Fishermen of Central Africa have an accurate and rather objective knowledge of fish on which they are dependent. As yet some of the fishes are regarded as special. Some are regarded as taboo, others used as charm medicine. Having an intermediate character between fish and other creatures (bird or tree) and having anomalous features are good reasons to regard them as special.

Where do all these differences come from? In order to consider the problems concerning the comparative ecology and epistemology of African peoples more properly, we must be equipped with a better knowledge on the environment (fauna and flora), linguistics, and ethnography.

Key Words: Ethnosciences, Folk classification, Freshwater fish, Lualaba River, Lake Tanganyika, Bembe, Bwari, Enya, Songola, Vira.

1. Introduction

1.1 The purpose and the methods of study

This paper aims to describe the folk knowledge of African freshwater fish for two groups of fishing people, one living along the Lualaba River and the other on the coast of Lake Tanganyika (Fig. 1). Relatively few works have been published concerning the ethnoichthyology (or the study of the folk knowledge of fish) despite today's flourishing folk biological studies (for example, Gosse, 1961, 1962; Morrill, 1967; Anderson,1969; Bulmer *et al.*, 1975; Akimichi, 1978). This study also compares the folk classification systems between the Lualaba and Lake Tanganyika, two of the great water systems in tropical Africa. Such a comparison will shed light on the relationship between the fish fauna, the folk knowledge of it, and the economy dependent on African freshwater fish.

Specimens of fish were collected in the research villages or bought at nearby markets. They were shown to fishermen, when fresh, to get information on the folk knowledge of them. They are then stored in the Laboratory of Animal Ecology (Faculty of Sciences, Kyoto University) using labels from the 1979 expedition. Fish specimens from the Lualaba River were identified using Boulenger (1909-1916) and other reference works (Nicholas & Griscom, 1937; Poll, 1957, 1959, 1967, 1971, 1973, 1976; Poll & Gosse 1963; Günter, 1973; Gery, 1977; Banister & Bailey, 1979), and revised by CLOFFA 1-3 (Daget *et al.* 1980-). Specimens from Lake Tanganyika were identified using Poll (1953 and 1956) and Brichard (1978). Drs. Kenji TAKAMURA and Kosaku YAMAOKA helped to identfy the species and revise the scientific names.

Fig. 1. Study areas in the Republic of Zaïre

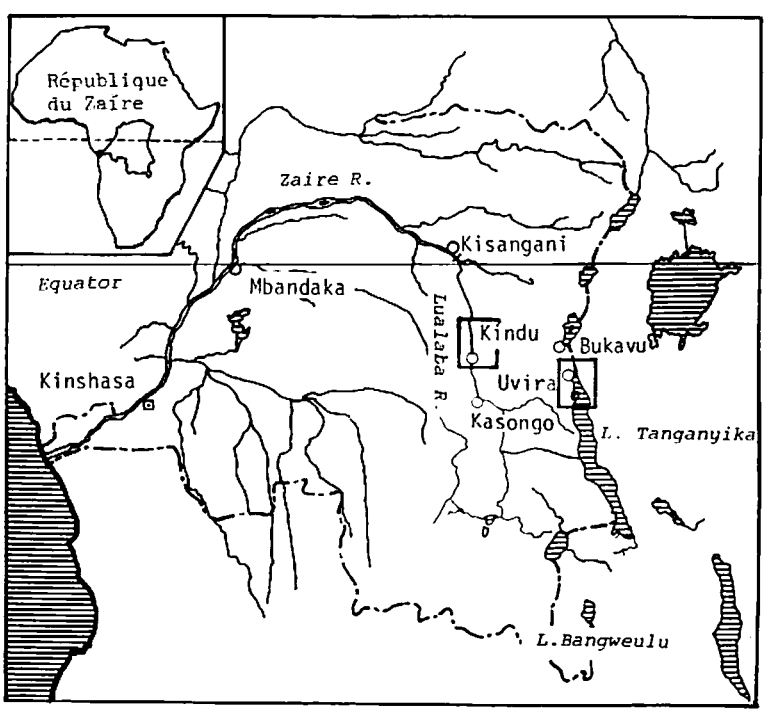


Fig. 2. Location of the Songola and their subgroups

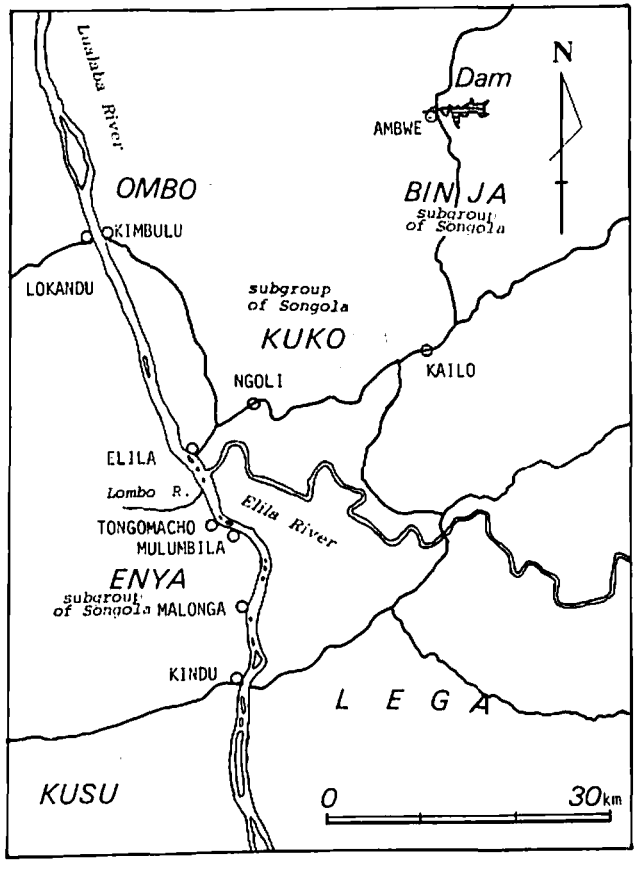
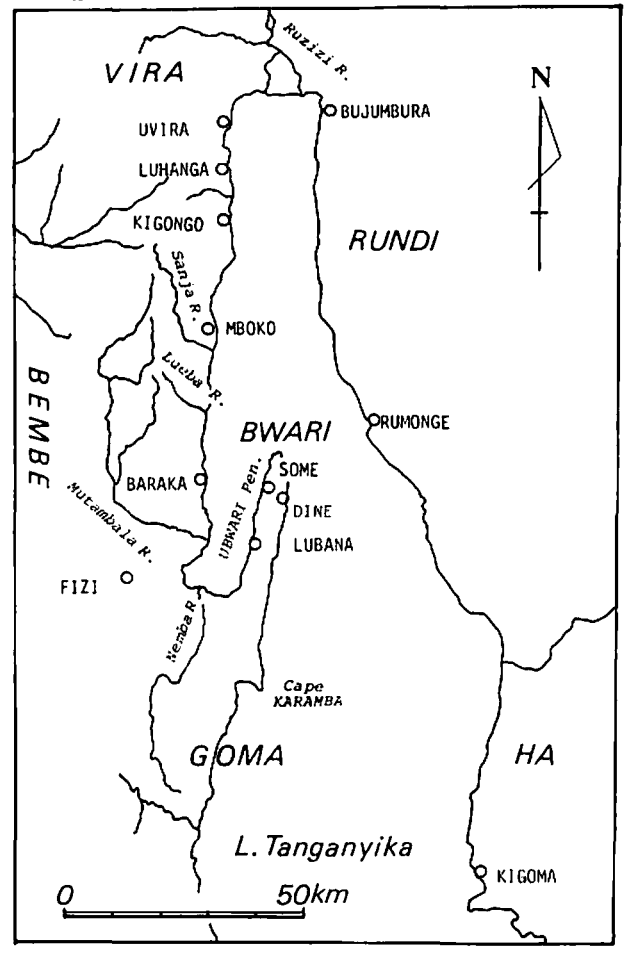


Fig. 3. Location of the Bwari and their neigbors



1.2 Study areas

The study area along the Lualaba is situated near Kindu, Sous-Region du Maniema, Region du Kivu. The field survey near Kindu was carried out for seven months in 1978 and 1980 among the Songola and was focused on the Enya. They are a fishing subgroup of the Songola, and are different from the famous Enya fishermen of Kisangani (Ankei, 1984). Supplementary information was obtained during a four months' stay in 1983. For the purpose of comparison, I also collected vernacular fish names of two other subgroups of the Songola who live in areas remote from the Lualaba River: the Kuko and the Binja. The area on Lake Tanganyika was on the northwestern shore of the lake, near Uvira and Baraka in the Sous-Region du Sud-Kivu. A field survey of the Lake Tanganyika fishermen was carried out in 1979. I stayed 45 days among the Bwari who dwell the Ubwari Peninsula near Baraka, and among the Bembe and Vira (five and two day respectively) to get information on their vernacular names of fish. Bwari have the least ethnographic and linguistic studied of the peoples living in the region.

Table 1 lists the principal informants for this study. I chose one key informant in both areas. The results of interview is followed by an abbreviation of the informant if there is some contradiction between informants.

1.3 Languages

Songola language is given the Bantu classification number D.24 in Guthrie (1967) and is called also as "Binja nord" (namely North Binja, coupled with

Table 1. List of informants

Abbr.	Gender	Born	Interviewed at	Mother tongue	Evaluation (5-1)
Yaf	M	1924	Tongomacho	Songola-Enya	5: *mu.kúngú*
Leo	M	*ca* 1925	Tongomacho	Songola-Enya	3
Mal	M	1937	Tongomacho	Songola-Enya	5: knows plant usages
Ber	M	1939	Tongomacho	Songola-Enya	5: key informant
Ram	M	1942	Tongomacho	Songola-Enya	4: lineage chief
Ami	M	1943	Tongomacho	Songola-Enya	2: sometimes erronous
Mus	M	1945	Tongomacho	Songola-Enya	3
Ger	M	*ca* 1945	Elila	Songola-Enya	4
Ham	M	*ca* 1915	Ngoli	Songola-Kuko	5: *mu.kúngú*
Ngo	M	1930	Ngoli	Songola-Kuko	5: lineage chief
Alf	M	1957	Ngoli	Songola-Kuko	3
Chr	M	1950	Ambwe	Songola-Binja	not less than 3*
Use	M	1925	Some	Bwari	5: key informant
Kat	M	1949	Some	Bwari	4: reliable
Mun	M	*ca* 1930	Uvira	Bembe	not less than 3*
Mbi	M	*ca* 1940	Uvira	Bembe	not less than 3*
Bal	M	*ca* 1920	Luhanga	Vira	not less than 3*
Kiz	M	*ca* 1935	Luhanga	Vira	not less than 3*

See Figs. 2 and 3 for the location of the place of interview.
Mu.kúngú (Songola) means a senior who is capable of advising the villagers.
*Interview was too short for a precise evaluation.

Zimba, or South Binja) by Meeussen (1951b manuscript; Bastin, 1975). Bembe (Meeussen, 1951a) is also in the same zone as Songola, and these two have seven vowels. Vira (Meeussen 1951c) is classified as one of the J-zone langugaes of Bastin (1975). Although there is no information extant for the Bwari language, it is probable that it corresponds to so-called "kabwari" (J-56) of Guthrie (1967). My research showed that it has 5 vowels like other J-languages. All these are tone languages having principally a high tone and a low tone. Table 2 summarizes the linguistic traits of Songola and Bwari languages.

In order to clarify the tones of the word, I asked the informants to add "my" (*.ane/.ané* in Songola, for example) to a noun. I asked an informant to reproduce the tones of Songola words with a wooden slit drum (*lu.kumbí*) and

Table 2A. Phonemes of Songola-Enya and Bwari.

phonemes	Songola-Enya (D.24)	Bwari (J.56)
vowels	/ *j i e a o u ụ* /	/ *i e a o u* /
semi-vowels	/ *y w* /	/ *y w* /
consonants	/ *m n ny ŋ* *b l g* *p f t s c k* /	/ *m n ny ŋ* *b v l z g* *p f t s k* /
(remark)	*/j/* and */c/*, distinguished in Binja dialect (Meeussen, 1951b) seem to be assimilated as */c/* in Enya dialect of the Songola.	*/ti si zi/*, pronounced as [tʃi ʃi ʒi] are spelled as "*ci shi ji*" in the text.
tones	High: /´/. Low: without tone marks, except for consonants having one mora such as */m̀/* and */ǹ/*.	

Table 2B. Prefixes for noun classes

Songola (D.24)				Bwari (J.56)			
singular	(plural)	"of"		singular	(plural)	
1 *mu. mo.*	(2 *ba.*)	*w.e´*	(*b.é*)	1 *mu.*	(2 *ba.*)
3 *mu. mo.*	(4 *mi. me.*)	*w.é*	(*y.e´*)	3 *mu.*	(4 *mi.*)
5 *j.*	(6 *ma.*)	*l.é*	(*m.é*)	5 *li.ji.e.φ.*	(6 *ma.*)
7 *ki. ke.*	(8 *bj.*)	*k.é*	(*b.ʃ*)	7 *ki.*	(8 *bi.*)
9 *n.m.φ.*	(10 *n.m.φ.*)	*y.e´*	(*l.ʃ*)	9 *n.m.φ.*	(10 *n.m.φ.*)
11 *lu. lo.*	(10 *n.m.φ.*)	*lw.é*	(*l.ʃ*)	11 *lu.*	(10 *n.m.φ.*)
12 *ka.*	(13 *tu.to.*)	*k.é*	(*tw.é*)	12 *ka.*	(13 *tu.*)
14 *bu. bo.*	(6 *ma.*)	*w.é*	(*m.é*)	14 *bu.*	(6 *ma.*)

(remark)
1-14 are Bantu noun class reference numbers.
A period denotes a disjunction between a stem and its prefix (or suffix).
"Of" in Songola has generally high tones, but in classes number 1, 4, and 9, the high tone falls on the next syllable (Meeussen, 1951b).
Example: *y.e´ + ka.ácj = y.e-ká.ácj* (See C1 of Table 4).

confirmed the tones. In this paper, high tones are marked with the symbol "´" whereas low tones are left unmarked. A period "." is interposed between a stem and a prefix or a suffix. A hyphen "-" shows a break in composite words. Synonyms or alternative forms are preceded by a slash "/".

A Zairean form of Swahili is used as a lingua franca in the eastern parts of the Republic of Zaïre. The Bwari speak a Tanzanian form of Swahili as well. I used Zairean Swahili for communication and collected vernacular fish names both in the mother tongues of the informants and in the lingua franca of the region.

1.1 Fish fauna

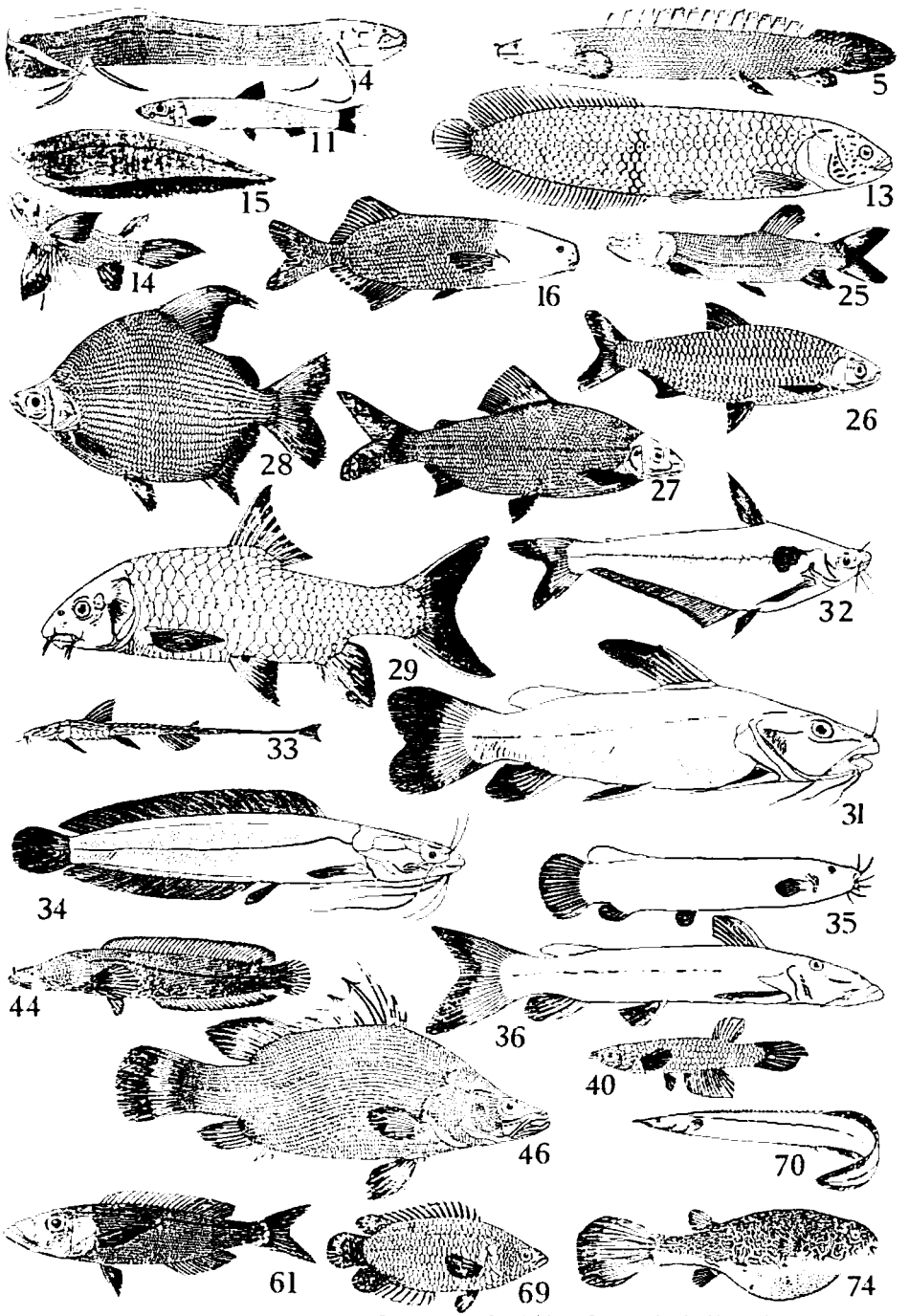
Poll (1973) wrote that freshwater fish of Africa consist of 44 families, 280 genera, and as many as 2510 species. Today, the Check-List of the Freshwater Fishes of Africa (CLOFFA) Vol. 1-3 (Daget *et al.* 1980-) contains 73 families, 340 genera and 2038 species, and the last unpublished volume (family Cichlidae) will deal with at least additional 100 genera and 700 species (Lowe-McConnell, 1987). This paper deals with 24 families and some 200 species identified from the two areas (Table 3). Poll (1957) divided Africa into 16 ichthyological regions. The Lualaba River near the town of Kindu is on the border of the Congo region and the Lualaba region whereas the Lake Tanganyika basin forms the Tanganyika region. From the Congo region 669 species belonging to 42 genera are known, and 548 species of them are endemic to this region. In the Lualaba-Upemba-Lufira systems 182 species of fish are distributed, and 41 of them are endemic to this region (Poll, 1976). More than 250 species belonging to 85 genera are distributed in the Tanganyika region, and 192 species and 44 genera are endemic (Brichard, 1978). The Congo and Tanganyika regions share a characteristic that their fish fauna are highly endemic.

An ethnozoological survey must preface an accurate knowledge of the fauna of the study area. It is difficult, however, to know the precise number of the species of the fish distributed around a location of survey. Along the Zaïre River, 235 species are reported from near Kinshasa (lower reaches), and 239 species are from near Yangambi, (middle reaches) (Poll et Gosse, 1963). In the Shaba region, along the upper reaches of the Lualaba to the south of Kindu, a total of 182 species have been reported (Poll, 1976), but one particular location will naturally have smaller number of species. A recent ichthyological survey of the Lualaba River collected 134 species including five new species (Banister and Bailey, 1979). Along the coast of Lake Tanganyika, about 110 species of fish were found near Uvira during the 1979 expedition of

Table 3. Fish families of the present paper

CLOFFA No.	Family name	CLOFFA No.	Family name	CLOFFA No.	Family name
# 4	PROTOPTERIDAE	#27	DISTICHODONTIDAE	#36	MOCHOKIDAE
# 5	POLYPTERIDAE	#28	CITHARINIDAE	#40	CYPRINODONTIDAE
#11	CLUPEIDAE	#29	CYPRINIDAE	#44	CHANNIDAE
#13	OSTEOGLOSSIDAE	#31	BAGRIDAE	#46	CENTROPOMIDAE
#14	PANTODONTIDAE	#32	SCHILBEIDAE	#61	CICHLIDAE
#15	NOTOPTERIDAE	#33	AMPHILIIDAE	#69	ANABANTIDAE
#16	MORMYRIDAE	#34	CLARIIDAE	#70	MASTACEMBELIDAE
#25	HEPSETIDAE	#35	MALAPTERURIDAE	#74	TETRAODONTIDAE

Fig. 4. African freshwater fishes



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Kyoto University. The Ubwari Peninsula, one of the study areas, lacks the riverine fishes of large rivers such as the Ruzizi and Malagarasi, and its total fish fauna will not exceed 100 species.

2. Ethnoichthyology of the Lualaba River fishermen: Songola subgroups

2.1 Folk knowledge of the human habitats among the Songola

The Lualaba River is called *lu.alaba* in Songola. This word has a plural form *ǹ.galaba*, and signifies any wide water body, including the ocean. According to Delhaise (1909: 201) the Songola knew of the existence of the ocean from ancient times. The land occupied by the Enya is called *mu.cili-w.á-lu.alaba*, ("near the Lualaba"), and is distinguished from the area remote from the Lualaba River called *ǹ.kanda* (dry land).

An Enya village (*ka.cá*) is located on *lo.belé*, a riverside slope, where water does not reach even in years of inundation. At the foot of a village, there is a moor (*j.búngu*) for the dugouts (*bu.átu*). Some fishermen other than the Songola-Enya are new-comers, and have fishing camps in islands (*ki.lílá*) and along the riversides where there is a risk of inundation.

Upstream, the Lualaba is called *mu.lu*, and downstream is *ma.língá*. Hence the subgroup of the Songola living along the upstream of the Lualaba has the name of *Bjsímulu* (upstream people), and the downstream subgroup is called *Ba.malíngá* (downstream people) by the Kuko subgroup who live between these two. Riversides are distinguished as *.caámbá* (this side) and *ku.lúlú* (the opposite side). *Ń.pukú*, the narrow straits between the banks and islands are preferred by the boatsmen as passages for a trip instead of the rapidly flowing Lualaba.

2.2 Folk knowledge of the habitats of fish among the Songola

The Enya subgroup of the Songola divide the habitats of fish into three major zones: *ki.liba* (swamp), *ka.ácj* (stream), and *lu.úcj* (river). Near Kindu only two "rivers," namely the Lualaba and the Elila (*líla*) are recognized (see Fig. 2).

A swamp (*ki.liba*) is not covered with water during the dry season (*bu.wá*), and the area where there is water all the year is called *ki.cábácábá-k.é-ki.liba* in Enya dialect and *j.talú* in Kuko dialect. Such a wet spot where a stream rises is called *ǹ.kúngú-y.e-ká.ácj* ("head of a stream"), and flows into the Lualaba at a spot called *mu.súlu* (estuary).

The water of the Lualaba beside the riverbeds is *ku.sí*, and points remote from the riverbeds is *mu.jaba* (in the middle of the width) or *mu.úgi-y.á-lu.alaba* (in the center of the Lualaba).

There are three characteristic habitats on the river bottom: *lo.cómbú* (muddy place), *j.sé* (sandy place), or *ma.we* (rocky place). Muddy places are found in swamps and streams. Spots around an island are generally sandy. There are few sandy dunes in the Lualaba even during the low water season after several extraordinary inundations. Rocky places are subdivided into 1) *bj.sángásánga* (conglomeratic rock) where there are bivalve shellfish, 2) *.melá* (large flat rock) where it is difficult to use a pole to drive a dugout, 3) *ǹ.túndí* (a rock not higher than a man) which is found both in the Lualaba and in streams, 4) *mu.nungu* (a rock larger than a hut), which becomes visible during the low water season and around which the water makes a roaring sound, and 5) *ki.kúlú* is a place of the rapids (*mu.súsá*) in the upstream of the Town of Kindu.

The water under a riverside foliage of shrubs is called *j.séngo*. Tall grasses called *ma.kanga* grow in the water in places which are also called *ma.kanga*.

Table 4. Folk knowledge of the habitats of fish among the Songola-Enya

Codes	*Songola names*	Explanations
A	*ki.liba (bi.)*	swamps
A1	*ki.liba-k.é-ki.líla*	swamps in islands
B	*lu.úci (ǹ.gúci)*	the Elila River
C	*ka.ácị (tu.)*	streams
C1	*ǹ.kúngú-y.e-ká.ácị*	headwaters of streams
C2	*mu.súlu (mi.)*	estuaries of streams
D	*ku.sí-y.e-lú.alaba*	the Lualaba River, riversides
D1	*ma.kanga*	foliage of grasses (*Echinochloa* & *Vossia* spp.)
D2	*i.séngo (ma.)*	shades of shrubs stretching over water
E	*mu.úgi-w.é-lu.alaba*	the Lulalaba River, midstreams
E1	*.ankanda-né-ma.áncị*	near the surface
E2	*mu.ingya-ma.áncị*	the middle depths
E3	*m̀.bílú (m̀.)*	near the bottom
F	*.boma (.)*	hydroelectric dam lake of the Ambwe River
m	*lo.cómbú (ǹ.)*	muddy places
s	*i.sé (ma.)*	sandy places
r	*ma.we*	rocky places
r1	*.melá(.)*	big flat rocks in the water
r2	*bi.sángásánga*	conglomeratic rocks in the water

A stretch of water where flowing gill nets can be used is *ki.anca-k.é-ma.kila* (way for nets), and is called by the name of the nearby village whoseresidents have the right to use it. Between these stretches of water there are spots dangerous for net fishing because of *ki.káti* (underwater logs and stumps). Among such *ki.káti*, logs are called *mu.kula*, and stumps, *ki.cíndi*.

Mu.íma is a shallow spot in the Lualaba where a 4-meter paddle can touch the bottom in dry seasons, and a deep spot is *mu.liba* (a word having the same stem as *ki.liba*, swamps). *Ki.ncimbi* is a deep hole where there is a whirlpool (*i.kúndúli*). The Enya believe that there are evil spirits such as *mo.kési* (imaginary creature resembling a mermaid, called *chunuzi* in Swahili) underneath such a whirlpool. There have been locations on the Lualaba called by proper names for the worship of *mu.limu*, or ancestral spirits.

The surface water is *a.nkanda-né-ma.áncị*("upper part of water"), the middle water is *mu.íngya-ma.áncị*, and the bottom is called *m̀.bílú*.

Table 4 lists the vernacular terms for the habitats that were frequently utilized during the interviews on the folk knowledge of fish.

2.3 Seasons

A year (*ki.imu*) for the Songola is composed of *bu.wá* (dry season) and *n.coó* (rainy season). The rainy season begins in October and ends in April. There is a pause of rain in February followed by heaviest rains in April. Kuko subgroup of the forest call this pause in the rainy season *ki.kámbá ki.sali* (a bit of sunshine), but the Enya include it in *n.coó*.

The water level of the Lualaba comes to a peak in March-April, then begins to fall in May becoming lowest in August, when the sandy dunes are exposed. The catch is most abundant in the dry season. The Lualaba rises again in November and arrive at its maximum in February if the rainy season begins

earlier than an average year. During the period of inundation (Feb.-Apr.) the catch becomes scarce, and the fish enter the flooded scrubs of the riverside to lay their eggs. Dugouts are rowed up through these scrubs. The difference in the water level sometimes reaches 4 or 5 meters in years when there is exceptional flooding.

2.4 Fishing methods of the Songola

The Enya are acquainted with as many as 22 fishing methods, but 4 of them are no more extant today. The Kuko subgroup of the Songola, shifting cultivators dwelling in the forest zones, practice four other methods using traps set in small streams and swamps where the Enya seldom fish.

The fishing methods are explained below in order of the folk classification of the fishing gear of the Songola: *KO.TOT.Á* (diving in the Lualaba, coded as f10-11), *KO.ÉL.A* (bailing swamps, f20-21), *KA.LÙNGÚ* (fishing hooks of any sort, f30-36), *J.LUNGA* (traps, f40-49), and *MA.KÍLA* (fishing nets, f50-59).

f10 *KO.TOT.Á* and f11 *ko.tot.á-né-ǹ.dúbú* The verb .tot. means diving in water. Example: *Á.tot.í mu-m̀.bílú* (He dives to the bottom). During the low water season a fishermen dives with his *ǹ.dúbú* or harpoon with a detachable head (Fig. 5.10 and 5.11) to 1) catch fish under *mu.nungu* (a rock larger than a hut) or to catch big fish of family Bagridae (#31, family number of CLOFFA. See Fig. 4 and Table 2) living in their nest holes dug on the riverbeds. One must be very brave to be able to dive a long time in the muddy water of the Lualaba.

f20 *KO.EL.A* The Songola build small dams with rotten logs and leaves across a stream and bail out water and collect small fish (Fig. 5-2). The Kuko women frequently practice small-scale bailing during dry seasons. A small scoop net *lu.cílú* (Fig. 5.1) is always used. In some cases *ka.ítá* (fish poison) is used. It is called f21 *ko.él.a-né-ka.ítá*. Pounding the poisonous plants is the task of the men. The Kuko utilize two cultivated plants and least six wild species as fish poison.

f30 *KA.LÙNGÚ* Fishing hooks. Six variations (f31-36) are known. Bait made of diverse materials are used: fish, *mo.sóbo* (earthworm), *lo.pó* (*pose* in Swahili, maggots of an insect of the family Curculionidae also appreciated by humans), *m̀.bíla* (oil palm fruits), and *ka.ombóomba* (boiled and pounded sweet cassava). The Enya distinguish the catch according to the feeding behavior of the fish: 1) Never caught with hooks, 2) caught with bait made of sweet cassava, 3) caught with bait other than sweet cassava, and 4) caught with any of the bait.

f31 *ma.líli* Hooks fixed with half-fathom lines on the riverside slope (D1 of Table 4) or in swamps (A and A1). Bait is renewed twice a day. Lung-fish (#4) is often caught with f31.

f32 *mu.kándá* Hooks fastened to floats made of soft core of *Raphia* palm stem (*mu.kúlú*) with 2-fathom lines (Fig. 5.14). 100 to 200 floats are made to flow down the river for a distance of several kms. Catfish of the family Schilbeidae (#32) are caught.

f33 *mo.lómba* Two to three hooks fastened to a 1-meter float made of parasol tree (*mo.lómba*) with a stone as a weight to fix the float (Fig. 5.12 and 5.13). Some floats are put near riverbeds (D) and in the Elila River (E) where the water is not very deep.

f34 *mo.mpósó* Angling with a rod (*mo.mbáká*). Small hooks are used by children and to catch the fish as bait for f35 angling. A large hook is fastened to a strong rod made of *i.bondo* (*Raphia* palm stem). This rod is set up on the bank, and when a powerful fish such as a tiger-fish (#26) carries the rod with it, fishermen can pursue the rod floating on the water.

Table 5. Fishing methods of the Songola

Codes	*Songola names*	Explanations
f10	*KO.TOT.A*	diving
f11	*ko.tot.á-né-ñ.dúbú*	diving with a harpoon
f20	*KO.ÉL.A*	bailing in streams
f21	*ko.él.a-né-ka.ʃtá*	bailing with fish poisons
f30	*KA.LÙNGÙ (TU.)*	angling in general
f31	*ma.líílí*	hooks fixed with half-fathom lines in swamps
f32	*mu.kándá (mi.)*	hooks flowing down with floats and lines
f33	*mo.lómba (me.)*	hooks with sinks and long wooden floats
f34	*mo.mpésó (me.)*	hook and line
f35	*mu.támbá (mi.)*	longline laid along the riverbeds
f36	*mu.shípi (mi.)*	angling with big hooks
f40	*ʃ.LUNGA (MA.)*	fishing traps in general
f41	*ka.lʃmu (tu.)*	large conical trap set in grasses
f42[1]	*mo.óngósó (me.)*	slender conical trap set in streams
f43[1]	*lu.biya (m.)*	weir built across a stream with inserted traps
f44[1]	*ki.súbú (bi.)*	cylindical trap using baits (60 cm long)
f45[1]	*ka.léka (to.)*	cylindical trap using baits (30 cm long)
f46	*lo.léka (ñ.déka)*	six-meter trap handled on the sides of a dugout
f47	*ke.téta (bi.)*	fence in grasses with a conical trap on its end
f48	*m.pundi (m.)*	fence in a stream with a conical trap on its end
f49[2]	*mu.saba (mi.)*	basket-like trap made of oil palm leaves
f50	*MA.KÍLA*	fishing nets in general
f51	*.bucáká (.)*	gill net having 4-5 finger mesh width
f52	*.abulamídesu(.)*	ready-made gill net of 1 finger mesh width
f53	*.cacáca (.)*	ready-made gill net of 2-3 finger mesh width
f54[2]	*.melélé (.)*	wide gill net
f55[2]	*.salí (.)*	floating gill net
f56	*ma.kila-m.é-mu.mpúngú*	small gill net of 1-finger mesh width
f57[2]	*bu.kákálíá (ma.)*	seine net of 2-2.5 finger meshes
f58	*ki.kútú (bi.)*	short gillnet fixed along the riverside
f59	*.lʃmína (.)*	casting net

[1] Used only by the forest-dwelling Kuko cultivators. [2] No longer extant.

f35 *mu.támbá* Longlines laid along the riverbeds. 200 to 600 hooks are fastened to a rope at an interval of one fathom. Upside-down catfish (#36) are caught with cassava bait, and catfish (#34), electric catfish (#35), and Nile perch (#46) are caught with fish bait.

f36 *mu.shípi* Large hooks as long as 8 cms. With fish bait the Enya catch the same fish as with f35.

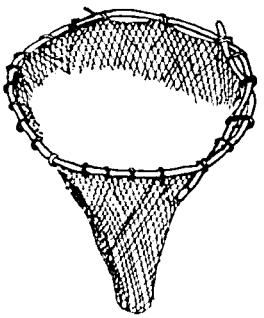
f40 *ʃ.LUNGA* Traps. The term is also applied to hunting traps in the forest. Nine variations (f41-49) are known.

f41 *ka.lʃmu* Large conical traps set in grasses during the high water season. Large fish of the families Distichodontidae (#27) and Citharinidae (#28) are caught.

f42 *mo.óngósó* One to 2-meter long slender conical traps (Fig. 5.5). The Kuko men set this trap in swiftly flowing streams without using any bait.

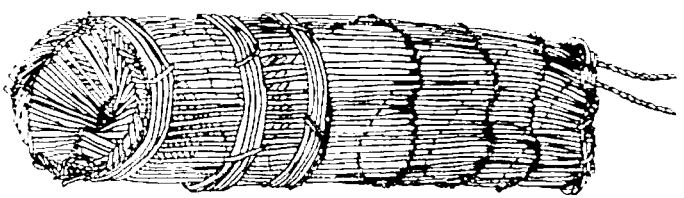
f43 *lu.biya* A 2-meter high weir constructed across a stream (Fig. 5.6).

Fig. 5.
Fishing methods of the Songola



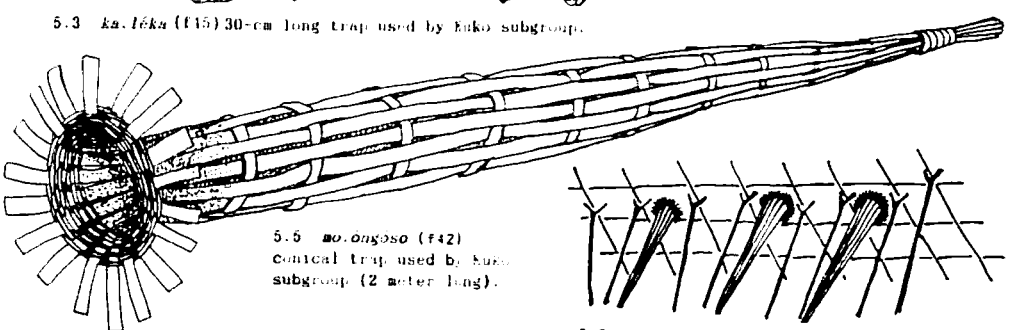
5.1 *lu.cflú*
small scoop net
for bailing (f20).

5.2 Bailing (f20) in the forest.



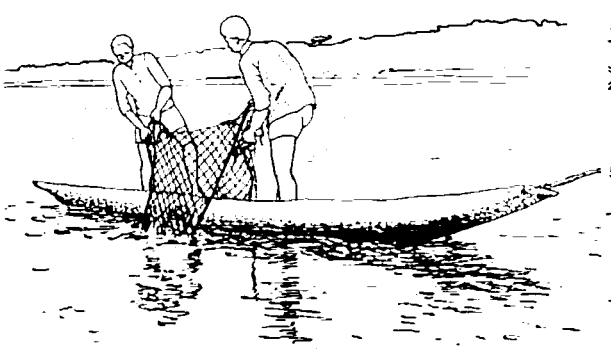
5.3 *ka.léka* (f15) 30-cm long trap used by Kuko subgroup.

5.4 Fastening bait on
ka.léka with a leaf.

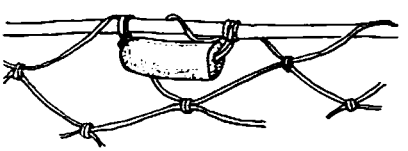


5.5 *mo.ongoso* (f42)
conical trap used by Kuko
subgroup (2 meter long).

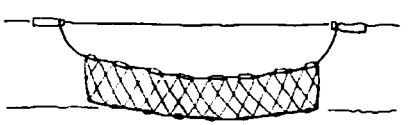
5.6 A scheme for *lu.biya* (f43) fishing.



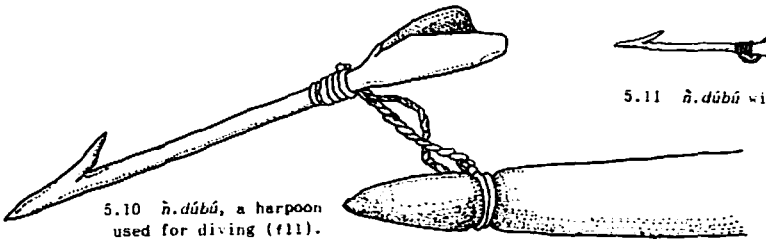
5.9 Hauling a *lu.cáká* (f51) net.



5.7 Method for fastening floats on a net.

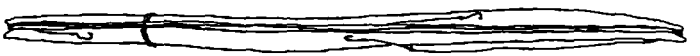


5.8 A scheme for flowing gill nets.

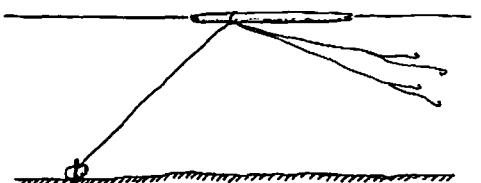


5.10 *ǹ.dúbú*, a harpoon used for diving (f11).

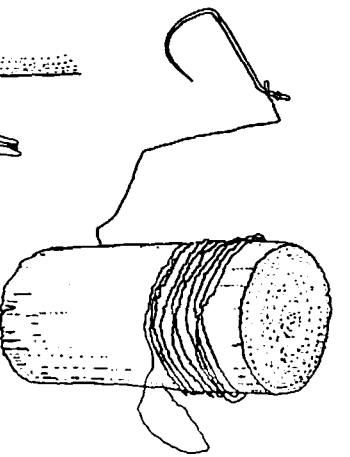
5.11 *ǹ.dúbú* with its head attached.



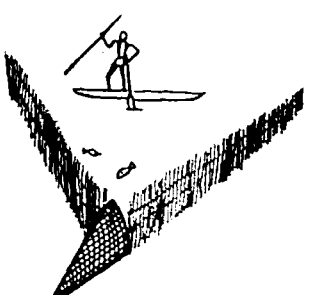
5.12 *mo.lómba* (f33) (1.5 meter long)



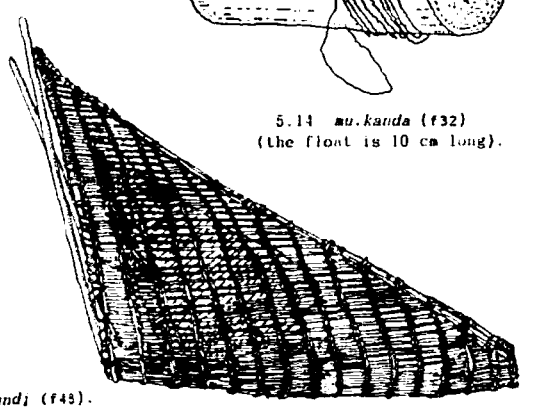
5.13 A scheme for *mo.lómba* fishing.



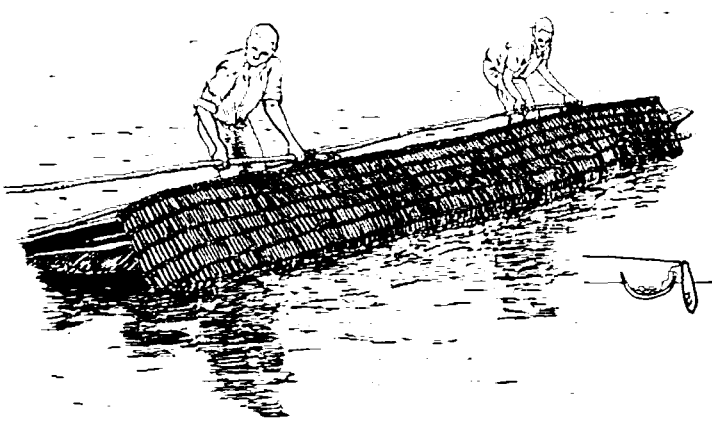
5.14 *mu.kanda* (f32) (the float is 10 cm long).



5.15 A scheme for *m.pundi* (f48).

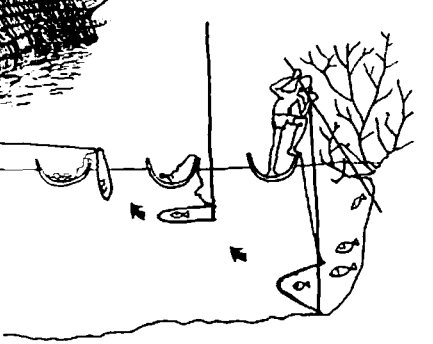


5.16 *ka.ony* used for *m.pundi* fishing. (2 meter long)



5.17 Hauling *lo.léka* (f46) in a dugout.

5.18 A scheme for *lo.léka* fishing.



Mu.anju (Kuko dialect), traps resembling f42 in shape, but much larger in size (about 5 meter long) are inserted in the weir. Kuko families construct f43 weir in March and wait for the rainfall of the shorter rainy season in April that sweeps the fish into traps. This is the most productive fishing method for the forest-dwelling Songola.

f44 *ki.súbú* Middle-sized cylindrical trap (60 cm in length and 25 cm in diameter) of the Kuko men set in shallow streams. *Ky.onyá*, maggots of an unidentified insect are ground and spread on a broad leaf of the family Marantaceae which wraps the trap and serves as a bait.

f45 *ka.léka* Small-sized cylindrical trap (30 cm in length) having the identical form of f44 (Fig. 5.3). Used by the Kuko men only during dry seasons. Bait is used just as in f44 (Fig. 5.4). More frequently used than f42 or f44.

f46 *lo.léka* Dugout-side trap handled by two fishermen (Fig. 5.17). The width of this trap made of rattan has a length of six meters and a depth of about 85 cms. First, the mouth is widely opened underneath the riverside foliage (D2) with the aid of two long handles pushing down the lower ridge and a rope fixed on the upper ridge. Then, two other poles are thrashed before the trap in the effect of driving the fish inside. Now the handles are hastily pulled up to shut the mouth (Fig. 5.18). Mainly used at night, there is some risk of trapping snakes, small crocodiles, and other dangerous animals. Manipulating this big and heavy trap requires not only skill and courage, but also cooperation of the fishermen. This may explain the reason why the couple is fixed until the trap goes rotten at the end of the low water season. Economically very important for the Enya who are not in possession of expensive nylon nets.

f47 *ke.tétá Lu.kálá*, a screen made of woven *Raphia* palm stems is used. At dawn the Enya fishermen surround a semi-circular patch of shallow water having grass vegetation (D1) with this screen. A 2-meter long conical trap (*ka.onu*) (Fig. 5.16) is set on one end of the screen, and the grass is cut down with a bush knife (*lu.pánga*). In the meanwhile the screen is gradually rolled up from the other end of the trap until the patch of water is swept and the fish that have been surrounded by the screen are all driven into the trap.

f48 *m.pundi* This method uses the same trap (*ka.onu*) as in f47. In spots of shallow water a fence is constructed to form an angle where the trap is placed. At night Enya fishermen in a dugout stealthily approach the patch of water between the two wings of the fence, and thrust poles in water to drive the fish into the trap (Fig. 5.15). This method is used either in the Lualaba during the low water season, or in the streams at high water by shutting the stream with the fence.

f49 *mu.saba* Oil palm leaves woven with rattan fiber to make a scooping basket. Small fish as *mu.ɲgilí* (S134, reference number of Table 7) were caught. This is an old fishing method that is no more practiced today.

f50 *MA.KILA* Fishing nets in general. Nine variations (f51-59) are known. There are flowing nets (f51-f56), nets manipulated by human power (f57 and f59), and fixed nets (f58). Among the flowing nets sinking nets (*ma.kila-m.é-m.bílú*) and floating nets (f54-f56) (*ma.kila-m.é-ku.yúlú*) are distinguished. Nets f51-53 have a height of about one meter.

f51 *.bucáká* Flowing gill nets having a mesh size of 4-5 times the width of a finger. An Enya fisherman buys bobbins of nylon thread to make a *.bucáká* himself. Before the introduction of nylon threads in the 1950's fishing nets were made by the Binja subgroup of the Songola out of fibers taken from the bark of *lu.kúsa*, a wild liana (*Manniophyton fulvum* MÜLL. ARG.) growing in the

forest. The length is measured by *ke.sembé*, or fathom, but the measurement of the net length is done with all the threads bundled together. A .bucaka net has 100-300 fathoms (110-330 meters in use). The number of *lj.kupe* (wooden floats) and *ka.ngánda* (ceramic sinkers) must be regulated so as to make the net sweep the bottom efficiently. On both ends of the rope holding the floats *m.bagé*, 80-cm long wooden floats are attached. These can be used through the seasons night and day thanks to the thread that is not easily torn even in swiftly flowing water.

f52 *.abylamídesy* Ready-made flowing gill nets having a mesh size of 4-5 times the width of a finger and much finer threads than f51. This is said to be the name of a Greek merchant who first sold nets of this type in Kindu. Its usage resembles that of f51. It is suited to the catch of upside-down catfish (#36) in November and December.

f53 *.cacáca* Ready-made gill nets having a mesh size of 2-3 times the width of a finger. Made of finer thread than f54, it is used during low water season when there is less risk of tearing. The introduction of this net made it possible to catch some smaller fish species living in the midst of the Lualaba that had been seldom caught before.

f54 *.melélé* Traditional flowing gill nets with a mesh size of 4-5 times the width of a finger (no longer extant). Two nets were united to make a two-meter high, 150-fathom long net of *lu.kúsa* liana. Floats the size of an arm were fixed to the net at every 30 cms, and no sinkers were attached. It caught larger fish of the upper water by day and by night.

f55 *.salí* Traditional flowing gill net of f51 type (no longer extant). Sinkers were fixed at every fathom, whereas floats were fixed at every half fathom to make the net to flow near the surface water. Tiger-fish (#26) was caught at night.

f56 *ma.kjla-m.é-mu.mpúngú* Short flowing gill nets having a mesh size the width of one finger. A 3 to 10-fathom long nylon net is let to flow down the surface of water near the riverbeds for a distance of 20-50 meters. Smaller fishes of the families #26 and #29 especially *mu.mpúngú* (S31) are caught at night. The catch is successful at dawn under the setting full moon.

f57 *bu.kákálja* Dragnets having a mesh size of 2-2.5 made of *lu.kúsa* fibers. Wooden floats the length of a forearm are used. Sinkers are fastened at a short interval the length of a hand. and the wrist. A circular area of a sandy dune was surrounded and dragged with this net by two fishermen at night. Moon-fish (#28) was the principal catch. Abandoned with other *lu.kúsa* nets after the introduction of nylon nets..

f58 *ki.kútú* Short gill nets fixed in the grass growing along the riverside or streams. One unit of such a gill net is 15 fathoms long. *Bj.úcú* or largely torn nets of f52-f53 type are used for this method. During the period of the highest water level, these gill nets are fixed in submerged shrubs since other fishing methods are less productive because of inundation.

f59 *.ljmjna* (or *.aljmjna*). Casting nylon nets with a diameter of 4 meters. Introduced by the Lokele fishermen who migrated from near Kisangani into the Songola territory. Thrown from riversides or from dugouts. A fishermen holds one of the lead sinkers with his teeth so that the net becomes well expanded when it falls in water.

Table 5 provides an index to these fishing methods of the Songola.

2.5 Nomenclature of fish among the Songola

The Enya fishermen call fish *Ñ.FII(Ñ.)* whereas the Kuko cultivators call it *KE.SOKO(BJ.)*, a word that means also side dishes of any sort. They do not

Table 6. List of abbreviations used in Tables 7 and 11.

In Tables 7 and 11, informations are arranged in the following order.

Ref. no.: Reference numbers beginning with S (for Songola subgroups) or B (for the Bwari and their neighbors).

CLOFFA no.: Reference numbers for African freshwater fish in CLOFFA (Daget *et al.* 1980-)

Scientific names: According to CLOFFA except for the family Cichlidae. Family names are capitalized.

Sample no.: 9163, etc. corresponds to a specimen conserved in Kyoto University. Obs. (=observation) means that no specimen was prepared, and Inf. (=information) means that the vernacular names were obtained from figures and photographs. As for the Table 11, B. and P. mean vernacular names obtained from the figures and photographs of Brichard (1978) and Poll (1953, 1956)

Stand. length: Standard length, or the length between the snout and the beginning of the caudal fin, of the fish collected or observed.

"Swahili names": Vernacular names in the local lingua franca. Although the informants affirm that these terms are Swahili, they may have their etymology in languages other than Swahili.

Vernacular names: Tones, prefixes, and noun classes are described.

Habitat: Folk knowledge of the habitats of fish (see Tables 4 & 9).

Fishing methods: fishing gear used to capture the fish (see Tables 5 & 10).

include in the category of *Ñ.FII/KE.SÓKÓ* other animals found in the water such as *ǹ.gubú* (hippopotamus), *ǹ.gwena* (crocodile), *mo.pálj* (prawn), *j.kálá* (crab) and *N.KÉSÉ* (molluscs). The existence of *ma.mba* (scales) such as crocodiles and pangolins is not enough to be regarded as *Ñ.FII/KE.SÓKÓ* which is characterized by its *ke.sélélé* (caudal fin). Therefore, it may be concluded that *Ñ.FII/KE.SÓKÓ* corresponds to the biological taxon of teleost fish (Teleostei).

Table 6 is the list of abbreviations used to describe the outline of the knowledge of Songola subgroups (Enya, Kuko and Binja) and Lake Tanganyika fishermen (Bwari, Bembe, and Vira).

Table 7 lists the nomenclature of fish among the three Songola subgroups with some more information on the folk knowledge on habitats and fishing methods used. Detailed description of the information given by the informants will be provided in the section 2.7.

2.6 Folk classification of fish among the Songola-Enya

Folk knowledge of the Songola on the fish of the Lualaba River described in the previous section 2.5 is analyzed and arranged as a system of folk classification in Table 8.

Table 8 is made up according to the following principles:

1) A vernacular name that never includes other vernacular names is an "individual name" and is written in small letters.

2) A vernacular name that includes other vernacular name(s) is an "inclusive name" and is capitalized as in *Ñ.FII* and *KE.SÓKÓ*. These two principals are applied throughout this paper.

3) All other lexemes of my deduction are put in parentheses. For example, we can deduce a common lexeme *"lo.sese"* out of *lo.sese* (S15 etc.) and *lo.sese-l.é-ki.sibili* (S26 etc.). Nevertheless, seeing that the Enya never call *lo.sese-l.é-ki.sibili* simply as *lo.sese*, the lexeme *"lo.sese"* is not an inclusive name, and is put in parentheses.

4) Folk categories without inclusive names ("covert categories" of Berlin *et al.* (1974)) are put in brackets. This paper deals with only two kinds of covert categories: "residual category" (Hunn, 1977) and "growth fish" or fish that change vernacular names in the course of their life cycle stages. The Enya recognize many such "growth fish". Each individual name belonging to a covert category of "growth fish" in Table 7 is preceded by a number (1 to 4) to indicate the stage that it represents and the earliest stage corresponds to number one.

The Enya classify *Ñ.FIÍ* into *Ñ.FIÍ-C.É-MA.MBA* (fish with scales) and *Ñ.FIÍ-C.É-BO.SÉLO* (fish without scales, or fish with slimy skin). *Ñ.FIÍ-C.É-MA.MBA* is further divided into *Ñ.FIÍ-C.É-MA.MBA-MA.KÚLÚ* (fish with large scales) and *Ñ.FIÍ-C.É-MA.MBA-MA.SÁLÍ* (literally fish with small scales, explained as fish with soft and edible scales). Further, *Ñ.FIÍ-C.É-MI.KÚWA* (fish with poisonous spines)is divided from *Ñ.FIÍ-C.É-BO.SÉLO*. Seeing that uneaten scales and poisonous spines must be removed before consumption, the criteria for such categorization seem to be related with the specific method of preparation for cooking. At lower levels of folk classification there exist eight inclusive names such as *.MANDA* and *MO.KASÁ*. Of the eight inclusive names, *N.GANGA* is further included in *Ñ.CIÍ*. Thus, the system of folk classification of fish among the Enya is usually composed of five levels of categorization, and of six levels at most. There are eighteen series of "growth fish" or life cycle stage covert categories, which include 43 individual names. One "growth fish" has four life cycle stage names, three have three stages, and fourteen have two stages. About 40 per cent of the individual fish names (synonyms excluded) correspond to "growth fish".

Table 8 contains 121 individual vernacular names of the Enya corresponding to at least 97 species of fish. Fifty-nine examples are one-to-one correspondence between a species and a vernacular name (59 species and 59 names); correspondences of one species-to-many names, 36 examples (16 species and 36 names); many species-to-one name, 17 examples (17 species and six names), and many species-to-many names, nine examples (four species and seven names). In conclusion, the Enya have 108 vernacular name of fish that correspond to at least 96 species.

The Kuko subgroups of the Songola have only one inclusive name *KE.SÓKÓ* which includes 39 individual names. Their system of folk classification is composed of only two levels, much simpler than the six levels of the Enya. The Kuko have two sets of "growth fish" that correspond to two vernacular names each.

Table 7-1. Nomenclature of the fish among the Songola (Lualaba River)

Ref. No.	CLOFFA No.	Scientific names	Sample No.	Stand. length	"Swahili" names
	4	PROTOPTERIDAE			
S1	4. 1	*Protopterus* sp.	Inf.	-	-
S2	4. 1. 2	*Protopterus aethiopicus* HECKEL	Obs.	*ca* 400	sembe
	5	POLYPTERIDAE			
S3	5. 2. 4	*Polypterus endlicheri* HECKEL	9163	490	-
S4	5. 2	*Polypterus* sp.	Inf.	-	-
S5	5. 2. 5	*Polypterus ornatipinnis* BOULENGER	Obs.	350	-
	11	CLUPEIDAE			
S6	11. 8. 2	*Microthrissa royauxi* BOULENGER	9139	69	ndakala
S7	11.14. 2	*Potamothrissa obtusirostris* (BOULENGER)	9140	54	ndakala
	13	OSTEOGLOSSIDAE			
S8	13. 1. 1	*Heterotis niloticus* (CUVIER)	Obs.	*ca* 800	muzalazala
	14	PANTODONTIDAE			
S9	14. 1. 1	*Pantodon buccholzi* PETERS	Inf.	-	-
	15	NOTOPTERIDAE			
S10	15. 2. 1	*Xenomystus nigri* (GÜNTHER)	Obs.	190	-
	16	MORMYRIDAE			ndomondomo
S11	16. 3. 6	*Campylomormyrus elephas* (BOULENGER)	9119	182	-
S12	16. 3. 9	*Campylomormyrus numenius* (BOULENGER)	9116	195	-
S13	16. 3.13	*Campylomormyrus tamandua* (GÜNTHER)	9118	177	-
S14	16. 5. 5	*Gnathonemus petersii* (GÜNTHER)	Obs.	350	-
S15	16. 7.16	*Hippopotamyrus wilverthi* (BOULENGER)	9121	145	kemamba
S16	16.11.16	*Marcusenius greshoffi* (SCHILTHUIS)	9183	89	-
S17	16.11.22	*Marcusenius macrolepidotus* (PETERS)	9180	122	-
S18	16.11.31	*Marcusenius stanleyanus* (BOULENGER)	9120	174	-
S19	16.12	*Mormyrops (Mormyrops)* sp.	Inf.	-	-
S20	16.12.12	*Mormyrops (Mormyrops) deliciosus* (LEACH)	9117	192	-
S21	16.12.20	*Mormyrops (Mormyrops) masuianus* BOULENGER	9196	524	-
S22	16.12.22	*Mormyrops (Mormyrops) nigricans* BOULENGER	Obs.	270	-
S23	16.12	*Mormyrops (Mormyrops)* sp.	Inf.	-	-
S24	16.13	*Mormyrus* sp.	9153	185	ntafu
S25	16.16. 6	*Petrocephalus catastoma* GÜNTHER	9184	73	-
S26	16.16.16	*Petrocephalus sauvagii* BOULENGER	9174	115	-
S27	16.17	*?Pollimyrus* sp.	9122	57	-
S28	16.18. 6	*Stomatorhinus microps* BOULENGER	9199	63	-
	25	HEPSETIDAE			
S29	25. 1. 1	*Hepsetus odoe* (BLOCH)	9216	248	-
	26	CHARACIDAE			
S30	26. 1.18	*Alestes imberi* PETERS	9112	69	kibela
S31	26. 1.27	*Alestes macrolepidotus* (VALENCIENNES)	9115	122	pungululu

Ref. No.	Songola names of the fish: Enya dialect	Kuko dialect	Binja dialect	Knowledge on habitat	Fishing methods (f-)
S1	2 *ki.bûba(bj.)*	-	-	-	-
S2	1 *ǹ.sémbé(ǹ.)*	*ǹ.sémbé(ǹ.)*	*.sénbé(.)*	A D1 m	20 31 47 48 58
S3	2 *mu.kúngá(mi.)*	*mu.kúngá(mi.)*	-	A C D	21 30 36 41 47 58
S4	1 *ka.pandamýkonge (to.)/mo.kombe(me.)*	-	-	A C D	46 48 58
S5	-	-	*mu.kúngá(mi.)*	F	-
S6	-	-	-	D	56 59
S7	*lu.ndakála(ǹ.)*	-	-	D	56 59
S8	-	-	-	D	59
S9	*ka.nyonjnfii(to.) /.nyonjnfii(.)*	-	-	D	40
S10	*lu.kumbi(ǹ.) /mu.kúmbí(mi.)*	*mo.kombé(me.)*	-	C	20 58
	Ǻ.POTO(Ǻ.)	*ka.mbóbó(to.)*	*KA.MBOBÓ(TO.)*	-	30 46 47 52 53 58
S11	*lu.kúúj(ǹ.)*	-	-	D	46
S12	*lu.kúúj(ǹ.)*	-	-	D	46
S13	*lu.kúúj(ǹ.)*	-	-	D	46
S14	*lo.bébé(m̀.)*	-	*ka.mbóbó-k.é-mo.lómo*	C	-
S15	*lo.sese(ǹ.)*	-	*ka.mbóbó-jsésé*	D	46 58
S16	*lo.sese-l.é-lu.alaba*	-	-	D E3 m	46
S17	*lo.sese(ǹ.)*	*ka.mbóbó(to.)*	*ka.mbóbó(to.)*	D	46
S18	*lo.sese(ǹ.)*	-	-	D	46
S19	2 *ǹ.táj(ǹ.)*	-	-	D1 D2 E	30 51
S20	1 *mo.mete(me.)*	-	-	D	35 36 46 51
S21	*mu.nkumba-w.á-ljla*	-	*ka.mbóbó-k.é-mu.sílíbánda*	A B D1	33 35 46
S22	*mo.mete-w.é-ka.ácj*	-	-	C	-
S23	*mu.cjmasúngú(mi.)*	-	-	C D m	-
S24	*j.bjo(ma.)*	-	-	D E r s	30 35 46 52 53
S25	*lo.sese-l.é-ki.bungi /mu.sikalubungi(mi.)*	-	-	D E3 m	46 53 58
S26	*lo.sese-l.é-ki.síbili*	*ka.mbóbó(to.)*	-	C D	20 46
S27	*lo.sese(ǹ.)*	-	-	D	46
S28	*lo.sese-l.é-ki.síbili*	*ka.mbóbó(to.)*	-	C D	20 46
S29	*mw.énge*	*mw.énge*	*mw.énge*	C	20 47 58
S30	*ki.bíla(bj.)*	*ki.bíla(bj.)*	-	D	34 46 58
S31	*mu.mpúngú(mi.)*	*mu.púngú(mi.)*	*mu.baj(mi.)*	D F	34 56

Table 7-2. Nomenclature of the fish among the Songola (Lualaba River)

Ref. No.	CLOFFA No.	Scientific names	Sample No.	Stand. length	"Swahili" names
S32	26. 1.28	*Alestes macrophthalmus* GÜNTHER	9168	118	-
S33	26. 1.33	*Alestes poptae* PELLEGRIN	9114	124	-
S34	26. 2. 4	*Alestopetersius hilgendorfi* (BOULENGER)	Obs.	130	-
S35	26. 2	*Alestopetersius* sp.	9138	56	-
S36	26. 2	*Alestopetersius* sp.	9165	55	-
S37	26.10	*Hydrocynus* spp.	-	-	manda
S38	26.10. 3	*Hydrocynus goliath* (BOULENGER)	Obs.	ca 500	-
S39	26.10.	*Hydrocynus* sp.	Inf.	-	-
S40	26.10. 2	*Hydrocynus forskalii* (CUVIER)	9169	260	-
S41	26.10	*Hydrocynus* sp. juv.	Inf.	-	-
S42	26.13	*Micralestes* sp.	9205	60	-
	27	DISTICHODONTIDAE			
S43	27. 3	*Distichodus* spp.			-
S44	27. 3	*Distichodus* sp.	Inf.	-	-
S45	27. 3. 4	*Distichodus antonii* SCHILTHUIS	Obs.	550	mukasa-wa-maganga
S46	27. 3. 5	*Distichodus atroventralis* BOULENGER	Obs.	ca 500	-
S47	27. 3	*Distichodus* sp.	Inf.	-	-
S48	27. 3. 9	*Distichodus fasciolatus* BOULENGER	9109	106	-
S49	27. 3.12	*Distichodus langi* NICHOLS & GRISCOM	Obs.	510	mukasa-wa-senku-minite
S50	27. 3.13	*Distichodus lusosso* SCHILTHUIS	9108	210	-
S51	27. 3.14	*Distichodus maculatus* BOULENGER			
S52	27. 3.22	*Distichodus sexfasciatus* BOULENGER	9187	114	masamba
S53	27. 5. 1	*Eugnathichthys eetveldii* BOULENGER	9112	141	-
S54	27. 8. 1	*Ichthyoborus besse* GÜNTHER	9113	122	-
S55	27. 9. 1	*Mesoborus crocodilus* PELLEGRIN	Obs.	190	-
	28	CITHARINIDAE			
S56	28. 3	*Citharinus* sp.	Inf.	-	-
S57	28. 3. 4	*Citharinus gibbosus* BOULENGER	9107	107	
	29	CYPRINIDAE			
S58	29. 4.14	*Barbus holotaenia* BOULENGER	9185	66	-
S59	29. 4	*Barbus* sp.	Inf.	-	-
S60	29. 4	*Barbus* sp.	Inf.	-	-
S61	29.10. 6	*Labeo barbatus* BOULENGER	Obs.	545	-
S62	29.10	*Labeo* sp. 1	Obs.	452	-
S63	29.10.19	*Labeo cyclopinnis* NICHOLS & GRISCOM	Obs.	545	-
S64	29.10.25	*Labeo falcipinnis* BOULENGER	9143	670	pono
S65	29.10.25	*Labeo falcipinnis* BOULENGER	9197	112	-
S66	29.10.38	*Labeo lineatus* BOULENGER	9193	300	sila
S67	29.10	*Labeo* sp. 2	Obs.	500	sila
S68	29.10	*Labeo* sp. 3	Obs.	620	mwarabu
S69	29.10.68	*Labeo sorex* NICHOLS & GRISCOM	9172	430	-
S70	29.10	*Labeo* sp.	Inf.	-	liputu

Ref. No.	Songola names of the fish: Enya dialect	Kuko dialect	Binja dialect	Knowledge on habitat	Fishing methods (f)
S32	*.manda-y.e-kí.bíla /j.úca(ma.)*	-	*j.úja(ma.)*	D F	-
S33	*ki.bíla(bi.)*	-	-	D	34 46 58
S34	-	*j.cyngí(ma.)*	*j.jyngí(ma.)*	C F	53
S35	*ki.bíla(bi.)*	-	-	D	34 46 58
S36	*lu.ndakála(n.)*	-	-	-	-
S37	*.MANDA(.)*	*.manda(.)*	-		31 54 55 58
S38	*.manda-y.e-mw.énge*	-	*.anganya(ba.)*	E	51
S39	3 *m.binga(m.)*	-	-	D	31 36 55
S40	2 *.manda-y.e-mú.mpúngú*	-	-	D	-
S41	1 *ka.mangámanga(tu.)*	-	-	D	56
S42	*lu.salísali(n.)*	*lu.sálisalí(n.)*	-	C	20
S43	*MO.KASÁ(ME.)*	*mo.kasá(me.)*	*mu.kasá(mi.)*	D E	31 47 48 51 53
S44	2 *n.cyna(n.) /mo.kasá-w.é-n.cyna*	-	-	D1	41 46 48 51
S45	1 *ki.mpukusu(bi.)*	-	-	A D1 E	21 46 51 58
S46	3 *ka.kwémbe(to.) /mo.kasá-w.é-ka.sií*	-	-	E3 s	34 51
S47	2 *ka.búmbwá(tu.)*	-	-	-	-
S48	1 *mo.kasá-mo.élo*	-	-	D m	34 53 58
S49	*.mánci(.) /mo.kasá-w.é-ka.lomo*	-	-	D r s	52
S50	*mu.kupi(mi.)*	*mu.kusukusu*	-	D1	53
S51	*mu.lungusiiba(mi.) /mu.lungucuma(mi.)*	-	-	D1	46 48 53
S52	*gembe(gembe)*	-	-	A D1	21 46 53
S53	*mu.nkwánkwa(mi.)*	-	-	D1 E	46 53
S54	-	-	-	D	46
S55	-	-	*mu.úkulu(mi.)*	F	50
S56	2 *m.bulí(m.) /lu.búku-l.é-m.bulí*	-	-	E s	51
S57	1 *lu.búku(m.)*	*lu.búku(m.)*	*lu.búku(m.)*	A C m	21 53 55 57 58 59
S58	*lu.úndí(m.púndí)*	*lu.úndí(m.púndí)*	*lu.púndí(m.)*	C	20 21 32 43 45
S59	2 *j.tulu(ma.)*	-	-	E r	30 35 51 52
S60	1 *ka.poépoé(to.)*	-	-	C C2 r	30 35
S61	*mu.tándá(mi.)*	-	-	E r	51
S62	*m.polóŋóni(m.)*	-	-	C E r	52 53
S63	*mo.lónge(me.)*	-	-	E r	51 52
S64	2 *m.bélélú(m.)*	*m.póno(m.)*	-	E r	30 51
S65	1 *mu.nkúncy(mi.)*	-	-	D	46 58
S66	*n.sila-y.e-ló.cómbú*	-	-	A C D m	35 46 51 58
S67	*n.sila-y.e-lú.ngúla*	-	-	C E s	51 52 58
S68	*mo.langancala(me.)*	-	-	E r s	51
S69	*ka.mbulukutu(tu.)*	-	-	E r s	51 52
S70	2 *ki.kungula(bi.)*	-	-	D	46 48 53

Table 7-3. Nomenclature of the fish among the Songola (Lualaba River)

Ref. No.	CLOFFA No.	Scientific names	Sample No.	Stand. length	"Swahili" names
S71	29.10.77	*Labeo verifer* BOULENGER	9135	125	liputu
S72	29.10	*Labeo* sp. 4	9192	120	sila
S73	29.10	*Labeo* sp. 5	9211	215	-
S74	29.10	*Labeo* sp.	Inf.	-	-
S75	29.19. 7	*Raiamas lujae* (BOULENGER)	9137	72	-
	31	BAGRIDAE			
S76	31. 2.14	*Auchenoglanis occidentalis* (VALENCIENNES)	Inf.	-	-
S77	31. 2.14	*Auchenoglanis occidentalis* (VALENCIENNES)	Obs.	*ca* 500	kafeke
S78	31. 2.14	?*Auchenoglanis occidentalis* (VALENCIENNES)	Obs.	-	-
S79	31. 2	?*Auchenoglanis* sp.	Inf.	-	-
S80	31. 4. 9	*Bagrus ubangensis* BOULENGER	9124	235	-
S81	31. 6	*Chrysichthys* spp.			pengele
S82	31. 6. 7	*Chrysichthys cranchii* (LEACH)	Obs.	*ca* 1000	karimba
S83	31. 6. 7	*Chrysichthys cranchii* (LEACH)	9125	-	-
S84	31. 6	*Chrysichthys* sp.	Inf.	-	-
S85	31. 6	*Chrysichthys* sp.	Obs.	-	-
S86	31. 6	*Chrysichthys* sp.	Obs.	*ca* 600	-
S87	31. 6. 6	*Chrysichthys brevibarbis* (BOULENGER)	Obs.	230	-
S88	31. 6.21	*Chrysichthys longipinnis* (BOULENGER)	9146	96	-
	32	SCHILBEIDAE			
S89	32. 4.12	*Schilbe (Eutropius)* sp.	Inf.	-	hongwe
S90	32. 4.12	*Schilbe (Eutropius)* sp.	Obs.	322	-
S91	32. 4.12	*Schilbe (Eutropius) grenfelli* (BOULENGER)	9148	139	mukelekeke
S92	32. 4. 2	*Schilbe (Schilbe) mystus* (LINNAEUS)	9149	235	pendakula
S93	32. 4	*Schilbe (Schilbe)* sp.	9186	109	-
	33	AMPHILIIDAE			
S94	33. 3. 1	*Belonoglanis tenuis* BOULENGER	9217	62	-
	34	CLARIIDAE			
S95	34. 1. 1	*Channallabes apus* (GÜNTHER)	9203	165	kambanyoka
S96	34. 3. 7	*Clarias buthupogon* SAUVAGE	9155	270	-
S97	34. 3.27	*Clarias platycephalus* BOULENGER	9207	138	-
S98	34. 3.	*Clarias* sp.	Inf.	-	-
S99	34. 3.	*Clarias* sp.	Inf.	-	kambale
S100	34.	?	Inf.	-	-
S101	34. 7. 3	*Heterobranchus longifilis* VALENCIENNES	Obs.	-	-
S102	34. 7. 3	*Heterobranchus longifilis* VALENCIENNES	Obs.	*ca* 700	-
S103	34. 7. 3	*Heterobranchus longifilis* VALENCIENNES	Inf.	-	-
S104	34. 7. 3	*Heterobranchus longifilis* VALENCIENNES	Inf.	-	-
	35	MALAPTERURIDAE			
S105	35. 1. 1	*Malapterurus electricus* (GMELIN)	Obs.	540	nyika

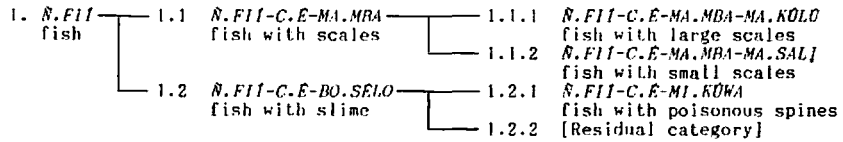
Ref. No.	Songola names of the fish: Enya dialect	Kuko dialect	Binja dialect	Knowledge on habitat	Fishing methods (f)
S71	1 *ke.mbelama(bj.)*	-	-	D m	35 46 53 58
S72	*mo.sombo(me.)*	-	-	A C D m	21 35 46
S73	*mu.úlj(mi.)*	-	-	E s r	52 53
S74	*ǹ.kulungú(ǹ.)*	-	-	E r	51
S75	*mu.lubí(mi.)*	-	-	D	56 59
S76	3 *ki.buwá(bj.)*	-	-	E3 m	33 50 52
S77	2 *ka.mpété(to.)*	2 *ki.buwá(bj.)*	*ki.buwá(bj.)*	D m	30 35 46 51 52 53 58
S78	1 *j.kómbé(ma.)*	1 *j.tokotoko(ma.)*	-	A C	21 31 34
S79	*j.kómbé-c.é-mi.súlu*	-	-	C2	-
S80	*mu.nungúngola(mi.)*	*mu.nungú(mi.)*	*mu.nungú(mi.)*	D	30 46 52 53
S81	*M.PENGELE(M.)*	*m.pengele(m.)*	-		
S82	2 *ǹ.kamba(ǹ.)*	-	-	E r	11 36 51
S83	1 *ke.kolu(bj.)*	-	-	D E s r	11 33 35 36 46 51 52 53 58
S84	1 *j.bolá(ma.)*	-	-	D E s r	11 33 35 36 46 51 52 53 58
S85	1 *m.pengele(m.)*	-	-	D E s r	11 33 35 36 46 51 52 53
S86	*mu.ungúlu(mi.)*	-	-	D E s r	11 33 35 36 46 51 52 53
S87	*mu.ungúlu(mi.)*	-	-	D E s r	11 33 35 36 46 51 52 53
S88	*mu.ungúlu(mi.)*	-	-	-	-
S89	2 *ka.bjli(tu.)*	-	-	E1	32 35 51 52
S90	1 *ka.ngélé(to.)*	-	-	D	32 58
S91	1 *ka.ngélé(to.)*	-	-	D	32 58
S92	*j.pepélé(ma.)*	*mu.péndákúla(mi.)*	-	C D	31 33 34 53 56 58
S93	*j.pepélé-c.é-ka.ácj*	-	-	C	20
S94	*mu.ntitinfii(mi.)*	*mu.títiánfii (mi.)*	-	A C D1	21 46 53 58
S95	*ǹ.kámbángola(ǹ.)*	*lu.kámbá(ǹ.)*	-	C m	20 45
S96	*ǹ.kéngé(ǹ.)*	*j.ombj(ma.)*	-	C	20 31 42 43 45
S97	*ki.búlj(bj.)*	*ki.mbúlj(bj.)*	-	C D E	20 31 32 35 36 43
S98	2 *mu.búmbi(mi.)*	-	-	C	30 43 50
S99	1 *ǹ.gola(ǹ.)*	*ǹ.gola(ǹ.)*	-	A C	20 21 35 42 43 44 45
S100	-	*lu.kinda(ǹ.)*	-	C	45
S101	4 *ǹ.samba(ǹ.)*	2 *ǹ.samba(ǹ.)*	2 *.samba(.)*	A D1	36 47
S102	3 *mo.sambaola(me.)*	1 *mo.sámbángola*	1 *j.sambangola*	A D1	31 36 46 51
S103	2 *ǹ.gola*	-	-	-	-
S104	1 *ka.olakancii(to.)*	-	-	-	-
S105	*.nyjnkj(.)*	*.nyjkj(.)*	*.nyjkj(.)*	D2 F	30 36 46 58

Table 7-4. Nomenclature of the fish among the Songola (Lualaba River)

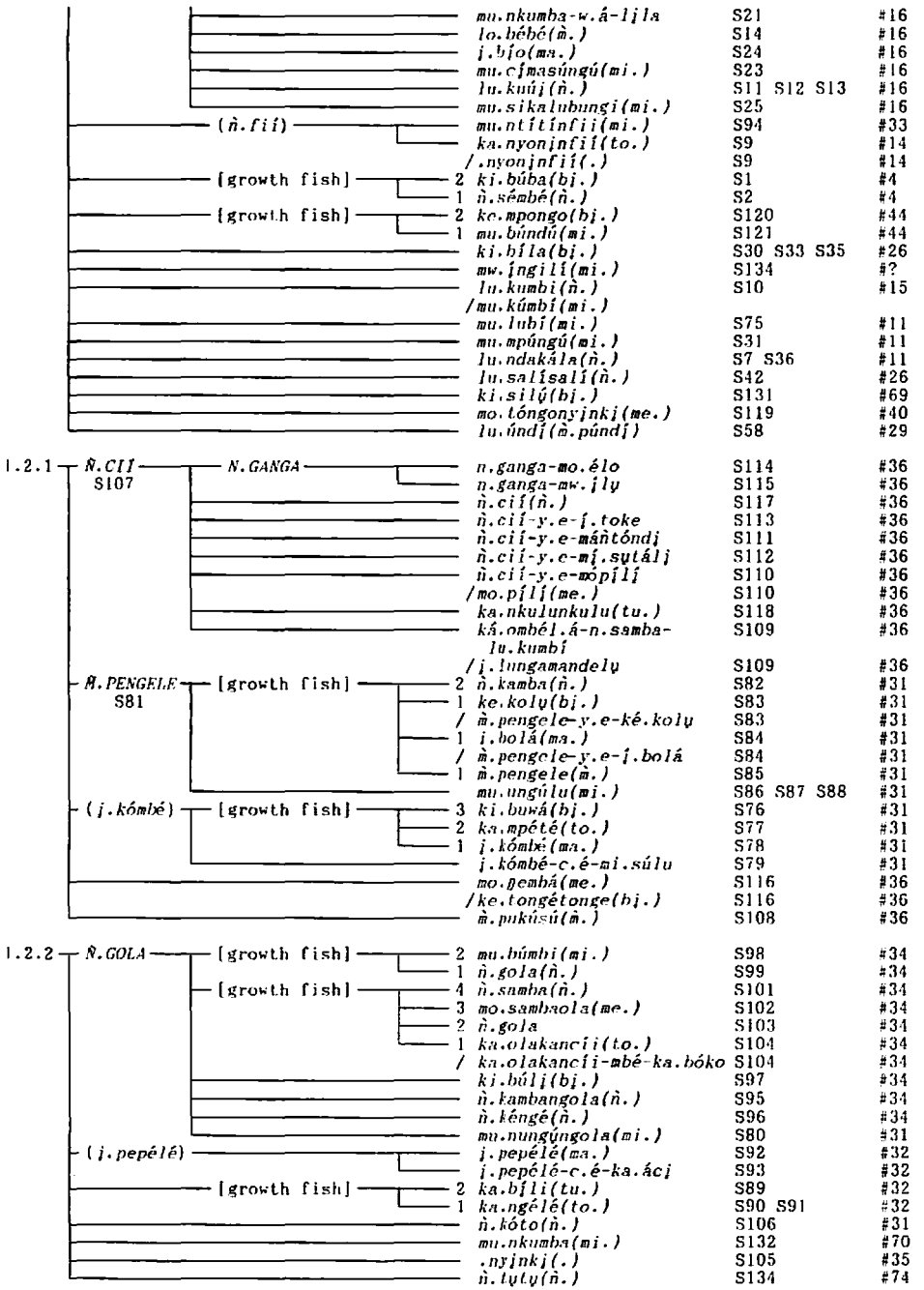
Ref. No.	CLOFFA No.	Scientific names	Sample No.	Stand. length	"Swahili" names
	36	MOCHOKIDAE			
S106	36. 5. 4	*Euchilichthys guentheri* (SCHILTHUIS)	9147	460	koto
S107	36.10.	*Synodontis* spp. of smaller size	Obs.	-	-
S108	36.10. 2	*Synodontis acanthomias* BOULENGER	Obs.	360	likatu/ likukulumbi
S109	36.10. 4	*Synodontis alberti* SCHILTHUIS	9177	76	-
S110	36.10. 6	*Synodontis angelicus* SCHILTHUIS	9215	151	-
S111	36.10.20	*Synodontis congicus* POLL	9128	105	-
S112	36.10.24	*Synodontis decorus* BOULENGER	9126	112	-
S113	36.10.27	*Synodontis dorsomaculatus* POLL	9144	82	-
S114	36.10.39	*Synodontis greshoffi* SCHILTHUIS	9188	70	-
S115	36.10.39	*Synodontis greshoffi* SCHILTHUIS	9189	60	-
S116	36.10	*Synodontis* sp.	Obs.	520	iyomvi
S117	36.10.76	*Synodontis pleurops* BOULENGER	9127	109	-
S118	36.10.93	*Synodontis smiti* BOULENGER	9132	110	-
	40	CYPRINODONTIDAE			
S119	40.16.22	*Epiplatys multifasciatus* (BOULENGER)	9160	38	-
	44	CHANNIDAE			
S120	44. 1. 3	*Parachanna obscura* (GÜNTHER)	Inf.	-	-
S121	44. 1. 3	*Parachanna obscura* (GÜNTHER)	9154	220	singa
	46	CENTROPOMIDAE			
S122	46. 1. 1	*Lates (Lates) niloticus* (LINNAEUS)	Obs.	370	-
S123	46. 1. 1	*Lates (Lates) niloticus* (LINNAEUS)	Inf.	-	-
	61	CICHLIDAE			
S124	61	*Hemichromis fasciatus* PETERS	9201	125	-
S125	61	*Nannochromis squamiceps* (BOULENGER)	9213	48	-
S126	61	*Tylochromis lateralis* (BOULENGER)	Obs.	-	-
S127	61	*Tylochromis lateralis* (BOULENGER)	9106	-	kemembe
S128	61	*Tylochromis* sp.	Obs.	225	-
S129	61	?	Inf.	-	-
	69	ANABANTIDAE			
S130	69. 1.18	*Ctenopoma nanum* GÜNTHER	9208	40	-
S131	69. 1.19	*Ctenopoma nigropannosus* REICHENOW	9200	87	-
	70	MASTACEMBELIDAE			
S132	70. 2.25	*Caecomastacembelus sclateri* (BOULENGER)	9105	256	munonga
	74	TETRAODONTIDAE			
S133	74. 1	*Tetraodon mbu* BOULENGER	Inf.	-	tutu
		Family unknown			
S134	?	unidentified	Inf.	-	-
S135	?	unidentified	Obs.	30	-

Ref. No.	Songola names of the fish: Enya dialect	Kuko dialect	Binja dialect	Knowledge on habitat	Fishing methods (f)
S106	*ń.kóto(ń.)*	-	-	E r	10 51 52
S107	*Ń.CII(Ń.)*	*ń.jikí(ń.)*	*j.kóngó(ma.)*	A D F s r	33 34 35 46 53 58
S108	*m̀.pukúsú(m̀.)*	-	-	D E s r	31 35 5i 52 53
S109	*ká.ombél.á-n.samba-lu.kumbí/j.lungamandelu*	-	-	D A s r	33 34 35 46 53
S110	*mo.pílí(me.) /ń.cií-y.e-mó.pílí*	-	-	D A s r	33 34 35 46 53
S111	*ń.cií-y.e-má.ńtóndi*	-	-	D A s r	33 34 35 46 53
S112	*ń.cií-y.e-mí.sutáli*	-	-	D A s r	33 34 35 46 53
S113	*ń.cií-y.e-í.toke*	-	-	D A s r	33 34 35 46 53
S114	*n.ganga-mo.élo*	-	-	D A s r	33 34 35 46 53
S115	*n.ganga-mw.ílu*	-	-	D A s r	33 34 35 46 53
S116	*mo.gembá(me.) /ke.tongétonge(bi.)*	-	-	D A r r2	11 31 35 51 53
S117	*ń.cií(ń.)*	-	-	D A s r	33 34 35 46 53
S118	*ka.nkulunkulu(tu.)*	-	-	D A s r	33 34 35 46 53
S119	*mo.tóngónyinki(me.)*	*mo.tóngónyiki (me.)*	-	C	20
S120	2 *ke.mpongo(bi.)*	-	-	-	-
S121	1 *mu.búndú(mi.)*	-	-	A D m	21 30 31 46 47 48 52 53 58
S122	2 *m̀.papá(m̀.)*	*ki.sangúla(bi.)*	-	D1 E s m	36 46 51 52
S123	1 *m̀.palala-gembe*	-	-	D	46 53 58
S124	*ke.nkelele(bi.)*	*ke.kelele(bi.)*	*ki.julá(bi.)*	C	20
S125	-	*mo.langaíko /mu.angaíka(mi.)*	-	C	20
S126	2 *m.palala-y.e-mń.ńkóli*	-	-	D	58
S127	1 *m.palala(m.)*	-	*ki.kúsú(bi.)*	D1 E m s	34 47 52 53 58
S128	*ki.túndú-m.palala*	-	-	D m	33 34 35
S129	*ki.túndú(bi.)*	-	-	D	-
S130	-	*ki.ucí(bi.)*	-	C	20 43
S131	*ki.silú(bi.)*	*ki.silú(bi.)*	-	C D	20 34 43
S132	*mu.nkumba(mi.)*	*mu.kumba(mi.)*	*mu.kumba(mi.)*	D m	33 34 35
S133	*ń.tutu(ń.)*	*ń.tutu(ń.)*	*.tutu(.)*	D m	30 46 48 51 53
S134	*mu.ingilí(mi.)*	-	-	D1	34 46 49
S135	-	*ka.seko(to.)*	-	C	20

Table 8. Folk classification of fish among the Songola-Enya.



Codes	*INCLUSIVE NAMES* [Covert categories]	Stage	*Individual names*	Ref.no.	Fam.no.
1.1.1	*MO.KASA* S43 [growth fish]	2	*ǹ.cuna(ǹ.)*	S44	#27
			/mo.kasa-w.é-ǹ.cuna	S44	#27
		1	*ki.mpukúsú(bi.)*	S45	#27
	[growth fish]	3	*ka.kwémbe(to.)*	S46	#27
		/3	*mo.kasá-w.é-ka.sii*	S46	#27
		2	*ka.búmbwá(tu.)*	S47	#27
		1	*mo.kasá-mo.élo*	S48	#27
			.mánci(.)	S49	#27
			/mo.kasá-w.é-ka.lomo	S49	#27
			mu.kupi(mi.)	S50	#27
			mu.lungusíiba(mi.)	S51	#27
			/mu.lungucuma(mi.)	S51	#27
			gembe(gembe)	S52	#27
	.MANDA S37		*.manda-y.e-ki.bíla*	S32	#26
			/i.úca(ma.)	S32	#26
			.manda-y.e-.mwénge	S38	#26
	[growth fish]	3	*m̀.binga(m̀.)*	S39	#26
		2	*.manda-y.e-mûmpúngú*	S40	#26
		1	*ka.mangámanga(tu.)*	S41	#26
	Ñ.SÍLA		*ǹ.síla-y.e-ló.cómbú*	S66	#29
			ǹ.síla-y.e-lú.ngúla	S67	#29
	(*ki.túndú* and/or *m.palala*) [growth fish]	2	*m.palala-y.é-má.nkój*	S126	#61
		1	*m.palala(m.)*	S127	#61
			ki.túndú-m.palala	S128	#61
			ki.túndú(bi.)	S129	#61
	(*lu.búku*) [growth fish]	2	*m̀.bulí(m̀.)*	S56	#28
		/2	*lu.búku-l.é-m.bulí*	S56	#28
		1	*lu.búku(m̀.)*	S57	#28
	[growth fish]	2	*mu.kúngá(mi.)*	S3	#5
		1	*ka.pandamúkonge(to.)*	S4	#5
			/mo.kombe(me.)	S4	#5
	[growth fish]	2	*m̀.bélélú(m̀.)*	S64	#29
		1	*mu.nkúncu(mi.)*	S65	#29
	[growth fish]	2	*ki.kungula(bi.)*	S70	#29
		1	*ke.mbelama(bi.)*	S71	#29
	[growth fish]	2	*m̀.papá(m̀.)*	S122	#46
		1	*m.palala-gembe*	S123	#46
	[growth fish]	2	*j.tulu(ma.)*	S59	#29
		1	*ka.poópoé(to.)*	S60	#29
			ǹ.kulungú(ǹ.)	S74	#29
			mo.langancala(me.)	S68	#29
			mo.lónge(me.)	S63	#29
			ka.mbulukutu(tu.)	S69	#29
			.mwénge(.)	S29	#25
			mu.nkwánkwa(mi.)	S53	#27
			m̀.polónji(m̀.)	S62	#29
			mo.sombo(me.)	S72	#29
			mu.tándá(mi.)	S61	#29
			mu.úli(mi.)	S73	#29
			ke.nkelele(bi.)	S124	#61
1.1.2	*Ñ.PÓTO*		(*lo.sese*) *lo.sese(ǹ.)*	S15 S17 S18 S27	#16
			lo.sese-l.é-ki.bungi	S25	#16
			lo.sese-l.é-ki.síbili	S26 S28	#16
			lo.sese-l.é-lu.alaba	S16	#16
	(*mo.mete*) [growth fish]	2	*ǹ.tái(ǹ.)*	S19	#16
		1	*mo.mete(me.)*	S20	#16
			mo.mete-w.é-ka.ácj	S22	#16


mu.nkumba-w.á-lila S21 #16
lo.bébé(m.) S14 #16
j.bío(ma.) S24 #16
mu.cimasúngú(mi.) S23 #16
lu.kuúj(n.) S11 S12 S13 #16
mu.sikalubungi(mi.) S25 #16
(n.fii) mu.ntítínfii(mi.) S94 #33
ka.nyonjnfii(to.) S9 #14
/.nyonjnfii(.) S9 #14
[growth fish] 2 ki.búba(bi.) S1 #4
1 n.sémbé(n.) S2 #4
[growth fish] 2 ke.mpongo(bi.) S120 #44
1 mu.búndú(mi.) S121 #44
ki.bíla(bi.) S30 S33 S35 #26
mw.jngili(mi.) S134 #?
lu.kumbi(n.) S10 #15
/mu.kúmbí(mi.)
mu.lubí(mi.) S75 #11
mu.mpúngú(mi.) S31 #11
lu.ndakála(n.) S7 S36 #11
lu.salísalí(n.) S42 #26
ki.silú(bi.) S131 #69
mo.tóngonyjnki(me.) S119 #40
lu.úndí(m.púndi) S58 #29
1.2.1 Ñ.CII S107
N.GANGA n.ganga-mo.élo S114 #36
n.ganga-mw.jlu S115 #36
ñ.cií(ñ.) S117 #36
ñ.cií-y.e-j.toke S113 #36
ñ.cií-y.e-máñtóndi S111 #36
ñ.cií-y.e-mí.sutálj S112 #36
ñ.cií-y.e-mópílí S110 #36
/mo.pílí(me.) S110 #36
ka.nkulunkulu(tu.) S118 #36
ká.ombél.á-n.samba-lu.kumbí S109 #36
/j.lungamandelu S109 #36
Ñ.PENGELE S81
[growth fish] 2 ñ.kamba(ñ.) S82 #31
1 ke.kolu(bi.) S83 #31
/ m.pengele-y.e-ké.kolu S83 #31
1 j.bolá(ma.) S84 #31
/ m.pengele-y.e-j.bolá S84 #31
1 m.pengele(m.) S85 #31
mu.ungúlu(mi.) S86 S87 S88 #31
(j.kómbé) [growth fish] 3 ki.buwá(bi.) S76 #31
2 ka.mpété(to.) S77 #31
1 j.kómbé(ma.) S78 #31
j.kómbé-c.é-mi.súlu S79 #31
mo.gembá(me.) S116 #36
/ke.tongétonge(bi.) S116 #36
m.pukúsú(m.) S108 #36
1.2.2 Ñ.GOLA
[growth fish] 2 mu.húmbi(mi.) S98 #34
1 n.gola(n.) S99 #34
[growth fish] 4 n.samba(n.) S101 #34
3 mo.sambaola(me.) S102 #34
2 n.gola S103 #34
1 ka.olakancíi(to.) S104 #34
/ ka.olakancíi-mbé-ka.bóko S104 #34
ki.búlj(bi.) S97 #34
n.kambangola(n.) S95 #34
n.kéngé(n.) S96 #34
mu.nungúngola(mi.) S80 #31
(j.pepélé) j.pepélé(ma.) S92 #32
j.pepélé-c.é-ka.ácj S93 #32
[growth fish] 2 ka.bíli(tu.) S89 #32
1 ka.ngélé(to.) S90 S91 #32
ñ.kóto(ñ.) S106 #31
mu.nkumba(mi.) S132 #70
.nyjnkj(.) S105 #35
ñ.tutu(ñ.) S134 #74

2.7 Description of the folk knowledge of fish among the Songola

In sections 2.7 and 3.7 the text is described in the following order.

2-9: Information provided by informants.
1,10 and 11: Bibliographical information and my comments.

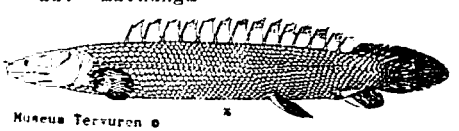
1 Biology: zoological information such as synonyms of Latin names.
2 Names: Other vernacular names and folk etymology.
3 Folk identification and classification: Statements as "Fish X can be distinguished from Y because...", and "X is the 'uncle' of Y."
4 Catch: Supplementary information on the fish catching methods.
5 Economy: Information on price and marketing.
6 Gastronomy: Taste and special cooking methods if any.
7 Restrictions: Avoidance as food and taboo for consumption *etc.*
8 Other use: Use other than food such as ritual medicine.
9 Oral tradition: Songs, sayings and episodes.
10 Ethnographic notes. 11 Linguistic and ethnolinguistic notes.

Abbreviations used: informants (Table 1), folk knowledge of the aquatic environment (Tables 4 and 9), fishing methods (Tables 5 and 10).

S1. *ki.búba*
3—larger stage of S2; grows to the size of a thigh.

S2. *ǹ.sémbé*
1— see Fig. 4.36 for another species of the same genus, *Protopterus dollai* BOULENGER; 3—has no *ke.sélélé* (caudal fin); has two pairs of *ma.béle* (breasts, a term used also for pectoral fins of their fishes), which resemble those of women, and swims with these breasts; 4—caught with baits of worms and oil palm fruits on hooks #12-16; you can catch two at a time with f36 angling if you are lucky; occasionally found in f48 trap, but never in f46; 6—should be smoked slightly for one day to make it more tasty; its powdery flesh has a taste resembling that of boiled groundnuts and that of *ki.sálį* or smoked *ki.túndú* (S129); 7—Songola women are not accustomed to eat this fish, but women of the fishermen at Nyangwe eat it; it is *kį.įlá* (a taboo) to crunch its bones for fear of becoming *mo.ntembele* (a man deprived of his sexual energy); 9—using its breasts, it climbs up oil palm trees to drink palm wine out of gourds fastened on the top.

S3. *mu.kúngá*

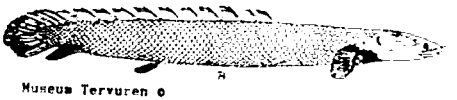


1—*Polypterus endlicheri congicus* POLL; 2—has a synonym, *ǹ.kókó-y.e-má.áncį* (aquatic fowl) because its flesh resembles that of a fowl; 4—feeds on smaller fish; caught through the seasons; 5—seldom sold; 6—a great favorite for the Enya fishermen; one of *samaki ya WaGenia* (Swahili; fish for fishermen); 9—a proverb compares this fish to a man who makes his village cheerful with his laughter, songs and legends: "*Mu.kúngá lu. tįkis.a ma.liba. Lu.suú lu.kwel.e mu.kúngá, ma.liba má.lál.a* (S3 jiggles swamps. The day of its death, the swamps are asleep.)"

S4. *ka.pandamųkonge/mo.kombe*
3—different from S3 because it does not grow larger than a thumb; found in the same habitat as S3, and an informant says that S4 is nothing but a younger stage of S3; 4—caught in f58

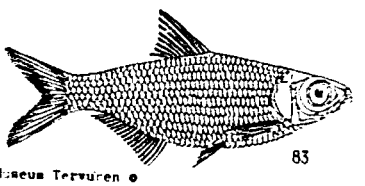
of small mesh size.

S5. *mu.kúngá* (Binja)



1—*Polypterus ornatipinnis* BOULENGER; has darker body color than S3; 2—Binja dialect; 4—caught in the hydroelectric dam lake at Ambwe River (Fig. 2).

S6. *ndakala* (Swahili).

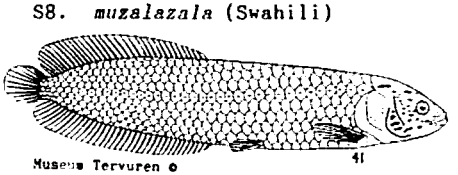


1—*Microthrissa royauxi* BOULENGER; 5—bought at a market; 11—Songola name was not obtained.

S7 and S36. *lu.ndakála*

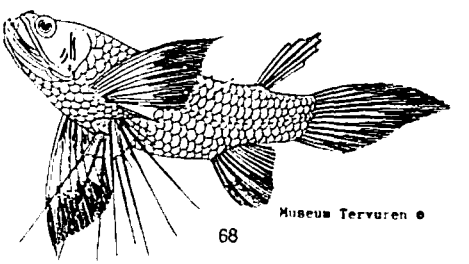
1—two species of different families; 2—S57 is also called as *ndakala kabambi* (Swahili; large *ndakala*); 4—caught in net of small mesh size; 5—S6 and S7 were sold at the central market of Kindu at a price of 1 *zaire* per one handful in 1979, a price much more expensive than ordinary fish; 11—etymologically related with its Zairean Swahili name *ndakala* which corresponds to *ndagaa*, a Tanzanian Swahili term for two clupeid species in Lake Tanganyika (B3-B9 of Table 11).

S8. *muzalazala* (Swahili)



1—*Heterotis niloticus* (CUVIER); see Photo. 1; a species unknown to the Songola before 1980; 2—no Songola names; Swahili name derives from -*zala* or "to bear fries", and refers to its fertility; also called as *samaki ya la mer* (fish of the ocean, a chimera of Swahili and French); 3—after the extraordinary inundation in 1979, it passed the falls at Tubundubundu near Ubundu and rapidly enlarged its distribution in the Lualaba; has a head of *ń.sʃla* (S66 and S67) fins of *mo.mete* (S20) and a snout of *m.papá* (S122); 10—in 1983 I saw an 80 cm long individual at the study village Tongomacho.

S9. *ka.nyonjnfií/.nyonjnfií*



1—*Pantodon buccholzi* PETERS; 2—composed of *.nyonj* (bird) and *n.fiʃ* (fish); the names mean a "bird-fish" or "little-bird-fish" respectively; 3—a fish having wings (*j.cúka*); its form somewhat resembles *n.ciʃ-y.enó.pílʃ* (S110); grows only as large as two fingers; swims just beneath the surface making rippling waves, and jumps in the air for a distance of 3-4 meters at night; 4—cannot be caught in a net; very rare, and is not seen even for over 10 years; 7—is not eaten; 8—lives in deep abyss where there are *ń.gwena* (crocodiles), *mo.késʃ* (imaginary being that resembles a mermaid) and other evil spirits.

S10. *lu.kumbi/mu.kúmbí*

1—*Xenomystus nigri* (GÜNTHER); 3—thin like a piece of a paper; resembles S92 in form; keeps on breath-

ing long after it has been taken out of water; 7—a taboo for consumption for all people; if you eat this too often, you will keep on breathing long in your deathbed, your heart will go on beating even after half of your chest is rotten, and all your rotten skin remains on the mat of the bed; 10—I found and bought this fish smoked for consumption at the market of Elila (Fig.2); a young informant erroneously believed that eating this fish results in a long life.

S11-S28. *M.PÓTO*
1—all the fishes of the family Mormyridae are included in these inclusive names notwithstanding the size; 2—Swahili name *ndomondomo* is related with *mudomo* (lip) and refers to its elongated snout; 4—caught Oct.-Apr. when the water is high; hooked with bait of earthworms; 10—today's administrative chief of the Binja at Ambwe has a proper name *Kambóbó*; 11—Binja subgroup has an inclusive name *KA.MBÓBÓ*, whereas the Kuko has only one name *ka.mbóbó*, which should be regarded as an individual name in the folk classification.

S11. *lu.kúúį*
3—has a long snout extending downward; grows to the size of a palm.

S12. *lu.kúúį*

1—*Campylomormyrus numenius* (BOULENGER); see S11.

S13. *lu.kúúį* see S11.

S14. *lo.bébé*
1—the cylindrical apex of the snout extends downward; 2—Binja name means "*ka.mbóbó* of the mouth"; 3—grows to the height of the width of a palm; lives in streams; 6—delicious regardless of the cooking methods used; has a tough skin, but soft flesh and a fat head.

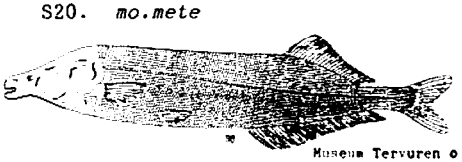
S15, S17, S18 and S27. *lo.sese*
3—distinguished from S16, S25, S26, and S28 by its short, round lower lip; grows to the size of a palm.

S16. *lo.sese-l.é-lu.alaba*
1—has large eyes and white skin; 2—*lo.sese* of the Lualaba River, refering to its habitat; 3—like S15, S17, S18, S24 and S26, it lives in deep waters of the Lualaba River where there are whirlpools; feeds on mud of the river bottom; 6—*M.PÓTO* of the Lualaba River (S15, S16, S17, S18, S24, S26 and S27) are generally not so tasty as those of small rivers.

S17 and S18. See S15.

S19. *ǹ.táį*
3—larger stage of S20; grows longer than 80 cm and higher than 25 cm; feeds on other fishes; 4—when caught by angling, it can be drawn out of water like a log, namely without any resistance; 6—delicious; even its bones can be eaten.

S20. *mo.mete*



1—*Mormyrops (Mormyrops) deliciosus* (LEACH); 3—younger stage of S19; is not found in the center of the Lualaba; feeds on other fishes; 4—hooked with bait of earthworms.

S21. *mu.nkumba-w.á-lįla*
2—*mu.nkumba* (S133) of the Elila River" is the meaning of Enya name; Binja name means "*ka.mbóbó* having a short snout"; 3—very much resembles S20, but has a shorter body and a larger head; grows as long as 50 cm and to the size of an arm; 4—abounds in the Elila River in the dry season,

namely Jun.-Oct.; 11—I could not know the reason why S21 and S132, two fishes of different families having distinctive forms are called in the same name.

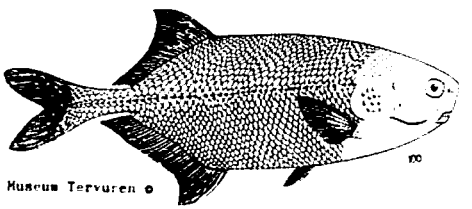
S22. *mo.mete-w.é-ka.ácį*
1—shorter in length and has darker body color than S20; 2—*mo.mete* (S20) of streams, referring to its habitat.

S23. *mu.cįmasúngú*
3—has long straight snout (rostris) extending downward, but not curving like that of S11-S13; retains a body height of 30 cm and the second largest (next to S19) among all the *M. PÓTO*; digs a nest hole in the steep riverside slope, and rests inside; 6—delicious like S14; 11—*.cįm.*, "dig"; *mu.cįma*, "digger"; *mu.cįma súngú*, "digger of *súngú*"; the meaning of súngú is unknown, but it probably means their nest holes.

S24. *į.bįo*
2—also named as *m.poto-y.e-įbįo*; *lo.sese-l.é-mo.lomo* is other Enya name (Yaf); 3—grows to the height of twice the width of a palm; lives in deep places in the Lualaba; 4—hooked with bait of earthworms; 6—its snout is extremely fat and delicious;grease comes out of your mouth when you eat its snout.

S25. *lo.sese-l.é-ki.bungi/mu.sika-lubungi*
1—resembles *Mormyrus bumbanus* BOULENGER in form; 2—*Ki.bungi /lu.bungi* means "fog", *mu.sika-lu.bungi* is the abbreviation for "*mo.seka wá.sįy.a lu.bungi*" that means "young girl left by the fog." 3—as white as fog on the Lualaba; the smallest fish among all the *M.PÓTO*; lives along the riverside where the flow is gentle; makes a sound "*guf-guf-guf*" when caught; 4—caught with *ca.cáca* of the mesh size of the width of two fingers; 10—there must have been some or oral tradition to explain why this fish is called "a young girl left by the fog", but I could not be acquainted with one; 11—*mo.seka* (young girl) is pronounced in this composite word as *mu.sika* probably because of assimilation of vowels.

S26. *lo.sese-l.é-ki.sibili*

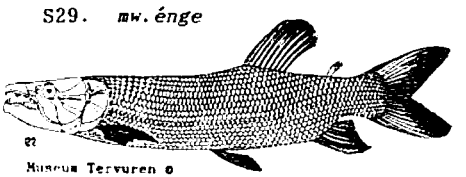


1—*Petrocephalus sauvagii* BOULENGER; 2—*ki.sibili* (*ka.sibili* in Kuko dialect) is a vernacular name for a rodent, cane rat (*Thrynomys* sp.); 3—has a short snout just like that of a *ki.sibili*.

S27. See S15.

S28. *lo.sese-l.é-ki.sibili*
1—see Fig. 4.16 for another species of the same genus, *Stomatorhinus corneti* BOULENGER; see S26.

S29. *mw.énge*



1—*Hepsetus odoe* (BLOCH); recently separated from Characidae as an independent family (CLOFFA); 4—caught in f47 trap in the high water season along the riverside of the Lualaba; bailed in streams during the dry season; 6—full of small bones.

S30, S33 and S35. *ki.bíla*
1—smaller Characidae having relatively large body height; S30 was the most abundant among these species; 3—swims near the surface of the water along the riversides; 4—a float is needed for its rod angling to prevent the hook from sinking;

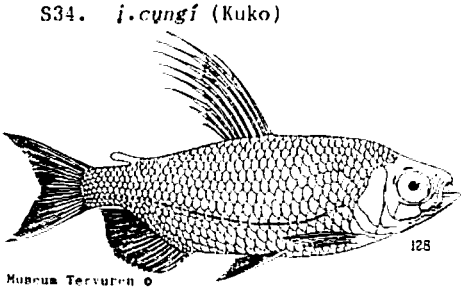
frequent May-Jun.

S31. *mu.mpúngú*
3—swims near the surface like S30; a very cunning fish; 4—feeds on bait of oil palm fruits and of cooked rice on hooks No. 3; there is a special small net for this fish, *ka.kila-k.é-mu.mpúngú* with which you can catch up to 200 individuals at a time; 6—small bones scratch the throat when swallowed; 10—"cunning" (*mwelevu* in Swahili) is a term applied to some animals as *ka.sísi* (blue duiker, *Cephalophus monticola*) which plays the role of a trickster in the legends of the Songola.

S32. *.manda-y.e-kí.bíla/j.úca*
1—tiger-fish; 2—*.manda* of *ki.bíla* (S30, etc.). According to an old informant (Yaf), *j.úca* is not a synonym for S32, but a name for younger stage of another *.MANDA*, *.manda-y.e-mú.lubí* (*.manda* of *mu. lubí*, S57), distinguished from S32 by its longer body; 3—grows large, but not so large as other *.MANDA* having sharp teeth; 6—has a head filled with flesh like that of S122; has delicious powdery flesh like that of *MO.KASA* (S43-S52); 9—if someone calls your name when you are eating this fish, you must reply without opening your mouth for fear of being choked with its powdery flesh.

S33. See S30.

S34. *j.cungí* (Kuko)



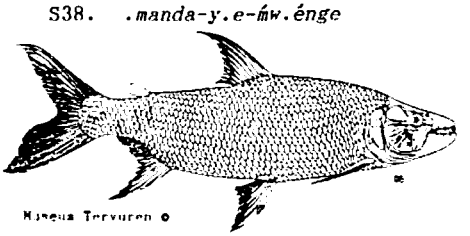
1—*Alestopetersius hilgendorfi* (BOULENGER); 2—Enya name is unknown; 3—resemblres a sardine in form, but has a longer dorsal fin; 6—its taste also resembles that of canned sardines.

S35. *ki.bíla*
1—resembles *Alestopetersius leopoldianus* (BOULENGER) 3—See S30.

S36. See S7.

S37. *.MANDA*
1—see Photo. 2 and 20; includes all the species of the genus *Hydrocynus* (S38-S41), plus S32; 4—caught in nets flowing the surface in the dry season; 7—liver (*ka.limu*) of *.MANDA* with sharp teeth (38-S41) is never eaten for fear of losing all the hairs and having ulcers all over the body.

S38. *.manda-y.e-mw.énge*



1—*Hydrocynus goliath* (BOULENGER); 2—*.MANDA* of *mw.énge*; 3—has very sharp and long teeth, resembling those of *mw.énge* (S29); the upper half of its caudal fin is red; body height retains 30 cm; largest of all *.MANDA*.

S39. *m.binga*
2—has three growth names (S39-S41); 3—grows large, but not so large as S38; 4—caught in f55 net at night in the dry season.

S40. *.manda-y.e-mú.mpúngú*
2—*.MANDA* of *mu.mpúngú* (S31); 3—has a long body and resembles *mu.mpúngú* in form; has three horizontal lines; 10—large fishes (S32, S38 and S40) are compared to smaller fish of the same or close family.

S41. *ka.mangámanga*

3— the youngest stage of S39 and S40; only as large as a finger; 4-caught in f56 net having a mesh size of 1.5 times the width of a finger at night in the dry season.

S42. *lu.salísalí*
2— Kuko name is also pronounced as *lu.sálisalí*; 3— small fish of streams; has yellowish body color and is distinguished from whitish *ki.bíla* (S30, S33 and S35); 4— hooked with bait or *ky.onyá* (unidentified worm used also as bait for f44 and f45 traps).

S43. *MO.KASÁ*
1— fishes of the genus *Distichodus*; 2— this name includes all the fishes of S44-S52.

S44, S45, S50, S51, S52, S53, S56 and S57. 7— taboo for nursing women especially when they have yellowish flesh; if a nursing mother eats one of these fishes, her infant will fall badly ill; this illness is called *lu.ambu*, and causes mucous stool and difficult breathing.

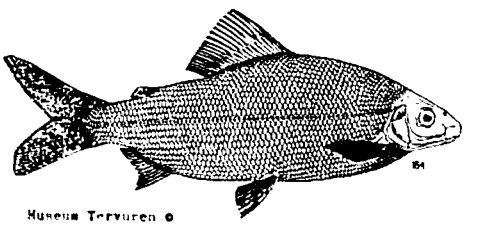
S44. *ǹ.cụna/mo.kasá-w.é-n.cụna*
3— largest of all *MO.KASÁ*; retains a body height of 60 cm; its flesh becomes yellowish as it grows; 4— caught May-Jul.; 7— a taboo for nursing women as S43.

S45. *ki.mpukusu*
2— Swahili name means *MO.KASÁ* of the grass foliage; 3— lives usually in the grass foliage; in May when these grasses are rotten because of flooding of April, it escapes the bad smell of rotten leaves and moves to the center of the Lualaba; 6— is not tasty when small because of its smell of the grasses.

S46. *ka.kwémbe/mo.kasá-w.é-ka.sí*
2— *ka.sí* means "good taste"; called by this name when it retains the body height of 30 cm; 3— lives under fallen trees (*ki.kátị*); has yellow flesh when old; 6— its white fat is very delicious; eating this fish makes your heart calm (*roho baridi* in Swahili); 7— sometimes causes diarrhoea (*ǹ.da*) because of its excessive fat.

S47. *ka.búmbwá*
3— younger stage of S46; maximum body height is twice the width of a palm.

S48. *mo.kasá-mo.élo*



1— *Distichodus fasciolatus* BOULENGER; although the Enya regard it as the same fish as S46, S48 is a different species from S46; 2— *mo.élo* means "white"; 3— grows as large as a palm; 4— hooked with baits of earthworms.

S49. *.mánci/mo.kasá-w.é-ka.lomo*
1— see Photo. 3; although this species is often regarded as the same species as S45 by biologists (CLOFFA, for example), there are distinct morphological difference between the two, and the Enya recognize behavioral differences as well; 2— *ka.lomo* means "small mouth"; Swahili name means *MO.KASÁ* of five minutes (French, *cinq minutes*); 3— has a small mouth (*ka.lomo*) opening downward, different from large mouth opening forward of S44 and S45; dies very quickly (in five minutes, they say) when taken out of water; feeds on moss (*.nyínge*) on rocks; 4— caught Jun.-Sept.; most abundant in August; 7— is not a taboo like S45.

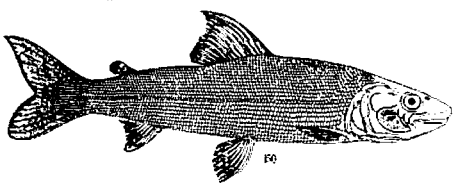
S50. *mu.kupi*
2— also pronounced as *mu.nkusunkusu* among the Enya; 3— has similar color and vertical lines to those of S52, but is distinguished by its more slender snout; 4— frequent in August;

7—a taboo like S43.

S51. *mu.lungusɟiba*
3—has a red caudal fin, and three irregular rows of round markings near the lateral line; 4—abundant Mar.-May; smaller individuals are caught in f48 trap in May; occasionally caught in f46 trap; 7—a taboo like S43.

S52. *ŋembe*
2—also called as *mo.kasá-ŋembe*; Swahili name derives from a sort of imported cloth having the same pattern and color with this fish; 4—very abundant in August; 7—a taboo like S43.

S53. *mu.nkwánkwa*



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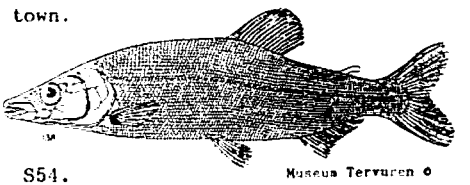
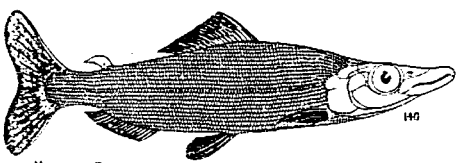
1—*Eugnathichthys eetveldii* BOULENGER; fin eater; infected in the gill cover by an arthropoda *Ichthyoxenus expansus* VAN NAME (Gosse, 1963: 186); 2—frequently infested with several *n.kwá* ("ticks") in the gill covers, and hence the fish name; 9—It is "*mo.loj-w.á-n.fiî*" (sorcerer in the fish kingdom); if fins of other fishes and the victims will die (namely, caught by fishermen) because of its curse; if you examine each fish in your catch, you always find an incomplete fin having a bite of S53; 3—resembles *.MANDA* (S37), but has blunt teeth; grows to the size of a palm, or four times the width of a finger; 4—rare; caught Nov.-Mar; 7—its head is cut off before cooking because of its "ticks" in the gill cover; delicious like *.MANDA* (S37) or *MO.KASA* (S43); 10—its peculiar food habit of fin eating is well-known and the Enya relat the habit to sorcery.

S54.
1—*Ichthyoborus besse* GÜNTHER; 2—a young Enya informant could not give me the vernacular name for it. 10—bought at the central market in Kindu town.



S54. Museum Tervuren ©

S55. *mu.úkulu* (Binja name)



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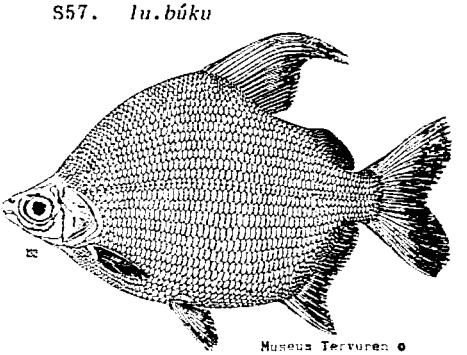
1—*Mesoborus crocodilus* PELLEGRIN; 10—I saw this fish only in the hydroelectric dam lake at Ambwe, and could not obtain an Enya name.

S56. *m̀.bulɟ/lu.búku-l.é-m̀.bulɟ*
1—moon-fish (English); 3—larger stage of S57; grows to the height of 40 cm; 4—frequent Sept.-Oct.; 7—a taboo for nursing women for fear of causing an illness called *lu.ambu* for their infants (see S43).

S57. *lu.búku*



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1—*Citharinus gibbosus* BOULENGER; 3—younger stage of S56; 4—cannot be caught with hooks; 6—has a bad smell of mud when small; 7—a taboo (see S56).

S58. *lu.úndí*
1—see Photo. 12; 3—resembles *ki.bíla* (S30, S33 and S35); called as *ki.bíla* of streams or small *lu.ndakála* of streams; is different from *lu.ndakála* (S7 and S36) by its absence of teeth and the presence of dark horizontal line on its body; 4—hooked with *ky.onyá* (see S42) as bait.

S59. *j.tulu*
1—see Fig. 4.29 for a large species of the same genus, *Barbus cardozoi* BOULENGER; 3—grows very large; has distinctive large scales; 4—feeds on *ka.ombóomba* (sweet cassava balls) as baits; not abundant around the land of the Songola; only lucky fishermen can catch it; 6—tastes like S64; its fat is white and refined as *ma.kúta m.é-mí.sa* (oil extracted from oil palm kernels); you must not hit it in the head to kill it for fear that all the flesh becomes very bitter and inedible; 9—an ancestral spirit (*mu.limu*) resides in it.

S60. *ka.poépoé*
3—has the same face as that of S59; younger stage of S59; changes its name to *j.tulu* at the size of the height a palm; lives in rocky rivers as the Lombo (Fig. 2), and enters the Lualaba when there is a heavy rain; 4—hooked with cassava bait; 6—has the same taste as S59.

S61. *mu.tándá*
3—resembles *mo.lónge* (S63) in color, but has longer barbels and shorter snout than S63, which is *mụ.ụ́nco* (maternal uncle/nephew) of this fish; 4—caught Nov.-Feb; 6—quite delicious when smoked; sweet like *ki.tika* (ripe bananas); fat like mutton meat; 10—*mụ.ụ́nco*, a term used to call one's maternal uncles and also sons of one's sisters; there is no notion of higher generation in this term; *mo.tó* (younger brother/sister) and *ki.kanga* (member of the same patrilinage) are the terms used to show a closer relationship in the folk classification of the Songola.

S62. *m̀.polópónj*
1—resembles *Labeo coubie* RUPPELL; see Photo. 7; 3—*m̀.bélélú* (S64) of streams; 4—very rare; caught Feb.-Mar. when the water level goes up; 6—a very good fish.

S63. *mo.lónge*
3—resembles S61, but has a longer snout and has no barbels; 4—caught Nov.-Feb.; 6—fat like mutton meat.

S64. *m̀.bélélú*
1—see Photo. 19 and 21: most frequently caught in the carp family; the large individual of Table 7 weighed 12 kg; 3—larger stage of S65; larger than a calf; 4—abundant through the seasons in the catch of f51 flowing gill net; hooked with cassava baits by chance.

S65. *mu.nkúncụ*
3—younger stage of S64 up to the size of a calf

S66. *ǹ.sʃla-y.e-ló.cómbú*
2—*Ñ.SʃLA* of *ló.cómbú* (riverside muddy place); inclusively called as *Ñ.SʃLA* with S67; 3—*mụ.ụ́nco* (maternal uncle/nephew) of S67; body color is dark like ash; usually lives in the Lualaba, and enters streams during inundation; often tears nets; 4—rare; caught Jun.-Aug.; 6—tasteless; not nourishing.

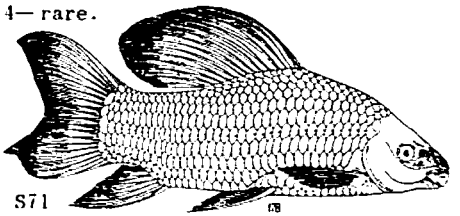
S67. *ǹ.sʃla-y.e-lú.ǹgúla*
1—resembles *Labeo lineatus* BOULENGER; see Photo. 9; has larger body height than S66; 2—*Ñ.SʃLA* of *lu.ngúla*; the meaning of *lu.ngúla* is not remembered by informants; 3—body color lighter than S66, and has reddish fins; usually lives in the Lualaba, and enters streams during inundation; often tears nets; 4—rare; caught Jun.-Aug.; 6—tasteless; not nourishing.

S68. *mo.langancala*
1—resembles *Labeo macrostoma* BOULENGER; see Photo. 10; 2—Songola name means a "lover of hunger, or someone who fasts; Swahili name *mwarabu* means the Arabs who dominated Maniema and introduced the usage of Swahili; 3—never feeds on dirt, and hence the vernacular name; lives in rocky places and occasionally passes through sandy places; 4—caught Aug.-Apr.; abundant Oct.-Feb.; 6—the same taste as S64; 10—Swahili name *mwarabu* may be related with its pink body color and the practice of Ramadan among Muslims; 11—*.lang.*, show; *mo.langa*, someone who shows; *n.cala*, hunger; hence, *mo.langancala*, "someone who shows off his hunger."

S69. *ka.mbulukutu*
1—see Photo. 4; 2—*ka.mbulukutu* means "a small thing that softens"; the Kuko call kidney beans (*maharage* in Swahili) in the same name as this fish; 3—has a snout resembling that of *ǹ.kóto* (S106); grows to the size of a thigh, but does not grow so large as S64 or S74, and the smallest of them all; 6—highly esteemed as a great delicacy; thanks to its taste it is called in Swahili as "*mufalume wa samaki yote* (king of all the fishes) "; has a taste resembling S64, S66 or S67, but softens like hashed meat, and even its scales become soft and edible when cooked; 9—in old times, it was consumed with its scales; a man prepared a delicious dish of this fish for his father, and was awarded with a slave; this is why this fish is called "greatest" or "king" of all the fishes; when young, full of small bones and tasteless.

S70. *ki.kungula*
3—larger stage of S71; grows to a height of twice the width of a palm.

S71. *ke.mbelema*
1—*Labeo verifer* BOULENGER; 3—younger stage of S70; changes its name at a height of the width of a palm; 4—rare.


S71

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S72. *mo.sombo*
1—resembles *Labeo weeksii* BOULENGER but the body is not so compressed; 2—Swahili name is *sila*, and it was once called *N.SĮLA*; 3—in old times, people believed that it grows to become S66 and S67, but it was not true; 6—a little bitter.

S73. *mu.úlį*
1—see Photo. 11; 3—resembles *mo.sombo* (S72), but has a longer body and darker body color; *mo.tó* (younger brother/sister) of *ka.mbulukutu* (S69); lives in the center of the Lualaba and feeds on the moss growing on rocks like S69; 4—caught May-Oct.; caught only in *.cacáca* type gill net (f53) and was not available before the introduction of this net; 6—full of small bones, hard and tasteless.

S74. *ǹ.kulungú*
3—called as *ki.kanga* (a relative) of *m̀.bélélų́* (S64) because of their similar forms; *mų.ųnco* (maternal uncle/nephew) of *mo.langancala* (S68) because of resembling body color; the relationship between *ǹ.kulungú* and *mo.langancala* is identical with the relationship between *mu.tándá* (S61) and *mo.lónge* (S63) because both of the pairs have the same color and the former of the pair has a larger body size; 4—rare; caught Oct.-Feb.

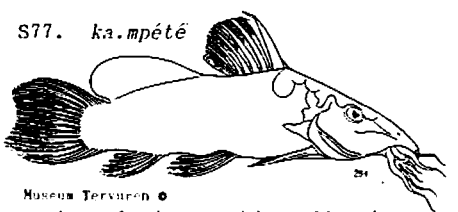
S75. *mu.lubí*
3—large *ndakala*; grows as large as a thumb; swims upstream in a shoal when there is a full moon; 4—caught in f56 net Sept.-Mar.; 5-expensive because of its good taste, they say;

6—tastes like canned sardine; very good if roasted as *ị.kéta* in Marantaceae leaves.

S76. *ki.buwá*

3—has a snout resembling that of *.sangangulubi* (bush pig, *Potamochoerus porcus*); its height retains the breadth of human shoulders; approaches the size of *n.kámbá* (S82); feeds on mud in muddy places; 4—caught through the seasons; hooked with baits of earthworms.

S77. *ka.mpété*



1—*Auchenoglanis occidentalis* (VALENCIENNES); 3—younger stage of S76; changes its name to S76 at the size of a thigh; 4—caught both in dry and rainy seasons.

S78. *ị.kómbé*

3—the youngest stage of S76 and S77; changes its name to S77 at the size of arm.

S79. *ị.kómbé-c.é-mi.súlu*

2—*ị.kómbé* (S78) of *mi.súlu* (estuaries); 3—*mụ.únco* (maternal uncle/nephew) of S76-S78; has the same snout, but lighter body color than S78; has strong poison on its *mi.kúwa* (three spines); 4—caught during the flood season of April; 6—tastes like S78.

S80. *mu.nungúngola*

1--*Bagrus ubangensis* BOULENGER; 2—*Mu.nungú* means "pseudo" and this fish is *mụ.únco* (maternal uncle/nephew) of "*ǹ.gola*" (S99 and S103); 3—smaller than an arm; feeds on mud and small fishes; 4—caught through the seasons; cannot be hooked; 6—tasty when smoked; lacks taste when raw and should be cooked with abundant *ka.bólé* (red pepper).

S81. *M.PENGELE*

1—see Fig. 4.31 for a species of the same genus, *Chrystichthys wagenaari* BOULENGER; 2—S82-S88 are included in this name; 6—fishes belonging to this name have the same good taste; if you eat *ka.limu* (liver) of these fishes, your hair will be lost, and your skin will be peeled off as if you were infected with *ka.swénde* (syphilis); 10—the liver is avoided for the same reason for S37, *.MANDA*.

S82. *ǹ.kamba*

1—see Photo. 22; 3—the largest stage for S83-S85; grows to the body width of 50 cm, and four men will be necessary to lift a large one; 4—caught Jun.-Dec.; 6—has abundant flesh and very delicious, but not as good as S116 *mo.gembá*; *ba.cungú* (white men or Europeans) like a soup made of its head; 9—those fishermen who catch this fish many times are believed to use a special ritual medicine of which the preparation necessitates homicide.

S83. *ke.kolụ*

2—an informant (Mal) holds that *ke.kolụ* derives from in *ki.kúlú* (rocky rapids); its authentic name should be *m̀.pengele-y.e-kí.kúlú*; 3—lives in *ki.kúlú* (see above), and digs *ki.búmbá* (a deep nest hole having the breadth of a calf) on the riverside slope; usually living in nest holes as pairs of one male and one female; a big individual makes a sound "*m-m-m-*" when caught; 4—caught Aug.-Nov. when the water level is low; a brave fisherman dives with a harpoon (f11) to spear this fish in its nest hole; after taking one of the pair, he immediately closes the hole with the sole of his foot and spears the other.

S84. *j.bolá*
3—has *mu.tútú* (a "navel") swelled as if it were a scar; has a dark skin like S83; lives in nest holes as S83; 4—caught by the same method as S83; 11—probably *mu.tútú* denotes the anus of this fish.

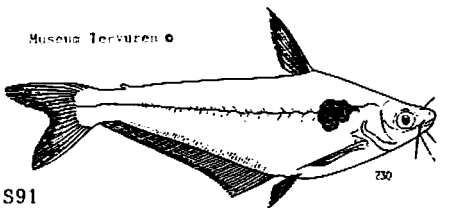
S85. *m.pengele*
3—lighter in body color and has slenderer head than S82; 4—caught by the same method as S82.

S86-S88. *mu.ungúlu*
3—does not grow as great as S82-S85; has a narrow snout and a slender body; lives in sandy places; digs small nest holes called *ki.búmbá-k.é-mu.ungúlu*; 4—caught in the same method as S83; extreme inundations after Independence destroyed most of the nest holes that existed on the opposite side of Tongomacho village (Fig. 2).

S89. *ka.bíli*
3—larger stage of S90; has a white body; grows to a height of twice the width of a palm; swims near the surface at a moonlight night, a behavior common among S89-S93; 4—has two seasons of catch when the water level is intermediate; hooked with baits of any type; 5—does not dry when smoked because of its abundant fat; 6—very delicious; its flesh is sweet like sugar, its fat is salty, and has only one bone in the center of its body; its sweet soup goes very well with cooked rice; *samaki ya wazungu* (Swahili; white men's favorite fish)

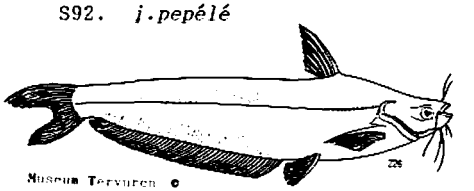
S90 and S91. *ka.ngélé*
1—see Photo. 5; 3—smaller stage of S89; grows to a height of 2-3 times the width of a finger; 10—has an exceptional threshold of life cycle stage as a growth fish.

S91. *ka.ngélé*
1—*Schilbe (Eutropius) grenfelli* (BOULENGER); different species from S90; 3—see S90.



S91

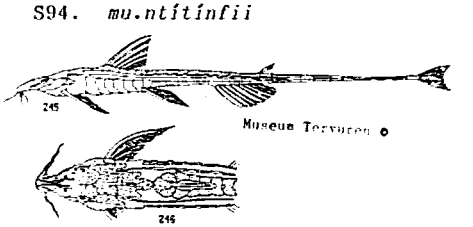
S92. *j.pepélé*



1—*Schilbe (Schilbe) mystus* (LINNAEUS); 2—Swahili name means a "lover of eating", or gourmand; 3—has darker body color, wider snout than S90 and S91; caudal fin curving downward; grows to a height of three times the width of a finger; feeds on every thing including human excrement (*tu.bj*); 4—caught Feb.-Mar. when the water level is intermediate; caught with hooks No. 20.

S93. *j.pepélé-c.é-ka.ácj*
1—has small spots; 2—*j.pepélé* (S92) of streams.

S94. *mu.ntítínfii*



1—*Belonoglanis tenuis* BOULENGER; 2—no folk etymology was obtained; 3—small and rigid like a piece of log; has no flesh nor blood, and never decays even if it is not smoked; 4—very rare; caught by chance in a net having the smallest meshe size in dry season; 6—because of its effect as charm medicine, it

is looked after at a very high price, 5 *zaire* a piece in 1979; 7—is not something to eat; 8—used to make charm medicine for sexual energy of men; first burn it with leaves of a grass *j.sungusungu* (*Echinochloa pyramidalis* HITCHC. et CHASE) and testicles of a little dog; mix this ash with traditional salt made from an aquatic plant, *ki.yungí* (*Pistia stratiotes* L.); make several scratches with a razor on the skin of your underbelly and loin and rub the mixture of the ash and traditional salt into the wounds; when the wounds heal up, you will feel your energy coming back; 11—can be analyzed as a combination of two words; *mu.ntí* (Enya)/*mu.tí* (Kuko), tree or log, and *ñ.fíí*, fish.

S95. *ñ.kámbángola*

1--*Channallabes apus* (GÜNTHER); 3—one of *Ñ.GOLÁ* resembling *Ñ.CÓKA* (a snake) in shape and in the form of its head; *mu.únco* (maternal uncle/nephew) of *ñ.gola* (S99); 4—caught by bailing (f20) in the dry season May-Jul.

S96. *ñ.kéngé*

1—see Photo. 17; see Fig. 5.34 for another species of the same genus, *Clarias gariepinus* (BURCHELL) ;2—a young informant (Yem) says that *ñ.kéngé* can be divided into two fishes; 1) long and dark, and 2) short and spotted, having more acte spines than 1); 3—one of *Ñ.GOLA*; has poisonous spines and you must pay attention not to grasp it carelessly during bailing (f20); abounds under an unidentified plant called *tu.kulu*; 4—very delicious; 10—there is a probable confusion in the remarks of the informant (Yem) on the division of this fish into two groups; 11—Kuko name is practically identical with the Swahili name for S116, a very different fish.

S97. *ki.búlj*

3—has the same form as, and lighter body color than S96; grows larger than an arm; 4—not available in *ka.léka* (f45) traps.

S98. *mu.búmbi*

3—*Ñ.GOLA* of streams; grows as large as an arm; larger stage of S99.

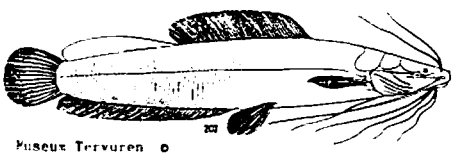
S99. *ñ.gola*

3—smaller stage of S98.

S100. *lu.kindá* (Kuko)

3—resembles *lu.kámbá* (S95) but has shorter body and lighter body color (Alf).

S101. *ñ.samba*



1—*Heterobranchus longifilis* VALENCIENNES; 3—largest stage of growth for S101-S104; biggest of all *Ñ.GOLA* and has a body broader than 50 cm; enters swamps during the inundation; 4—caught in seasons of changing water levels; 5—fishermen should sell this fish raw as it shrinks during smoking because of its lost fat; 6—very delicious; has soft skin and fat *ka.nyéké* (adipose fin); its head has a stone-like bone in its center and rich flesh on its sides; has yellow fat in its abdomen; roasted in Marantaceae leaves as *j.kéta*, it is extremely delicious (in Swahili *machafu inakufa*, literally, cheeks die [of good taste]); 7—the Kusu people (see Fig. 2) refrain from eating this fish for fear of becoming paralized as if they had paralysis.

S102. *mo.sambaola*

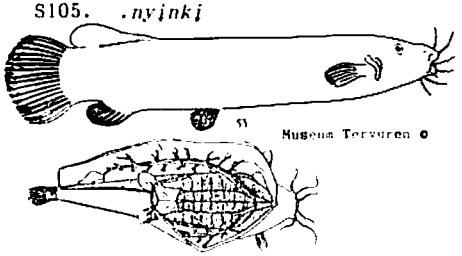
1—see Photo. 23; 3—smaller stage of S101; changes its name at the size of a thigh; 4—same as S101; 6—same as S101; 10—stems in the Kuko name, *mo.samba* (see S101) and *ñ.gola* (see

S103) overtly demonstrate that this fish is placed between S101 and S103 in Songola folk classification.

S103. *ǹ.gola*
2—has the same name as S99; 3—smaller stage of S101 and S102; changes its growth name at the size of a calf; distinguished from S99 by the presence of *ka.nyéké* (an adipose fin).

S104. *ka.olakancíi-mbé-ka.bóko*
3—the smallest stage for S101-S104; name changes at the size of an arm; 11—prefix for small thing+*.ola*+little+as+an arm.

S105. *.nyinkí*



1—*Malapterurus electricus* (GMELIN) ; electric catfish (English); 3—dangerous; a fisherman will be killed if shocked by it in the water; able to kill even a crocodile; feeds on fish; 4—hooked with earthworm bait; sometimes swallows a fish caught on a gill net, and is caught itself; 5—rarely sold at markets; 6—very delicious; *samaki ya WaGenia* (Swahili; fishermen's fish); today soft skin is peeled off before cooking; when smoked, its skin becomes like animal meat; in old times it was cooked with its skin in *.nyungú* (an earthen pan) lined with *j.bungú* (a Marantaceae leaf); slowly cooked with a little water and abundant palm oil (or palm juice), the skin melted to form a heavy soup; this dish cannot be made in a metal pot because the soup becomes washy; 8—*mo.nte* "veins" see the figure above between the muscles and the skin are used as a charm medicine to make warriors invincible; burned with leaves of a certain plant to obtain ash which was then rubbed into scratches on the warrior's skin made with a razor; a warrior could paralize even ten enemies at a time if he used this charm.

S106. *ǹ.kóto*
1—see Photo. 6; see Fig. 4.36 for another species of the same genus, *Euchilichthys royauxi* BOULENGER; 3—lives in rapids and feeds on the moss (*.nyínge*) on rocks; has blunt spines which are not poisonous; has a snout resembling that of a bush pig; has flesh like beef and *mu.sií* (blood) like human blood; 4—rare; caught in the dry season, Jul.-Sept.; when it is pulled off from a rock by a diving fishermen, its snout is left attached on the rock; 5—never sold at a market; 6—more delicious than any other fish in the Lualaba; fishermen's fish; can be cooked in *malu-m.é-ma.áncí* (palm wine) which turns like palm oil in taste; 7—no restrictions for consumption.

S107. *Ñ.CII*
1—smaller species of the genus *Synodontis*; 2—inclusive name for S109-S115 and S117-S118; 3—has three acute poisonous spines; spines should be snapped using a cylindrical earthen sinker to protect fingers; 4—feeds on earthworms; caught through the seasons; enters the flooded forest and caught in f58 *bí.kútú* nets.

S108. *m̀.pukúsú*
1—one of the two large species of *Synodontis*; 3—does not grow so large as S116; has severer poison on its spines than S116; the wound of the spine of this fish may make your foot swell badly and prevent you from walking for as long as one month; 4—not available at high water; frequently caught in seasons of changing water levels; 6—its flesh lacks fat and resembles the meat of *N.KÍMA*

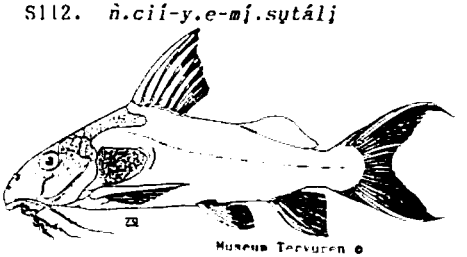
(monkeys) of the genus *Cercopithecus* and *Cercocebus*; its skin resembles that of S105; not as tasty as S116.

S109. *ká.ombél.á-n.samba-lu.kumbí /ị.lungamandelụ*
2—small thing that beats a slit drum (*lu.kumbí*) for *n.samba* (S101); its synonym means long barbels; 3—a small fish; has long *ka.moemoe* (barbels) like S101; its body resembles *lu.kumbí* (or slit drum) in shape; 5—small and tasteless; eaten only for the reason of hunger.

S110. *mo.pílị́/ǹ.cií-y.e-mó.pílị́*
3—slender; coal-black with yellow lines; 5—a little bitter and unsavory; 7—a taboo for nursing women just like S43 and other fishes.

S111. *ǹ.cií-y.e-má.ǹtóndị́*
3—*N.CII* having 2-4 round patterns called *ma.ntóndị́* on the lateral line; these marks increase in number along with its growth.

S112. *ǹ.cií-y.e-mí.sụtálị́*



1—*Synodontis decorus* BOULENGER; 3—*N.CII* having horizontal lines on its body; 11—*mi.sutálị́* is *misutali* (lines) in Swahili.

S113. *ǹ.cií-y.e-ị́.toke*
3—*N.CII* having small speckles on its body.

S114. *n.ganga-mo.élo*
2—S114 and S115 are called by an inclusive name *N.GANGA*, "witch doctor"; *mo.élo* means "white"; 3—small tasteless fish; has paler skin than S115; 9—one of the witch doctors in the fish world.

S115. *n.ganga-mw.ị́lu*
1—identified as the same species as S114 in spite of the difference in their body colors; 2—*mw.ị́lu* means "black"; 3—small tasteless fish; has darker skin than S114; 10—no further explanation was obtained as for the role of these "witch doctors" in the fish kingdom (relationship with the "sorcerer" S53, for example).

S116. *mo.ŋembá/ke.tongétonge*
1—resembles *Synodontis katangae* POLL; see Photo. 7; 2—people upstream of Kindu call this fish *ke.tongétonge*; 3—lives in rocky places where there are *ị.késé* (bivalve resembling oyster) that make net fishing difficult; the poison on its spines is weaker than those of S108; you warm the wounded foot in hot water, rub with salt, and wrap it in cloths, and you are healed in two days; 4—caught in nets Jan.-Mar. when the water level changes; caught with f32 hooks May-Dec.; 6—very delicious; has soft skin and fat snout; *by.aáŋangú* (gills and gill rakers) are also good to eat; 8—its soup softens a sore throat; coughing will be over by taking this soup twice.

S117. *ǹ.cií*
3—the most frequent of all the *Ǹ. CII*.

S118. *ka.nkulunkulu*
3—has a long adipose fin that comes up to the head.

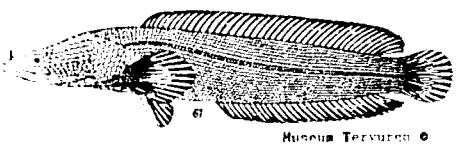
S119. *mo.tóngónyịnkị́*
1—see Fig. 4.69 for another species of the same genus, *Epiplatys singa* (BOULENGER); 3—small fish in streams; has a white spot on its head; 4—bailed in dry seasons; 6—too small for cooking; useless fish for the Enya who have larger fishes at hand; may be eaten by the Kuko if there is an abundant catch by bailing (f20); 11—has a common stem with *.nyịkị́/.nyịnkị́* (S105, electric

catfish), but no folk etymology was given concerning this.

S120. *ke.mpongo*

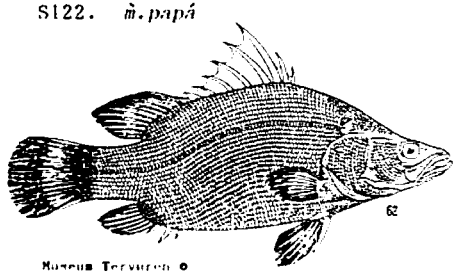
2—*ke.mpongo* means a cultivated plant cassava in Ombo language; 3—larger stage of S121; 4—tasty; has a cylindrical body filled with white powdery flesh, and resembles boiled cassava; 7—not a taboo even for women.

S121. *mu.búndú*



1—*Parachanna obscura* (GÜNTHER); 3—changes its name to S120 at the size of a calf; 4—caught in the dry season, Jun.-Oct.; feeds on cassava baits; 6—good for *j.kéta* (roast in leaves) seasoned with oil palm juice; 7—see S120; some people get ulcers called *ki.límbi* on their whole bodies after they have eaten this fish; the shape of the ulcers are quite like the patterns of the skin of this fish; this disease is called *ka.tíndí*.

S122. *m̀.papá*

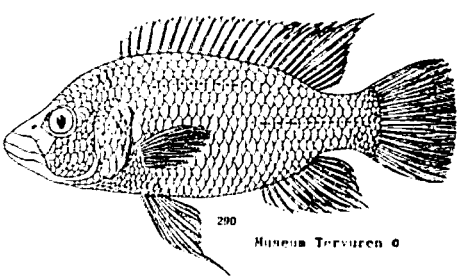


1—*Lates (Lates) niloticus* (LINNAEUS); Nile perch (English); 3—grows very big; feeds on other fishes; 4—caught with hooks number 1-3; caught through the seasons, but is rare Mar.-Jun.; 6—has white powdery flesh resembling that of semi-aquatic antelope *ke.lebe* (water chevrotain, *Hyemoschus aquaticus*); 7—a taboo for nursing women as S43.

S123. *m̀.palala-ŋembe*

2—related with another fish *m.palala* (S129); 3—younger stage of S121; changes its name at a height of twice the width of a palm; nobody has ever seen the eggs of S122 and S123, and in old times people supposed that *m.palala* (S129) having a similar taste gave birth to this fish; 7—a taboo for nursing women as S43; 11—*.ŋembe* is another fish (S52) which is also a taboo for nursing women, but the informants did not suggest a folk etymology concerning this.

S124. *ke.nkelele*



1—*Hemichromis fasciatus* PETERS; see Photo. 16;3—small fish of small streams; an individual having two dark patterns on its side and a red spot below its eye grows large than other individuals; 4—not available with hooks.

S125. *mo.langaĵko/mu.angaĵka*

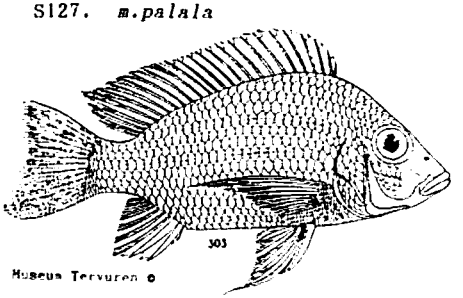
(Kuko) 3—small fish of streams; swims in a zig-zag pattern; has an orange spot; 4—a large shoal is easily caught by bailing (f20); 11—*ku-angaika* in Swahili means "be confused, be busy with affairs.", and may be related with peculiar swimming pattern.

S126. *m.palala-y.e-má.ñkólj*

2—*ma.ñkólj* is the plural form for *j.nkólj* of which the meaning is not remembered; 3—larger stage of S127; reaches a height of twice the width of a palm; has reddish gill cover;

has yellowish body; has vertical black lines on its caudal fin; usually found by two; sometimes fight each other using its mouth; 4—caught in f58 net when the water level is increasing; a fighting pair can be scooped in *j.tanga* (a small scooping net).

S127. *m.palala*



1—*Tylochromis lateralis* (BOULENGER); it is probable that S126 is a male individual that has specific color during the mating season, but the informants said nothing concerning the change in body color; 2—some informant (Mal) called it *m.palala-mo.élo* (white *m.palala*); 3—younger stage of S126; has whitish body; lives near the riversides, and moves to sandy places in the Lualaba in July; 4—caught in f58 net when the water level increases; 6—tastes like S123, Nile perch.

S128. *ki.túndú-m.palala*

1—the specimen observed had greenish head and a caudal fin marked with small round brown patterns; 2—composed of *ki.túndú* (S125) and *m.palala* (S127); 3—has darker body color than S127; an intermediate fish between S125 and S127.

S129. *ki.túndú*

3—resembles S131, but grows as large as a palm; resembles S127 but has a dark body; an informant (Yaf) says it is this fish that bears S122 and S123.

S130. *ki.ucí* (Kuko)

1—see Photo. 14; 3—small fish of streams.

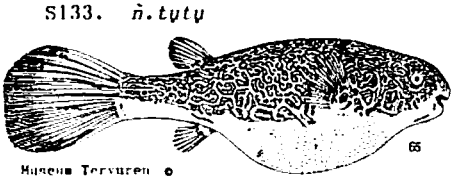
S131. *ki.silú*

1—see Photo. 13; see Fig. 5.26 for another species of the same genus, *Alestes liebrechtsii* BOULENGER; 3—small fish of streams; enter the Lualaba in the dry season; a Kuko informant (Alf) says that there are two varieties having different colors of black and reddish; 4—hooked with earthworm and an unidentified insect *ky.onyá*; major catch in f20 bailing; pierced with rattan strings and smoked; 5—an important fish for the Kuko; sometimes sold if the catch is abundant.

S132. *mu.nkumba*

3—has small spines on its back; 4—caught with hooks number 16-20 Jun.-Oct.; not available in a net because of its small head size; 6—delicious if roasted in leaves (*j.kóta*).

S133. *ń.tutu*



1—*Tetraodon mbu* BOULENGER; 3—this fish has teeth similar to those of humans and *ki.sibili* (cane rats); it swells like a ball as it laughs like a man; fish for the old men; 4—rare; caught in f46 trap Feb.-May; caught in f51 net in June; looks like a third float (*m.bagé*) when caught in a gill net; 6—has a bad smell and is not tasty; its skin resembles that of an elephant (*ń.cou*); is peeled and smoked before cooking; 7—an old man (Leo) says that it is a taboo; others say it is not a taboo but eating it makes you *mu.pitu* (an unlucky person) who causes failure in fishing; its *ka.limu* (liver) is never eaten; 8—smoked skin was used to make a charm medicine which was rubbed into scrat-

ches on the body; the effect was that your skin became resistant against swords or the whips that the white men (Belgian rulers) continued to use until 1957; 10—the status of being a *mu.pitu* is explained as such: you tempt a woman, but she refuses you; you happen to lose your balance while fishing, and you fall out of your dugout; if you happen to fallout of your dugout, a crocodile swallows you; 10—there are some other foods of which the consumption is not allowed to youngsters and women.

S134. *mu.ʃngili*
1—may be Cichlidae or Anabantidae; 3—resembles S129 and S131; a dark fish having the size of a thumb, and shorter than S131;

S135. *ka.seko* (Kuko)
1—see Photo. 18; after the photograph, it looks like a species of Characidae or Cyprinidae; 3—small fish of streams.

3. Ethnoichthyology of Lake Tanganyika fishermen: Bwari, Vira and Bembe

3.1 Folk knowledge of the human habitats among the Bwari

Firstly, the Bwari distinguish the land (*ki.balo*) from Lake Tanganyika (*lu.úji*). A village (*mú.a*) is located on the shore of the Lake. Behind the village there is a 600-meter high mountain ridge of the Ubwari Peninsula covered with a forest (*mw.ítu*) consisting of *ki.shíkú* and *m̀.bámá* trees. These trees were identified as species of the genus *Brachystegia*, namely *miombo* in Swahili. On the foot of the hill there are *li.ma*, small patches of shifting cultivation. There is a plain (*ka.bana*) covered with short grass at about 500 meters above the lake level. In the age of their grandfathers, the Bwari villages were located on this plain. On the highest spot of the plain, at 600 m above the lake level, there is a marsh having a proper name *Kálwe*, and the Bwari say that a strong spirit lives in this marsh.

Today the Bwari villages are located where there is a sandy shore suited for a moor (*mu.ea*). Houses are constructed at least a 100 meters away from the beach (*m̀.fúkúfúkú-w.é-ma.áji*). The area between a village and the beach is called *.búa* in which there are *lu.bua*, places artificially covered with sand to prepare dried *ndagaa* fish of the family Clupeidae (#11). There are an increasing number of Bembe people from the mainland of Zaïre who build huts on the shore and practice fishing much more active than the Bwari.

3.2 Folk knowledge of the habitats of fish among the Bwari

The Bwari classify the habitats of fish into three major zones: *ki.liba*, swamp; *mw.ela*, river; and *lu.úji*, Lake Tanganyika. The Lake is divided into *ku-.búa*, near the shore (an combination of locative prefix *ku-* to *.búa*, beach) and *ku-mw.eji*, offing. The area near the shore is further divided into *m.taanga*, shallow place for some distance, of which the bottom is usually covered with sand (*m̀.séke*). Steep shore is called *ka.líŋí*, where the bottom is usually covered with rocks (*ma.bwe*). A muddy place as is common in an estuary is called *fáshi-y.é-ǹ.daka*, a place of mud. Shallow water having grass vegetation of the genus *Vossia* is called *ma.kanga*, the same name as the plants themselves. A shore on which there are many scattered rocks is called *ma.kángálá*. The Bwari distinguish the depth of water into three terms: *ma.áji-ma.sé-ma.sé*, "little water" or the surface, *ma.áji-m.é-bu.kúlú*,

Table 9. Folk knowledge of the habitats of fish among the Bwari

Codes	*Bwari names*	Explanations
G	*ki.jiba (bi.)*	swamps
H	*mw.ela (me.)*	rivers
H1	*.abui-né-mw.ela*	estuaries
I	*m̀.taanga (mi.)*	shallow shores of Lake Tanganyika
I1	*m̀.séke*	sandy shores
I2	*ma.kanga*	shores covered with grasses (*Vossia* sp.)
J	*ka.líŋí (tu.)*	steep, rocky shores of the Lake
J1	*ma.ánji-ma.sémasé*	near the surface of water
J2	*ma.ánji-m.é-bu.kúlú*	middle depths
J3	*ma.ánji-m.é-ku.shí*	near the bottom
K	*mw.eji*	offing of Lake Tanganyika

"intermediate water" or middle layer, *ma.áji-m.é-m̀.shì*, "down water" or the bottom.

Table 9 lists the vernacular terms for the habitats that were frequently utilized during the interviews on the folk knowledge of fish.

3.3 Seasons

The Bwari divide a year in two seasons (*me.ŋu*): *bu.zoo* (rainy season) and *mw.ángá* (dry season). The rainy season begins in October and comes to a short pause in January. Rain falls most abundantly in April, when it becomes very cool, and the water level of the Lake is most elevated. The dry season continues from May to September. The short period before the beginning of the real rainy season (from September to early October) has a special term *.lemba* when the deciduous trees of the forest sprout their leaves. Calm is *bo.ŋé*, and the wind is *mw.ela*. Seven wind names are recognized according to the seasons, hours of the day, directions, and strength. Two of the winds are rendered very dangerous for the fishermen: *ŋunza*, an intermittent wind that blows from the Ruzizi River located at the northern end of the Lake at the beginning of the rainy season. The other dangerous wind, *anza* blows without rest from the west in the evening of the dry season. In January, without accompanying any strong wind, high waves called *ki.vúma* arrive from the direction of the Lueba River of the mainland Zaïre and often turn fishing boats over.

3.4 Fishing methods of the Bwari

The Bwari know as many as 17 fishing methods (Table 10). These methods show little variation among the Bwari, and their neighbors, the Vira and the Bembe. Today, some of these methods are almost completely out of use, whereas *ndagaa* (Swahili name for small clupeids) fishing using kerosene lamp and a scoop net (f86) or a seine net (f84) has become economically the most important for the Lake Tanganyika fishermen. *Ndagaa* is a small fish of the herring family known only from Lake Tanganyika.

f60 *MA.ELA* A general term for the hooks for fishing. Eight variations (f61-f68) are known.

f61 *m.tándo* Angling from a boat (*bw.áto*) in the offshore during the day (preferably at about noon), and bottom fishes are caught with *ndagaa* (#11) as bait (*.camo*).

f62 *m.tándo-w.é-ǹ.dúbú* Bottom fishing for *ǹ.dúbú* (# 61, B66 of Table 11). Angling from a boat offshore in locations with rocky bottoms early in the morning.

f63 *ka.léngé* Angling with a rod made of the stem of a grass, *ma.léngé* (*Phragmites* sp.). Children fish for small Cichlidae (#61) hiding in the grass foliage, *ma.kanga*.

f64 *ma.éla-m.é-mi.kéké* Angling for *mi.kéké* (#46, B52) with a fly. A hand-made double hook is attached to a rod with a 20-cm thread, Then feathers of a fowl or white cloth is fastened to the base of the hook. At night when the moon has appeared, you go offshore in a boat, and make the hook to turn quickly in water. *Mi.kéké*, attracted by the moving fly, are caught. Today, this method is no more used, and I could not observe the hook itself.

f65 *.meleméta* Angling with a hand-made fly of brass, used for trawling from a motor boat (Fig. 6.7). Recent introduction.

f66 *ka.bamba* Longline with a fine cord of 400-500 fathoms. Hand-made hooks (see Brandt, 1972: 41) are attached to a 1 mm thick cord at every one fathom, and the cord is laid in the same direction as the shore. Attaching *ndagaa* fish as bait begins at dawn and pulling it up again ends near noon even

Table 10. Fishing methods of the Bwari

Codes	*Bwari names*	Explanations
f60	*MA.ELA*	angling in general
f61	*m̀.tándo (mi.)*	bottom fishing in the day
f62	*m̀.tándo-w.é-ǹ.dúbú*	bottom fishing for *ǹ.dúbú* (B66 of Table 11)
f63	*ka.léngé (tu.)*	hook and line
f64	*ma.ela-m.é-mi.keké*	angling for *mi.keké* (B52) with feather baits
f65	*.meleméta (.)*	angling with a spoon bait made of brass
f66	*ka.bamba (tu.)*	longline with a fine cord of 400-500 fathoms
f67	*mo.ojí (mi.)*	longline with a rope of 200 fathoms
f68	*ki.nanda (bi.)*	longline made of cords and wires from used tires
f70	*MO.ONO (MI.)*	trap in general
f71	*mo.ono (mi.)*	trap for smaller fish with *ndagaa* as bait
f80	-	fishing nets and allies
f81	*m̀.kába (mi.)*	small nets with bark ribbons for attraction
f82	*bu.kila (ma.)*	2-meter wide seine net of 10-cm mesh size
f83	*ka.sangála (tu.)*	seine net with large mesh size
f84	*m̀.kwábó-w.é-ǹ.zanga*	seine net with fine mesh size for *ndagaa* fishing
f85	*m̀.kwábó (mi.)*	seine net with fine mesh size for non-*ndagaa* fish
f86	*ǹ.gózo (.)*	scoop net for *ndagaa*
f87	*.kipé (.)*	large scoop net for *ndagaa*, handled by two boats
f88	*ku.kwát.a-né-mw.énda*	to scoop with cloths and pans

if work is continuedwithout interruption.

f67 *mo.ojí* Longline with a rope of 200 fathoms. Some 200 imported hooks are attached on a 5-6 mm thick rope at every one fathom. *Ndagaa* is chosen as bait. At each end of the rope, a wooden float (*bo.ya*) is attached. It is laid in the evening and taken out the next morning.

f68 *ki.nanda* Longline made of cords and steel wires taken from used tires. The same usage as f66 and f67. one of these longlines for sale at the market of Kigongo, south of Luhanga (Fig. 3).

f70 *MO.ONO* Traps in general. Traditionally the Bwari were not acquainted with fishing traps. They were introduced to some traps by the Bembe and Masanze peoples. In the Karamba region (Fig. 3), south of the Ubwari Peninsula, *n.dízo*, a large conical trap is used in rivers, they say.

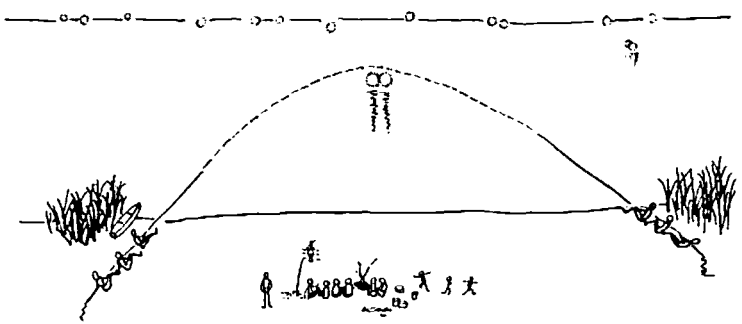
f71 *mo.ono* Trap for smaller fish with *ndagaa* as bait. A 50 cm trap with a diameter of 30 cm made of *Phragmites* stem or oil palm leaves (Fig. 6.6, which is drawn, for the purpose of clarity, at a density of one shaft out of three). It is set in the grass foliage with two stone sinkers attached to the trap with 20 cm cords. A fishermen puts dried *ndagaa* as bait inside the trap in the evening and goes to check the catch the net morning.

f80 - There is no Bwari term that includes all the fishing nets.

f81 *m̀.kába* A 30 cm long and 20 cm wide net having a mesh size of 10 cm is attached to 50-70 meter rope at every fathom. The rope is made from a wild liana *ǹ.goyi*. Between these small nets there are three ribbons of white bark of an unidentified tree *sapu*. Set in the lake at about three in the morning, it catches large fishes of the family Centropomidae (#46) attracted by the fluttering bark.

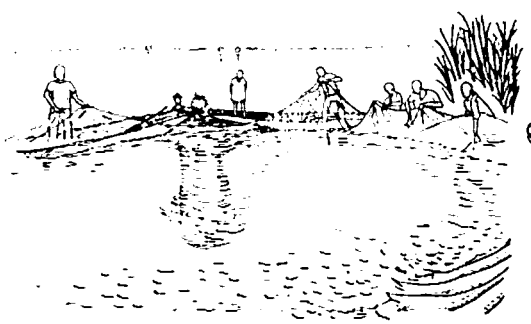
f82 *bu.kila* A 50-70 meter long, 2-meter wide gill net of 10-cm mesh size, made from *ǹ.goyi* liana. It is set along, or at a right angle to the shore in

Fig. 6. Fishing methods of the Bwari

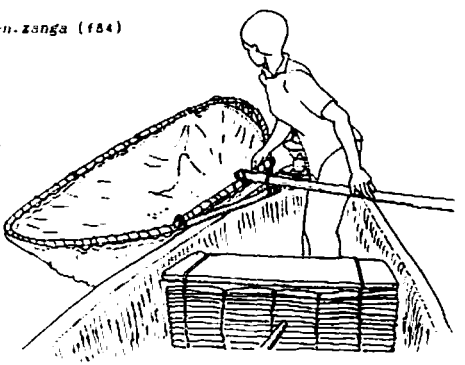


6.1 Drawing a seine net *à.kwábó-w.é-n.zanga* (f84)

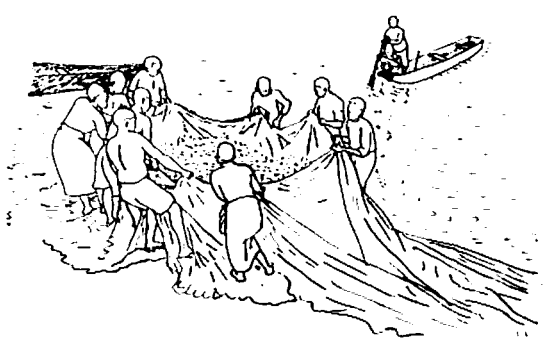
6.4 *ń.gózo* (f86) a large scoop net.



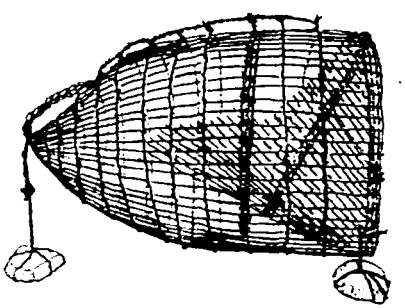
6.2 Sourrounding a shoal of *ndagaa* in the net.



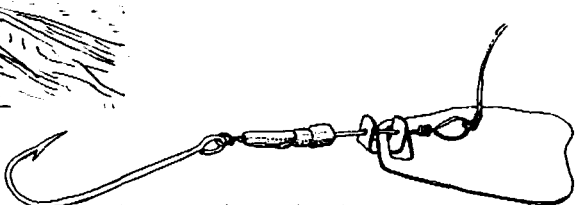
6.5 Method of scooping.



6.3 Landing of *ndagaa*.



6.6 *mo.ono* (f71), a trap.



6.7 *.melemóta* (f65), a brass spoon.

the evening and withdrawn the next morning.

f83 *ka.sangála* A seine net with large mesh size. It is dragged on a sandy shore day or night.

f84 *m̀.kwábó-w.é-n.zanga* A drag net with fine mesh size for *LU.ZANGA* (Bwari term for *ndagaa*) fishing. The most important fishing gear for the Bwari and their neighbors. The *m̀.kwábó*, 5-6 meter wide, 50 meter long nylon net has a mesh size of about 5 mm. This net was introduced to the Bwari after Independence in 1960. *Ndagaa* is caught at night when there is no moon. On the stern of a boat a fisherman sets two pressure kerosene lamps (*karabai* in Swahili) that attract a shoal of *ndagaa*. A boat rests for about an hour offshore in search of a shoal and slowly approaches the sandy shore where a team of six men, three on both sides, are waiting to surround the shoals attracted by the lamps (Fig. 6.1). The boat withdraws from the net leaving *ndagaa* inside (Fig. 6.2). Women help the work in exchange for some *ndagaa* given by the fishermen (Fig. 6.3) The catch is immediately dispersed on the drying mound *lu.búa*.

f85 *m̀.kwábó* The same net as in f84 is sometimes used in the day to catch fishes other than *ndagaa*.

f86 *ǹ.gózo* A scoop net for *ndagaa* (Fig. 6.4 and 6.5). Swahili name is *lusenga*. Before the introduction of f84 net, the Bwari exclusively used this net for *ndagaa* fishing. There are some fishermen who prefer this cheaper fishing gear to f84 because only two persons are needed, and because the wide shallow shore is not necessary. A shoal of ndagaa is attracted by pressure lamps just as in f84, and a partner on the stern beat the side of the boat with a stick to force it to come up near the surface, and the fishermen scoop the shoal several times (Fig. 6.5). Until the introduction of pressure lamps in 1956, the Bwari burned firewood (*m̀w.enge*) of *Brachystegia* spp. to attract the ndagaa, and 5 meter torches (*ki.móli*) made of *ma.kanga* and *ma.léngé* grasses were used before 1937. The Bwari say that the Tongwe people who live on the other side of the Lake taught them the method of using torch and firewood. When torches used as illumination, two persons each having a net, scooped the water under the torch.

f87 *.kipé* A large scoop net for *ndagaa*, manipulated by two big boats. Industrial fishing started very recently in Bwari. The etymology for *.kipé* may be the French word "*equipe*."

f88 *ku.kwát.a-né-m̀w.énda* To scoop the young of *ndagaa* with cloths and pans. Women and children catch a small amount of *ndagaa* fries when they approach the shore. It is forbidden by the local government to sell the fries of *ndagaa*.

3.5 Nomenclature of fish among the Bwari and their neighbors

The Bwari call fish as *E.SWI*. Other animals found in the water such as *m̀.shisá* (prawns), *ŋala* (crabs), *lu.kulo* (bivalves), *tombetombe* (Swahili; jellyfish), and *mi.súndu* (leeches) are all inedible *ki.jímu* (bugs and worms) and are distinguished from *E.SWI*. Thus, *E.SWI* of the Bwari corresponds to Teleostei just as its etymological brother in the Bantu family, *Ñ.FII/KE.SOkO* of the Songola-Enya does.

Table 11 lists the outline of the nomenclature of fish among three fishing societies of the northwestern end of Lake Tanganyika: Bwari, Bembe and Vira. Abbreviations are explained in Table 6. See section 3.7 for more detail on the folk knowledge of fish among these peoples.

Table 11-1. Nomenclature of fish among the Bwari and their neighbors (Lake Tanganyika)

Ref. No.	CLOFFA No.	Scientific names	Sample No.	Stand. length	"Swahili" names
	4	PROTOPTERIDAE			
B1	4. 1. 2	*Protopterus aethiopicus* HECKEL	Obs.	*ca* 500	njombo/mujombo
	5	POLYPTERIDAE			
B2	5. 2	*Polypterus* sp.	B.	-	-
	11	CLUPEIDAE	Inf.		ndakala/ndagaa
B3	11. 7. 1	*Limnothrissa miodon* (BOULENGER) ad.	9534	100	lumbu
B4	11. 7. 1	*Limnothrissa miodon* (BOULENGER) juv.	Obs.	-	-
B5	11. 7. 1	*Limnothrissa miodon* (BOULENGER) juv.	Inf.	-	mgala
B6	11.19. 1	*Stolothrissa tanganicae* REGAN ad.	9555	78	-
B7	11.19. 1	*Stolothrissa tanganicae* REGAN juv.	9555	62	-
B8	11.19. 1	*Stolothrissa tanganicae* REGAN juv.	9555	48	-
B9	11.19. 1	*Stolothrissa tanganicae* REGAN juv.	9587	25	mgala
	16	MORMYRIDAE			
B10	16.11.34	*Marcusenius stanleyanus* (BOULENGER)	B.	-	-
	26	CHARACIDAE			
B11	26. 1.34	*Alestes rhodopleura* BOULENGER	9590	300	ngoloko
B12	26. 1.28	*Alestes macrophthalmus* GÜNTHER	P.	-	-
B13	26.10. 5	*Hydrocynus vittatus* (CASTELNAU)	B.	-	-
	27	DISTICHODONTIDAE			
B14	27. 3.22	*Distichodus sexfasciatus* BOULENGER	Inf.	-	-
	28	CITHARINIDAE			
B15	28. 3. 4	*Citharinus gibbosus* BOULENGER	B.	-	mbanza/abasa
	29	CYPRINIDAE			
B16	29. 1. 1	*Acapoeta tanganicae* (BOULENGER) ad.	P.	-	-
B17	29. 1. 1	*Acapoeta tanganicae* (BOULENGER) juv.	9530	93	-
B18	29. 4.27	*Barbus tropidolepis* BOULENGER	P.	-	mbiligi
B19	29. 6. 5	*Chelaethiops minutus* (BOULENGER)	9606	75	kabangula/kabangulakichwa
B20	29.19. 9	*Raiamas moorei* (BOULENGER)	9540	-	sardin
B21	29.22.11	*Varicorhinus leleupanus* MATTHES	9636	87	-
B22	29	?	Inf.	-	-
B23	29	?	Inf.	-	-

Ref. No.	Vernacular names of the fish Bwari	Bembe	Vira	Knowledge on habitat	Fishing methods (f-)
B1	*.sémbe(.)*	*.sémbe(.)*	*ǹ.jombó(ǹ.)*	G	-
B2	-	*.kúngúlúmákamba (ma.)*	*.kúngúlúmakamba (ma.)*	I	-
	LU.ZANGA(Ñ.)	*Ñ.DAKALA(Ñ.)*	*Ñ.JÁANGA(Ñ.)*		
B3	3 *.lumu(ma.)*	3 *m̀.bíya(m̀.)*	2 *m̀.bíyá(m̀.)*	K	84 85 86 87
B4	2 *ki.samba(bi.)*	2 *?isamba(bi)*	-	K	84 85 86 87
B5	1 *mw.alá*	1 *m.kalá(.)*	1 *m.galá*	I1 I2	88
B6	4 *ka.lúmba*	4 *?a.lúumbá / ?a.lúubá*	4 *ka.lúmba(tu.)*	K	84 85 86 87
B7	3 *ka.uzulúmbá*	3 *?a.ukyulúmbá*	3 *ka.hujulúmbá (tu.)*	K	84 85 86 87
B8	2 *.kauzu(.)*	2 *.?aukyu(.) /.kyanga*	2 *ka.hujú(tu.)*	K	84 85 86 87
B9	1 *.mwalá(.)*	1. *m̀kalá(.)*	1 *.m̀galá(.)*	I1 I2	88
B10	-	*m̀.cimba(mi.)*	*ka.cimba(tu.)*	H	-
B11	*ǹ.goloo(ǹ.)*	*ǹ.golóko(ǹ.)*	-	I1 I2	63 84
B12	*.mánze(.)*	-	-	I J	-
B13	*ka.bwámeéno(tu.) /ka.bwáŋaáŋa(tu.)*	*m.bangémeényo /?a.bwáŋeége(tu.)*	*.namakúla(.)*	I K	60 83
B14	*ka.shíshí(tu.)*	-	-	H1 J	-
B15	*ka.beéwe(tu.) /.mánze(.)*	*?a.beéwe(tu.)*	*ka.beéwe(tu.)*	-	-
B16	*.malaa(.)*	*.balaka(.)*	*m̀.balaga(m̀.)*	H	-
B17	*ki.túmbí(bi.)*	*?i.túmbí(bi.)*	*.níngu(.)*	G I1	84
B18	*.mliba(.)*	*.bilíbi(.) /.mlíba(.)*	*m̀.biilíbi(m̀.) /.mlíba(.)*	G H I	70 82 84
B19	*m̀.logó(mi.)*	*?a.bangúla(tu.)*	-	K	84 86
B20	*ki.langala(bi.)*	*?i.langala(bi.)*	*ki.langala(bi.)*	G H	84
B21	*ki.túmbí(bi.)*	*?i.túmbí(bi.)*	*.níngu(.)*	G I1	63 82 84 85
B22	*ki.túmbímalaa(bi.)*	-	-	-	-
B23	*ki.tiŋa(bi.) /ki.tinga(bi.)*	-	-	G H	-

Table 11-2. Nomenclature of fish among the Bwari and their neighbors (Lake Tanganyika)

Ref. No.	CLOFFA No.	Scientific names	Sample No.	Stand. length	"Swahili" names
B24	29	?	Inf.	-	-
B25	29	?	Inf.	-	-
	31	BAGRIDAE			
B26	31. 2.14	*Auchenoglanis occidentalis* (VALENCIENNES)	9637	-	kafieke
B27	31. 4. 3	?*Bagrus docmak* (FORSSKALL)	B.	-	mpono
B28	31. 6 5	*Chrysichthys brachynema* BOULENGER	9577	132	kibonde
B29	31. 6.12	*Chrysichthys grandis* BOULENGER	9588	-	kukumayi
B30	31. 6.13	*Chrysichthys graueri* STEINDACHNER ad.	Inf.	-	-
B31	31. 6.13	*Chrysichthys graueri* STEINDACHNER juv.	9638	61	-
B32	31. 6.30	*Chrysichthys platycephalus* WORTHINGTON & RICARDO	9589	81	-
B33	31. 6.34	*Chrysichthys sianenna* BOULENGER	9552	69	shanana/sanana
B34	31.16. 2	*Phyllonemus filinemus* (WORTHINGTON & RICARDO)	9640	63	-
	34	CLARIIDAE			
B35	34. 4. 2	*Dinotopterus cunningtoni* BOULENGER ad.	Obs.	-	singa
B36	34. 4. 2	*Dinotopterus cunningtoni* BOULENGER juv.	Inf.	-	-
B37	34.10. 1	*Tanganikallabes mortiauxi* POLL	9563	160	-
B38	34. 3	*Clarias* spp.	Obs.	-	kambale
	35	MALAPTERURIDAE			
B39	35. 1. 1	*Malapterurus electricus* (GMELIN)	9513	-	nyika
	36	MOCHOKIDAE			
B40	36.10	*Synodontis* sp.	B.	-	-
B41	36.10.61	*Synodontis multipunctatus* BOULENGER	9613	61	-
B42	36.10	*Synodontis* sp.	Inf.	-	-
B43	36.10	*Synodontis* sp.	Inf.	-	-
	40	CYPRINODONTIDAE			
B44	40. 9. 1	*Lamprichthys tanganicanus* (BOULENGER)	9611	91	-
	46	CENTROPOMIDAE			
B45	46. 1. 4	*Lates angustifrons* BOULENGER ad.	Inf.	-	kimize
B46	46. 1. 4	*Lates angustifrons* BOULENGER ad.	Obs.	560	kapiten
B47	46. 1. 4	*Lates angustifrons* BOULENGER juv.	Inf.	-	-
B48	46. 1. 5	*Lates mariae* STEINDACHNER ad.	Obs.	-	sangala
B49	46. 1. 5	*Lates mariae* STEINDACHNER juv.	Inf.	-	-

Ref. No.	Vernacular names of the fish Bwari	Bembe	Vira	Knowledge on habitat	Fishing methods (f-)
B24	-	*.námatuu(.)*	-	H	-
B25	-	*j.shémbé(ma.)*	-	-	-
B26	*ka.vúngwé(tu.)*	*ʔa.bungwe(tu.)*	*ka.vúngwe(tu.)*	I K	66 83 84
B27	*ǹ.goná(ǹ.)*	-	*ki.fumbúka(bi.)*	-	62 83
B28	*.mvulu(.)* /*ki.bónde(bi.)*	*.mbuluwe(ma.)*	*.mvulu(.)*	J K	61 66 82 84
B29	*m̀.bíísú(m̀.)* /*ǹ.gúukú(ǹ.)*	-	*.mvulu-y.é-m̀-li.bwe*	J3	66 67 82 84
B30	*2 ki.fyunu(bi.)* /*2 m.funu(.)*	*ʔe.ɸyúnú(bi.)* /*e.sʊ́nʊ́*	-	-	-
B31	*1 ǹ.kongwe(ǹ.)*	-	-	-	84
B32	*ki.fyunu(bi.)*	-	-	-	66 67 84
B33	*m̀.neke(mi.)*	*m̀.neʔe(mi.)*	*m̀.neke(mi.)*	I1	63 84
B34	*m̀.neke(mi.)*	-	-	I1	84
B35	*2 .shiga(.)*	*m̀.búʔá(m̀.)*	*m̀.búká(m̀.)*	J	61 66 67 82
B36	*1 ki.lolóshiga(bi.)* /*1 ki.loló(bi.)*	-	-	-	82
B37	*1 ki.lolóshiga(bi.)* /*1 ki.loló(bi.)*	-	-	-	-
B38	*m̀.báne(m̀.)* /*m.lubá*	*.ʔambáne(.)*	*.shomvi(.)*	G H	-
B39	*.nyika(.)*	*.njʔá(.)*	*.nyiká(.)*	I J	63 84
B40	*ǹ.dumi(ǹ.)*	-	-	J	82
B41	*ka.ngoóngo(tu.)*	*ʔa.ngóngo(tu.)*	*.nábálogwá?*	I	63 82 84
B42	-	-	*.nábátoló(.)*	-	-
B43	-	*j.kikí/bu.jkiki*		J	-
B44	*m̀.shiya(mi.)*	*m̀.sʊja(ba.)* /*lu.sʊja(m̀.)*	*ka.lusiha(tu.)* /*.lusiha(.)*	I2	63 84
B45	*3 ki.mínyé(bi.)*	-	-	K	66 67
B46	*2 gomba(gomba)*	-	*2 n.gomba(n.)*	K	66 67 81
B47	*1 ka.lebelébe(tu.)*	-	*1 ke.ke-ly.é-n.gomba*	K	60 84
B48	*2 .sagala(.)*	*2 .sangala(.)*	*2 .shangala(.)*	K	61 66 81 82
B49	*1 ka.lebelébe(tu.)*	*1 ʔa.lebelebe (tu.)*	*1 m̀.zingá(mi.)*	K	84

Table 11-3. Nomenclature of fish among the Bwari and their neighbors (Lake Tanganyika)

Ref. No.	CLOFFA No.	Scientific names	Sample No.	Stand. length	"Swahili" names
B50	46. 1. 6	*Lates microlepis* BOULENGER ad.	Obs.	-	nonzi
B51	46. 1. 6	*Lates microlepis* BOULENGER	9551	109	-
B52	46. 1. 7	*Lates (Luciolates) stappersii* (BOULENGER) ad.	Obs.	*ca* 300	mikeke/mgebuka
B53	46. 1. 7	*Lates (Luciolates) stappersii* (BOULENGER) juv.	Obs.	-	sambaza
	61	CICHLIDAE			
B54	61	*Altolamprologus compressiceps* (BOULENGER)	B.	-	-
B55	61	*Astatotilapia burtoni* (GÜNTHER)	9662	80	kijole
B56	61	*Aulonocranus dewindti* BOULENGER male	9550	82	-
B57	61	*Aulonocranus dewindti* BOULENGER female	9549	76	-
B58	61	*Bathybates fasciatus* BOULENGER	9558	220	bangabanga
B59	61	*Bathybates minor* BOULENGER	9665	129	lufukuzi
B60	61	*Boulengerochromis microlepis* (BOULENGER)	9579	223	kuhe
B61	61	*Callochromis melanostigma* (BOULENGER)	9673	-	-
B62	61	*Cardiopharhynx schoutedeni* POLL	9647	-	-
B63	61	*Chalinochromis brichardi* POLL	9617	66	-
B64	61	*Ctenochromis horei* (GÜNTHER)	9632	89	ngebengebe
B65	61	*Cyathopharynx furcifer* (BOULENGER)	9620	107	-
B66	61	*Cyphotilapia frontosa* (BOULENGER)	9575	170	-
B67	61	*Cyprichromis microlepidotus* (POLL)	9658	80	-
B68	61	*Enantiopus melanogenys* (BOULENGER)	9526	128	-
B69	61	*Grammatotria lemairii* BOULENGER	9562	91	-
B70	61	*Haplotaxodon microlepis* BOULENGER	9546	-	-
B71	61	*Hemibates stenosoma* (BOULENGER)	Obs.	-	-
B72	61	?*Julidochromis* spp.	B.	-	-
B73	61	*Lamprologus callipterus* BOULENGER	9570	105	-
B74	61	*Lamprologus lemairii* BOULENGER	9512	130	-
B75	61	*Lepidiolamprologus attenuatus* (STEINDACHNER)	9599	90	-
B76	61	*Lepidiolamprologus cunningtoni* (BOULENGER)	9580	210	-
B77	61	*Lepidiolamprologus elongatus* (BOULENGER)	9502	84	-
B78	61	*Lestradea perspicax* POLL	9529	98	-
B79	61	*Limnochromis auritus* (BOULENGER)	B.	-	-
B80	61	?*Limonochromis* sp.	B.	-	-
B81	61	*Limnotilapia dardennii* (BOULENGER)	9553	215	kungula
B82	61	*Lobochilotes labiatus* BOULENGER	9515	-	-

Ref. No.	Vernacular names of the fish Bwari	Bembe	Vira	Knowledge on habitat	Fishing methods (f-)
B50	2 .nonji(.)	.nonjị(ma.)	2 .nonzi(.)	K	81 83 84 85
B51	1 ka.lebelébe(tu.)	.nonjị(ma.)	1 ǹ.zelebunungu (ǹ.)	K	84
B52	2 m̀.keké(mi.)	2 mụ.ʔeʔé(mị.)	2 m̀.gwabúga(mi.)/m̀.keké(mi.)	K	64 84 86
B53	1 .nyámúnyamu(.)	1 ba.ána-b.á-mị.ʔeʔé	1 bw.ana-bw.é-mí.keke	K	84
B54	ka.ubáo(tu.) /ki.pánga(bi.)	ʔa.béko(tu.)	ka.bégo(tu.)	-	84
B55	ki.zole(bi.)	ʔe.kyolwe(bị.)	ki.jole(bi.)	G I1 I2	63
B56	.lala(ma.)	-	-	I1	84
B57	.LENDA(MA.)	-	-	I1	84
B58	m̀.banga(m̀.)	m̀.banga(m̀.)	m̀.sufí(mi.)	K	60 66 80 82 84 85
B59	ǹ.dengela(ǹ.)	-	-	K	84
B60	ǹ.gué(ǹ.)	.kuhe(ma.)	ǹ.gué(ǹ.)	I1 K	60 66 82 83 85
B61	ky.ogó(by.)	ʔi.lilima(bị.)	ki.jilimá(bi.)	I1	84
B62	.lala(ma.)	ʔi.ifujcj́(bị.)	ka.jalamba(tu.)	I1	84
B63	.LENDA(MA.)	-	-	I1	84
B64	ki.lomo(bi.)	ʔe.lomo(bị.) /ǹ.domo(ǹ.)	ǹ.domyo(ǹ.) /ǹ.domo(ǹ.)	I	63 71
B65	.lala(ma.)	j́.lala(ma.)	.lala(ma.)	I1	84
B66	ǹ.dúbú(ǹ.)	ǹ.dúbú(ǹ.) /ǹ.gumúngumu(ǹ.)	ǹ.dúbu(ǹ.) /ǹ.gumúkumu(ǹ.)	J3	62
B67	ka.shíní(tu.)	ʔʔa.kúla(tu.)	-	I1	84
B68	m̀.lunda(mi.)	mu.lunda(mi.) /.nunda(.)	m̀.londa(mi.)	I1	84 85
B69	.nungí(.)	.nungj́(.) /.nyungj́(.)	.nungí(.)	I1	60 84 85
B70	.lukóokó(.)	.nyalukooko(.)	-	I1	60 84
B71	-	ʔe.lolóké(bị.)	ki.lológé(bi.)	-	60
B72	-	.ʔulụngu(.)	-	I	-
B73	ǹ.jéenjá(ǹ.)	ǹ.jékecá(ǹ.) /ǹ.jekelele(ǹ.)	m̀.zékélé(mi.)	I1	60 84 85
B74	ki.kalakata(bi.)	ʔe.kalakata(bị.)	ki.kalagata(bi.)	J	60 84 85
B75	ka.líla(tu.) /.wakalindí(.)	-	-	I1	60 84 85
B76	ki.ndábululu(bi.)	ʔé.débululu(bị.)	-	I1	84 85
B77	ki.sóndója(bi.) /m̀.sóndéja(m̀.)	mu.dúulwá(mi.)	mu.ndúlwa(mi.)	I1	64 84 85
B78	ka.shikwa(tu.)	-	-	I1	84 85
B79	-	ʔe.ɸúbéɸúbe(bị.)	ʔlufúbéfúbe	I J	-
B80	-	-	ʔmunugóbángolí	I1 J1	-
B81	ŋuŋula(ŋuŋula)	.ʔungula(ma.)	ǹ.gungula(ǹ.)	I1	61 63 82 84 85
B82	ǹ.dafwa(ǹ.) /m̀.lomo(mi.)	ǹ.daɸwa(ǹ.)	ǹ.dafwa(ǹ.)	J	84 85

Table 11-4. Nomenclature of fish among the Bwari and their neighbors (Lake Tanganyika)

Ref. No.	CLOFFA No.	Scientific names	Sample No.	Stand. length	"Swahili" names
B83	61	*Microdontochromis tenuidentatus* (POLL)	9561	52	-
B84	61	*Neolamprologus fasciatus* (BOULENGER)	9655	91	-
B85	61	*Neolamprologus leleupi* (POLL)	B.	-	-
B86	61	*Neolamprologus modestus* (BOULENGER)	9633	92	-
B87	61	*Neolamprologus tetracanthus* (BOULENGER)	9648	69	-
B88	61	*Neolamprologus toae* (POLL)	9536	-	-
B89	61	*Neolamprologus tretocephalus* (BOULENGER)	9539	-	-
B90	61	*Ophthalmotilapia ventralalis* (BOULENGER)	B.	-	-
B91	61	*Ophthalmotilapia nasutus* (POLL & MATTHES)	9601	89	-
B92	61	*Oreochromis (Oreochromis) niloticus* (LINNAEUS)	Inf.	-	ngege
B93	61	*Oreochromis (Oreotilapia) tanganicae* (GÜNTHER)	9578	220	ngege
B94	61	*Perissodus microlepis* BOULENGER	9581	76	-
B95	61	*Petrochromis polyodon* BOULENGER	9516	-	-
B96	61	*Plecodus paradoxus* BOULENGER	9547	104	-
B97	61	*Plecodus straeleni* POLL	9572	88	-
B98	61	*Simochromis babaulti* PELLEGRIN	9582	65	kifute
B99	61	*Simochromis curvifrons* POLL	9571	87	kifute
B100	61	*Simochromis diagramma* (GÜNTHER)	9560	102	kifute
B101	61	*Simochromis marginatus* POLL	9531	77	kifute
B102	61	?*Tanganicodus irsacae* POLL	B.	-	-
B103	61	*Telmatochromis dhonti* (BOULENGER)	9634	86	-
B104	61	*Trematocara marginatum* BOULENGER.	9511	28	-
B105	61	*Trematocara stigmaticum* POLL	9666	60	-
B106	61	*Tropheus moorii* BOULENGER	9518	-	-
B107	61	*Tylochromis polylepis* (BOULENGER)	9521	100	ndanga
B108	61	*Xenochromis hecqui* BOULENGER	9537	-	-
B109	61	*Xenotilapia bathyphilus* POLL	9527	78	-
B110	61	*Xenotilapia nigrolabiata* POLL	9622	79	-
B111	61	*Xenotilapia sima* BOULENGER	9668	-	-
B112	61	?	Inf.	-	-
B113	61	?	Inf.	-	-
B114	61	?	Inf.	-	-
B115	61	?	Inf.	-	-
	70	MASTACEMBELIDAE			
B116	70. 1. 3	*Afromastacembelus cunningtoni* (BOULENGER)	9564	360	mlombo
B117	70. 1.10	*Afromastacembelus ophidium* GÜNTHER	9614	-	mlombo
B118	70. 1	*Afromastacembelus* spp.	Inf.	-	-
	74	TETRAODONTIDAE			
B119	74. 1	*Tetraodon mbu* BOULENGER	B.	-	kakamusi

Ref. No.	Vernacular names of the fish Bwari	Bembe	Vira	Knowledge on habitat	Fishing methods (f-)
B83	*ka.pópó(tu.)*	-	-	I1	63 84 85 86
B84	*ki.tébo(bi.)* /*m.basá(m.)*	-	-	J2	84 85
B85	-	-	*m.bongo-y.é-ma.ázi*	-	-
B86	*m.gunda(mi.)*	*?m.?umbíi(mi.)*	*?m.kumbíi(mi.)*	I1	84 85
B87	*ki.ndábulubu(bi.)?*	*?.swahíli(.)*	*?.sumaíli*	I J1	84
B88	*.LENDA(MA.)*	-	-	-	84
B89	*ya.ána-y.é-n.dúbú* /*n.dúbú-y.é-ma.bwe*	-	-	-	84
B90	*.lala(ma.)*	*j.lalálala(ma.)*	-	-	-
B91	*.lala(ma.)*	*j.lalálala(ma.)*	-	-	-
B92	*.kímbwi*	-	-	G	83
B93	*n.ŋeé(n.)*	*n.geké(n.)*	*n.gegé(n.)*	G I	80 83
B94	*m.béetá(m.)*	-	-	-	84 85
B95	*ky.oŋó-ky.é-ma.bwe*	*?e.hongó(bj)*	*.kokóla(.)*	J	85
B96	*m.béetá(m.)*	*?.malolaikulu*	-	-	84
B97	*m.béetá-y.é-ma.bwe*	-	-	J	84
B98	*ky.oŋó(bi.)*	*?e.hongó(bj.)*	*ki.kula(bi.)*	J1	71 84 85
B99	*ky.oŋó(bi.)*	*?e.hongó(bj.)*	*ki.kula(bi.)*	J1	71 84 85
B100	*ky.oŋó(bi.)*	*?e.hongó(bj.)*	*ki.kula(bi.)*	J1	71 84 85
B101	*ky.oŋó(bi.)*	*?e.hongó(bj.)*	*ki.kula(bi.)*	J1	71 84 85
B102	-	*bu.tjnya*	*m.sishá*	H I1	-
B103	*ki.flúfifí(bi.)*	-	-	I	63 84 85
B104	*.sakasaka(.)*	-	-	I1	84
B105	*.sakasaka(.)*	-	-	I1	84
B106	*ky.oŋó-ky.é-m.lábá*	*?e.cjjka(bj.)*	-	J1	84 85
B107	*n.daŋá(n.)*	*n.dangá(n.)*	*n.dangá(n.)* /*ka.bálala(tu.)*	I1	84 85
B108	*m.béetá(m.)*	*m.be?a(m.)*	*m.beka(m.)*	J3	60 84
B109	*ka.pópó(tu.)*	-	-	I1	63 84 85 86
B110	*ki.lyongo(bi.)*	*?i.lyongo(bj.)*	-	I1	84 86
B111	*ka.pópó(tu.)*	*m.póopó(m.)* /*m.bóopó(m.)*	-	I1	63 84 85 86
B112	*ki.kulikuli(bi.)*	-	-	I	-
B113	-	*?a.mjsjmjsj(tu.)*	-	J	-
B114	-	*j.?oola(ma.)*	-	J	-
B115	-	*?i.túmbú(bj.)*	-	I	86
B116	*m.lombó(mi.)*	*m.lombó(m.)*	*m.gwano(m.)*	K	62 66 82 84
B117	*m.lombó(mi.)*	*m.lombó(m.)*	*m.gwano(m.)*	K	62 66 82 84
B118	*m.lombó-w.é-.filiji*	*m.lombó(m.)*	*m.gwano(m.)*	I	-
B119	-	-	*.sama(.)*	H	-

3.6 Folk classification of fish among the Bwari

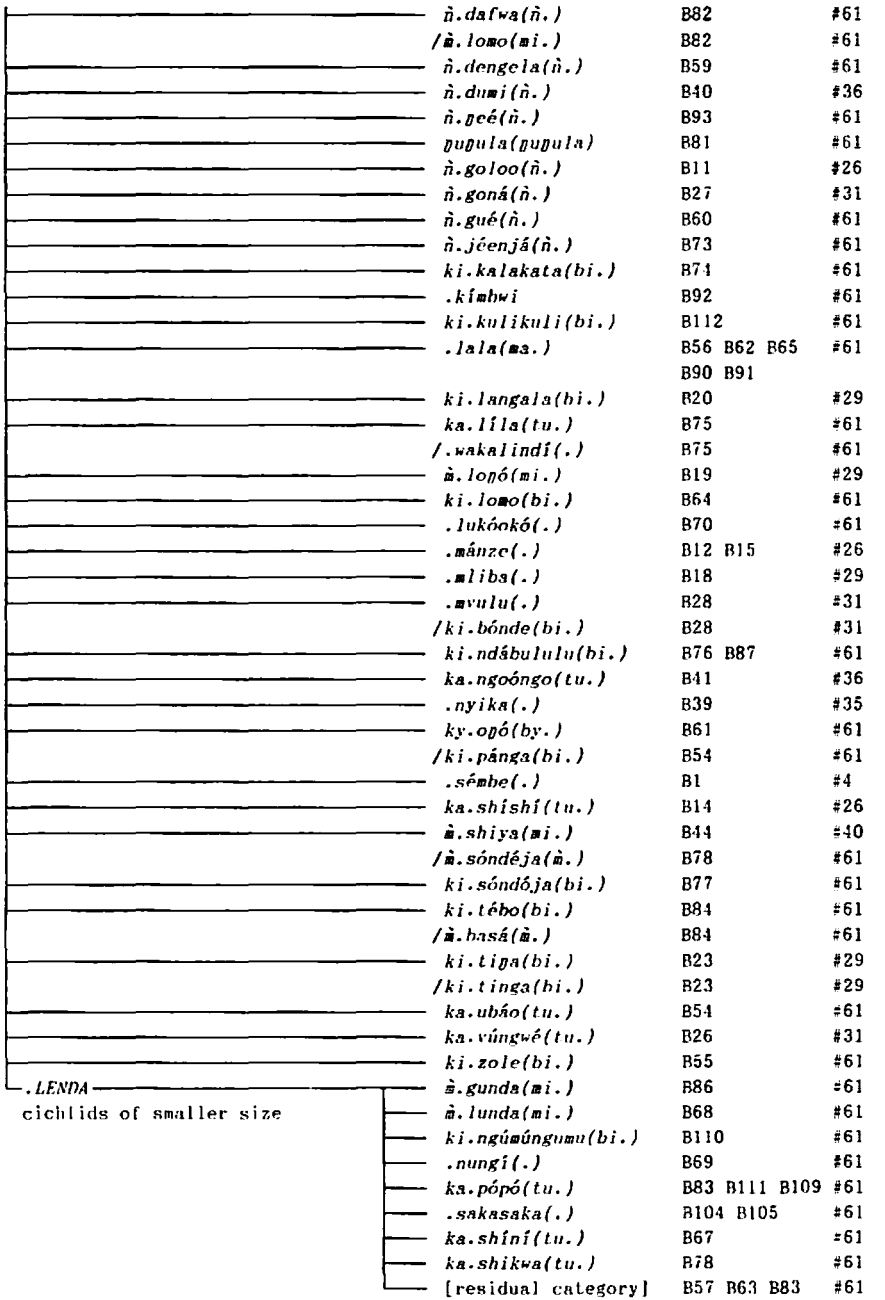
The folk knowledge of fish described in the previous section 3.5 is analyzed and arranged as a system of folk classification in Table 12, which is made up according to the same principle as in Table 8.

The Bwari system of fish classification has only three inclusive names *LU.ZANGA*, *M.LOMBÓ*, and *.LENDA* except for *E.SWÍ* that stands for "fish" and includes all other vernacular names. Thus, their folk classification system of fish is composed only of three levels. There are eight series of growth fish. There is one "growth fish" that has four life cycle stage names, two that have three stages, and five with two stages. Individual names related to "growth fish" add up to 17, or about 22 percent of the total individual names excluding synonyms.

Table 12 contains 103 correspondences between fish species and their vernacular names of the Bwari. Fifty examples are one-to-one correspondence of the species and the vernacular names, 28 examples of one species to many names correspondence, two examples of many species-to-one name correspondence, and 23 examples of many species-to many names correspondence. In conclusion, the Bwari have 79 individual vernacular names of fish that correspond to at least 90 species.

Table 12. Folk classification of fish among the Bwari.

INCLUSIVE NAMES	[Covert categories]	Stage	*Individual names*	Ref.no.	Fam.no.
E.SWI fish					
LU.ZANGA clupeids	[growth fish]	4	*ka.lúmba*	B6	#11
		3	*ka.uzulúmbá*	B7	#11
		2	*ka.uzu*	B8	#11
		1	*mw.alá*	B9	#11
		/	*mw.alá-w.é-ka.uzu*	B9	#11
	[growth fish]	3	*.lumu(ma.)*	B3	#11
		2	*ki.samba(bi.)*	B4	#11
		1	*mw.alá*	B5	#11
		/	*mw.alá-w.é-ki.samba*	B5	#11
(*ka.lebelébe*)	[growth fish]	3	*ki.mínyé(bi.)*	B45	#46
		2	*ŋomba(ŋomba)*	B46	#46
		1	*ka.lebelébe(tu.)*	B47	#46
	[growth fish]	2	*.saŋala(.)*	B48	#46
		1	*ka.lebelébe(tu.)*	B49	#46
	[growth fish]	2	*.nonji(.)*	B50	#46
		1	*ka.lebelébe(tu.)*	B51	#46
(*ki.túmbí* and/or *.malaa*)			*ki.túmbí(bi.)*	B17 B21	#29
			ki.túmbímalaa(bi.)	B22	#29
			.malaa(.)	B16	#29
(*ky.oŋó*)			*ky.oŋó(bi.)*	B99 B98 B100 B101	#61
			ky.oŋó-ky.é-ma.bwe	B95	#61
			ky.oŋó-ky.é-m̀.lábá	B106	#61
M.LOMBÓ			*m̀.lombó(mi.)*	B116 B117	#70
			m̀.lombó-w.é-.filiji	B118	#70
(*.shiŋa*)	[growth fish]	2	*.shiŋa(.)*	B35	#34
		1	*ki.lolóshiŋa(bi.)*	B36 B37	#34
		/1	*ki.loló(bi.)*	B36 B37	#34
(*m̀.béetá*)			*m̀.béetá(m̀.)*	B108 B94 B96	#61
			m̀.béetá-y.é-ma.bwe	B97	#61
(*ǹ.dúbú*)			*ǹ.dúbú(ǹ.)*	B66	#61
			ya.ána-y.é-ǹ.dúbú	B89	#61
			/ǹ.dúbú-y.é-ma.bwe	B89	#61
	[growth fish]	2	*m̀.kekέ(mi.)*	B52	#46
		1	*.nyámúnyamu(.)*	B53	#46
			/bu.nyámúnyamu(ma.)	B53	#46
	[growth fish]	2	*ki.fyunu(bi.)*	B30 B32	#31
		/2	*.mfunu(.)*	B30	#31
		1	*ǹ.kongwe(ǹ.)*	B31	#31
			m̀.neke(mi.)	B33 B34	#31
			ki.flúfifí(bi.)	B103	#61
			m̀.báne(m̀.)	B38	#34
			/.mlubá(.)	B38	#34
			m̀.banga(m̀.)	B58	#61
			ka.beéwe(tu.)	B15	#26
			m̀.bísú(m̀.)	B29	#31
			/ǹ.gúukú(ǹ.)	B29	#31
			ka.bwámeéno(tu.)	B13	#26
			/ka.bwáŋaáŋa(tu.)	B13	#26
			ǹ.daŋá(ǹ.)	B107	#61


ń.dafwa(ń.) B82 #61
/m̀.lomo(mi.) B82 #61
ń.dengela(ń.) B59 #61
ń.dumi(ń.) B40 #36
ń.geé(ń.) B93 #61
ŋugula(ŋugula) B81 #61
ń.goloo(ń.) B11 #26
ń.goná(ń.) B27 #31
ń.gué(ń.) B60 #61
ń.jéenjá(ń.) B73 #61
ki.kalakata(bi.) B71 #61
.kímbwi B92 #61
ki.kulikuli(bi.) B112 #61
.lala(ma.) B56 B62 B65 B90 B91 #61
ki.langala(bi.) B20 #29
ka.líla(tu.) B75 #61
/.wakalindí(.) B75 #61
m̀.loŋó(mi.) B19 #29
ki.lomo(bi.) B64 #61
.lukóokó(.) B70 #61
.mánze(.) B12 B15 #26
.mliba(.) B18 #29
.mvulu(.) B28 #31
/ki.bónde(bi.) B28 #31
ki.ndábululu(bi.) B76 B87 #61
ka.ngoóngo(tu.) B41 #36
.nyika(.) B39 #35
ky.oŋó(by.) B61 #61
/ki.pánga(bi.) B54 #61
.sémbe(.) B1 #4
ka.shíshí(tu.) B14 #26
m̀.shiya(mi.) B44 #40
/m̀.sóndéja(m̀.) B78 #61
ki.sóndója(bi.) B77 #61
ki.tébo(bi.) B84 #61
/m̀.basá(m̀.) B84 #61
ki.tiga(bi.) B23 #29
/ki.tinga(bi.) B23 #29
ka.ubáo(tu.) B54 #61
ka.vúngwé(tu.) B26 #31
ki.zole(bi.) B55 #61
.LENDA
cichlids of smaller size
m̀.gunda(mi.) B86 #61
m̀.lunda(mi.) B68 #61
ki.ngúmúngumu(bi.) B110 #61
.nungí(.) B69 #61
ka.pópó(tu.) B83 B111 B109 #61
.sakasaka(.) B104 B105 #61
ka.shíní(tu.) B67 #61
ka.shikwa(tu.) B78 #61
[residual category] B57 B63 B83 #61

3.7 Description of the folk knowledge of fish among the Bwari and their neighbors.

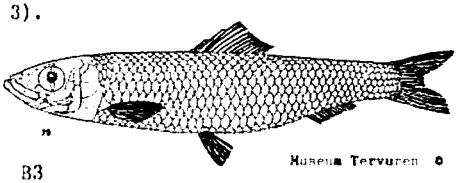
Table 11 lists the species and the vernacular names of the fish collected from the Lake Tanganyika and the rivers flowing into it. The principle of description is the same as that of Table 7. Reference numbers are B1 to B119 and are distinguished from the S- series of data of the Lualaba River. See Tables 9 and 10 for the knowledge of acquatic habitats and the catching methods of fish.

B1. *.sémbe*
1—see Fig. 4.1 for another species of the same genus; 3—has breasts as those of women; its shape, color and patterns of the skin resemble *.cáto* (a python); 7—although it is not *ǹ.jílo* (a taboo) to eat this fish, the Bwari never eat such fish; it is the Bembe that welcome this fish as food; 10—I observed this fish frequently sold at the market of Uvira; 11—one of rare fish names that are common, with only slight difference in their tones, between Bwari and Songola (S1).

B2. *.kúngúlúmákamba* (Vira)
2—no Bwari name was obtained; 3—a slender fish that grows 40-50 cm long (Vira); has hard scales which are not easily removed (Vira); resembles *ʔa.bánga*, or a pangolin (Bembe); does not move for a long distance (Vira); 4—very rare (Vira and Bembe); 5—a Vira informant bought a piece of its skin at the market of Kigoma in Tanzania (Fig. 3); 8—used as some charm medicine.

B3-B9. *LU.ZANGA*
1—two species of Clupeidae; 2—exclusively called as *LU.ZANGA* (*ndagaa*, *ndakala* in Swahili).

B3. *.lumu*
1—*Limnothrissa miodon* (BOULENGER); 3—larger stage of B4 and B5; larger than B6 *ka.lúmba*; 4—not so abundant as B6-B8; shoals approach the shore at moonless night for a total of only 1-3 nights a month (Vira informant); 5—although similar in size, less expensive than B6 when dried; 6—has soft flesh and not so tasty as B6-B8; 10—I saw abundant B3 smoked on a shelf at the village of Dine (Fig. 3).

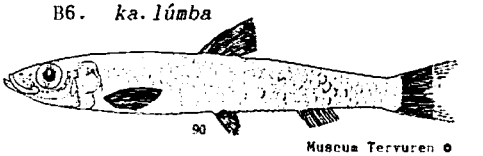


B3

B4. *ki.samba*
3—smaller stage of B3; see B3 for other information.

B5 and B9. *mw.alá*
1—fries of two different clupeid species; 2—has only one name *m.walá*; some informants say that *m.walá-w.é-ki.samba* (B5) and *mw.alá-w.é-ka.lúmba* (B9) can be distinguished; 3—shoals arrive at the shore to escape larger predator fishes; 4—caught in pans and cloths by women and children (f88); 5—sale at markets is forbidden; 6—very delicious; best in palm oil; 10—I observed several times B9 sold at Uvira market.

B6. *ka.lúmba*



1—*Stolothrissa tanganicae* REGAN; snaller and more abundant species of the two clupeids; 2—although smaller in size, it is divided into four vernacular names corresponding to different life cycle stages; 3—attracted by light at night; sinks to the middle depth under a heavy rain; does not follow light when north wind stirs the water down to a depth;

4—its catch is most abundant in *.lemba* or the beginning of rainy season; the catch is poor in April when the lake level is high; usually caught at night, but also available with f84 net in the day if a shoal approaches the shore; fishing of this fish resembles hunting in its unpredictable fluctuations; before the introduction of pressure lamp, the lake was filled with this fish; since 1974 its decrease has become evident; 5—the sole source of cash income for the Bwari; they catch other fishes only for their own consumption; price is highest for B6, and lowest for B8; when the weather is rainy, this fish decays at the drying ground, and the price gallops because of scarcity; 6—larger stage has better taste; 10—dried ndagaa is traded in a jute bag containing 90 kg; its price at Some village in September 1979 was 260 *zaïre* for B6, and 200 *zaïre* for B8; in December 1978 T6 costed as much as 550 *zaïre* at Some village, and 750 *zaïre* at the town of Uvira because of scarcity.

B7. *ka.uzulúmbá*
11—has a stem composed of *.uzu* (B8) and *.lúmba* (B6); see B6 for other information.

B8. *ka.uzu* See B6.

B9. See B5.

B10. *m̀.cjmba* (Bembe)
3—rare; is not distributed along the Ubwari Peninsula; found in the Nemba River (Fig. 3).

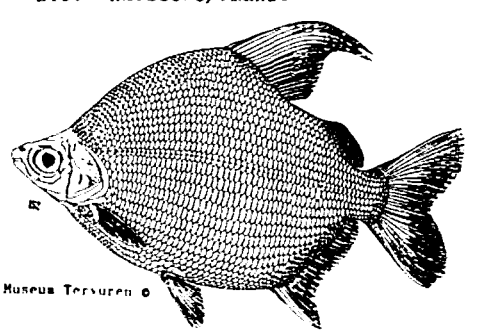
B11. *ǹ.goloo*
3—swims near the surface (Bembe informant); abounds near Lubana village (Fig. 3); 4—feeds on everything, can be hooked with ndagaa, grass leaf, a piece of soap or rag; hooked without bait; 6—tasty; you should take off the scales and fine bones before cooking; should not be given to children under an age of three because of its bones; 9—compared to a bad bride who frequently goes out of her new home; 10—during a wedding ceremony at Lubana village, a senior gave a lesson to the bride saying "Don't become like *n.goloo* or *m.shiya* (B44)."

B12. *.mánze*
3—has blunt teeth; has bones forked like so many X letters; lives on the rocky bottom near a river; 4—rare.

B13. *ka.bwámeéno/ka.bwáŋaáŋa*
1—one of tiger-fishes (English); 2—*ka.bwá* means "dog" and *me.éno* means "teeth"; 3—has sharp teeth as those of dogs; resembles B12 in form; grows to the size of a thigh; has forked bones; 4—rare; 6—has fat and tasty white flesh.

B14. *ka.shíshí*
3—lives on the bottom of the lake, but also found near estuaries; has yellow flesh; 4—rare.

B15. *ka.beéwe/.mánze*



1—*Citharinus gibbosus* BOULENGER; moon-fish (English); 3—has a flat, large body, and a small head; 4—rare; 6—has few bones; 11-the northern end of Ubwari Peninsula is called cape Mbanza, the same name as the Swahili name of this fish.

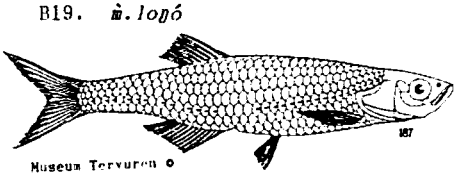
B16. *.malaa*
1—I regard this fish as the adult stage of B17; 3—the Bwari say that it is a different fish from B17; a

Vira informant says that this is the adult of B20; lives in streams of Ubwari Peninsula; grows large.

B17 and B21. *ki.túmbí*
1—individuals of these two species below 20 cm very much resemble each other (with different number of scales on the lateral line); *.níngu* or "yellow fish in the Ruzizi River" of Vira informants could be regarded as this species; 2—the same fish for the Bwari; resembles B18; has teeth in its throat.

B18. *.mliba*
3—"elder brother" of *ki.túmbí* (B17 and B21); a large fish growing to a length of 50-60 cm; has large scales but no barbels; has teeth; lives in the lake in the dry season and goes up the lake in the rainy season; 6—has numerous forked bones; tasty and can be consumed with its scales (Vira informant).

B19. *m̀.loŋó*



1—*Chelaethiops minutus* (BOULENGER); follows kerosene lamps for *ndagaa* and swims the surface; 2—in Swahili, *kuwanga*, to make wounds, *banguzi*, large wound, and *kichwa*, head; hence, *kabangulakichwa* means a "small thing that wounds the head"; 3—a bad fish; if you eat this small fish, you will have a wound in your brain and will suffer from severe headache; 4—common, but not abundant; 6—has a very bitter head; 7—people refuse this fish as food regardless of their ethnic identities; 10—I observed this fish abandoned on dying grounds for *ndagaa*.

B20. *ki.langala*
2—Swahili name means sardine; 3—resembles canned sardine in form; a Vira informant says *.bilíbi* (B20) is a younger stage of *.balaka* (B16); Bembe informants say that *?I.LANGALA* includes two different fishes, namely *.mliba* (B18) and *i.shémbé* (B25).

B21. *ki.túmbí* See B17

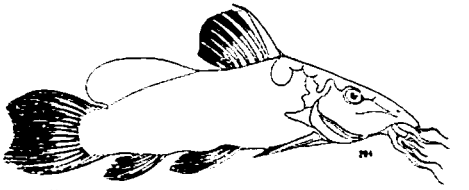
B22. *ki.túmbímalaa*
3—grown large; white fish; has horizontal lines on the body; 11—the Bwari vernacular name can be analyzed as *ki.túmbí* (B17 and B22) plus *.malaa* (B16) just like the case of the growth fish, *ka.uzu—ka.uzulúmbá—ka.lúmba* (B8, B7 and B6), it is probable that this name belonged to an intermediate stage of growth between B16 and B17 before this knowledge was lost.

B23. *ki.tiŋa/ki.tinga*
2—a fish that resembles the photograph of a small species of carp family, *Opsaridium ubangense* (PELLEGRIN) (Brichard, 1978: 352); a relative of B20.

B24. *.námatuu* (Bembe)
3—a small fish of streams resembling *?i.langala* (B20), (Bembe)

B25. *j.shémbé* (Bembe)
1—possibly the same fish as B23; 2—called by an inclusive name *?I.LANGALA* with B18 by the Bembe.

B26. *ka.vúngwé*



1—*Auchenoglanis occidentalis* (VALENCIENNES); 3—has a head as hard as a stone; large individuals live along shallow sandy shores; feeds on mud in the estuaries; 4—often caught in large rivers; rarely caught with hooks; caught day and night ; 6—very

delicious; 7—some women refrain from consuming this fish; Bwari women generally do not eat scaleless fishes; 9—when caught it makes as sound "*mafú mafú mafú*" as if it says "*afúú*" or "I am drying" in Bwari.

B27. *ǹ.goná*
2—*mpono* (Swahili); 3—resembles B28, but is slenderer; grows to the size of an arm; 4—rare; 7—most of the Bwari refrain from eating this fish because they feel dead-tired and cannot help sleeping for 2-3 hours after having eaten it; 9—you can ask a person who looks tired, "*Anólyá ǹgoná? Malá osi ázéleka* (have you eaten *ǹ.goná*? Your body is deprived of energy)"; 11—the *Standard Swahili Dictionary* (Johnson, 1939: 384) says "*Pono*, name of a fish. *Ana usingizi kama pono*" he is as sleepy as a *pono*.

B28-B32.
2—called exclusively in Swahili as *kilawagabo*.

B28. *.mvulu/ki.bónde*
3—resembles B29; has paler skin and grows larger than B29; lives in the offing by day, and near the coast at night; small individuals are found both on the rocky and sandy shores; 4—does not resist so long a time as *shiŋa* (B35) when angled, and withdraws after twice or 3 times of pulling; 5—may be smoked if the catch is abundant; 6—very delicious either roasted or boiled; has smooth flesh; has few bones and suited for infants; 7—many of the women refrain from eating this fish; 10—I often found this fish at the market of Uvira town.

B29. *m̀.bíísú/ǹ.gúnkú*
3—one of *kilawagabo* (Swahili) having short coal-black body; has a flat head; moves at night; 4—hooked with baits of *ǹ.dúbú* (B66); 6—has fat flesh and skin is as delicious as *.shiŋa* (B35); 7—many of the women do not eat this fish ; 11—Bembe name means *m.vulu* of the rocks; Swahili name *kukumaji* means "aquatic hen" and compares its flavor to a fowl, just like S3 of Songola.

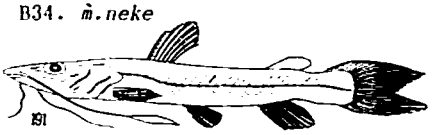
B30. *ki.fyunu/m.funu*
3—larger stage of B31; dark and slender *kilawagabo*; 7—some women refrain from eating this fish.

B31. *ǹ.kongwe*
3—younger stage of B30; smaller than an arm.

B32. *ki.fyunu*
11—naming is not consistent; an informant told me that it was *ki.fyunu*, but seeing that the specimen which I showed him was as small as a thumb, he should have replied *ǹ.kongwe* instead of *ki.fyunu*.

B33. *m̀.neke*
3—a small fish; does not grow so large as B29 or B30; lives on the bottom of an intermediate depth; has sharp poisonous spines that cause a severe pain; when wounded with one of these spines, you should hold the wounded part of your body as close as possible to a fire; if you repeat this treatment several times the pain will be over; Bembe people say that it may kill a crocodile with its spines; 4—hooked with raw *ndagaa* at night; 7—although it has no scales even women eat it without any problems.

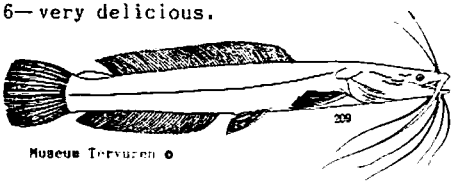
B34. *m̀.neke*



1—*Phyllonemus filinemus* (WORTHINGTON & RICARDO); 3—see B33.

B35. *.shiŋa*
1—*Dinotopterus cunningtoni* BOULENGER; 3—larger stage of B36 and B37; larger than a thigh; usually stays at a depth, but also swims the surface;

a school of 10 to 20 individuals approach the shore at a moonlight night, toward 6-8 o'clock in the afternoon; 4—a keen-eared and cunning fish; fishermen must approach it very carefully and be equipped with strong threads and nets to catch it; sometimes it takes even ten hours until it surrenders to an angler; 6—very delicious.



B35

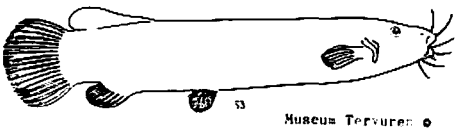
B36. *ki.lolóshiŋa/ki.loló*
2—*ki.loló* means "son"; 3—it is the smaller stage of *.shiŋa* (B35); grows as large as a thigh; has 8 barbels and is distinguished from B38 which has only 6 barbels.

B37. *ki.lolóshiŋa/ki.loló*

1—*Tanganikallabes mortiauxi* POLL; a species different from B36.

B38. *m̀.báne/m̀.lubá*
2—an old informant (Use) says that *m.luba* is the authentic Bwari term; 3—has six barbels; grows to the size of a thigh; abounds in swamps and large rivers as the Nemba, Mutambala and Sanja (Fig. 3); lives also in the lake; you find this fish in a seasonal rain pool in 2-3 months of its emergence although there was no fish before; 4—scarce in Ubwari Peninsula; 10—some of the Bwari youngsters told me that they had seen it only as smoked fish sold by Bembe people; 11—one of the Bwari names *m.báne* and the Bembe name *2a.mbáne* seem to be related with *kambale*, a Swahili term for catfish.

B39. *.nyika*



1—electric catfish; 3— grows to the size of a thigh; your hand will be numbed if you touch this fish when still alive; if you seize its lower jaw, you will be safe; it is not so dangerous as to kill a man; 4—occasionally caught; 6—tasty; 7—all women and many of the men refrain from eating this fish; 8—a Bembe informant says that it is used as medicine; 11—etymologically related with its Songola name *.nyjnkj/.nyjkj* (S105).

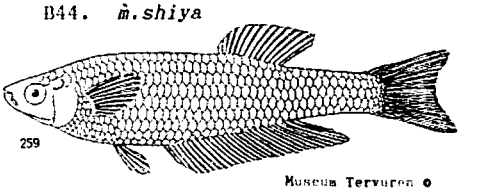
B40. *ǹ.dumi*
3—the width of the head retains 15 cm; "elder brother" of B41;; larger than B41; has a spotless dark body; the shape of the head resembles that of B26; 6—fat and tasty; 7—some people do not eat this fish.

B41. *ka.ngoóngo*
3—a small fish; "younger brother" of B40; abounds in a place where the bottom is a mixture of sand and mud; 6—tasty.

B42. *.nábátoló* (Vira)
1—probably the same fish as B40 but could not be identified; 3—a coal-black fish (Vira).

B43. *j.kikí/bu.jkikí*
3—a small dark fish of rocky shore; 4—can be caught even by day; 11—the prefix *bu.* of the synonym is a diminutive.

B44. *m̀.shiya*



1—*Lamprichthys tanganicanus* (BOULEN-

GER); a species of tooth-carp; 4—abundant; greedy and tugs a bait very quickly; 6—has soft and tasteless flesh; 7—although not a taboo, it is only children that eat such fish; 9—seniors give morals to a bride "Don't become a *m.shiya*, nor a *n.goloo* (B11) that feed on whatever bait" in which these two fishes are compared to a wife who is easily attracted by men other than his husband.

B45. *ki.mînyé*
3—largest stage for B46 and B47; two men will be necessary to lift one fish.

B46. *ŋomba*
1—capitaine (French); 3—intermediate stage between B45 and B47; has a longer head than B47; a very powerful fish, but not so resistant as *.shiŋa* (B35); 4—hooked, you have only to pull and loosen the thread 3 times; there are many fishing methods for this fish; 11—I could not collect a Bembe name for this fish; probably the Bembe call it in the same name as B48.

B47. See B51.

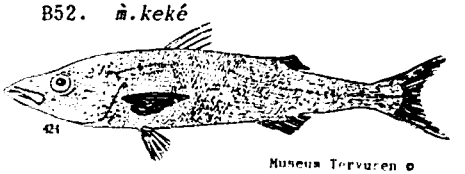
B48. *.saŋala*
3—resembles B46; has a shorter head than B46; 4—common; 6—very delicious.

B49. See B51.

B50. *.nonji*
3—resembles B46 and B48; has a smaller head and smaller eyes than B46 and B48; its shape resembles B52; always follows a shoal of *ndagaa* (B3-B9); 4—commonly caught; rarely caught with hooks; caught in a net of large mesh size put around a shoal of *ndagaa*; 6—has firm flesh and delicious either roasted or boiled; the Bwari say that *.nonji* is the most tasteful of B45-B51, followed by *saŋala* and *ŋomba*; much more delicious than Europeans favorite fish n.gue (B60k yellow berry); 10—Europeans' preference is contrary to that of the Bwari; white men prefer *ŋomba-saŋala-nonji* in this order.

B51, B47 and B49. *ka.lebelébe*
2—Bwari call these three fishes with only one vernacular name; Vira have three different names for these; 3—younger stage for B46, B48 and B50; the name changes at the size of an arm; B47 has darker body color than B49 and B51; attracted by kerosene lamps for *ndagaa*.

B52. *m̀.keké*



1—*Lates (Luciolates) stappersii* (BOULENGER); 2—Vira name of this fish *m̀.gwabúga* means "crowding up to *.búga* (*ndagaa* drying yards)". A very important fish for the livelihood of Lake Tanganyika fishermen because of its abundance; 3—has a similar form with B50; follows shoals of *ndagaa* and arrives at the shore; very common; 4—years ago, Bwari often hooked it with a traditional fishing gear (f64); common; 5—when the catch is abundant, it is smoked and sold in the markets; a shoal that arrived at Dine village in Nov. 1979 filled two 15 meter long boats.

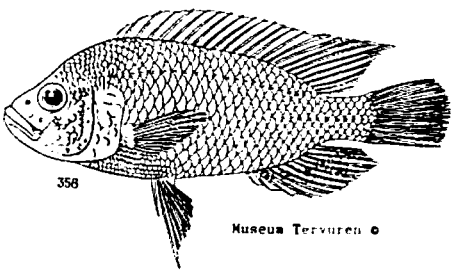
B53. *.nyámúnyamu*
2—may be also called with a diminutive form *bu.nyámúnyamu*; vernacular name at Bukavu, 120 km north of Lake Tanganyika, is *tolotolo* and *sambaza*; 3—small stage for B52; 4—caught with *ndagaa* in the seine net *m̀.kwábó*; 6—delicious; 10—I found raw B53 sold at the market of Bukavu.

B54-B118.
1—all belong to a single family

Cichlidae; Lake Tanganyika fishermen have no inclusive name for all of the Cichlidae, but smaller cichlids without prominent colors or patterns are exclusively called as *.LENDA(MA.)* by Bwari and Vira, *I.LENDA(MA.)* by Bembe and *sembe(masembe)* in Swahili.

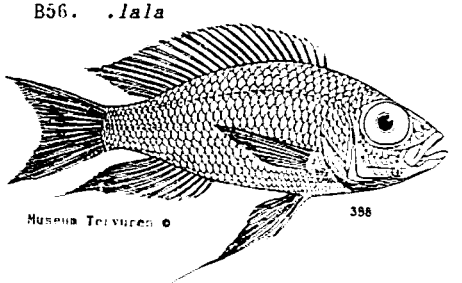
B54. *ka.ubáo/ki.pánga*
2—*ka.ubáo* means a "small plate" and *ki.pánga* means a "bush knife"; 3—has a very thin body like a knife blade.

B55. *ki.zole*



1—*Astatotilapia burtoni* (GÜNTHER); 3—a small fish; changes its body color when it lays eggs (Bembe informant); abounds in submerged grass foliage Apr.-May.

B56. *.lala*



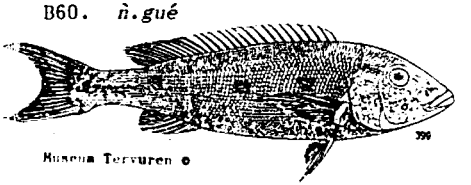
1—*Aulonocranus dewindti* BOULENGER; male individuals having long ventral fins; 2—B62, B65, B90,and B91 have the same name; 3—has long ventral fins and is a different fish from B57.

B57. *.LENDA*
1—female individuals of B56 having short ventral fins; 2—called simply as *.LENDA*.

B58. *m̀.banga*
1—see Fig. 4-61 for *Bathybates leo* POLL for another species of the same genus; most species of the genus *Bathybates* probably share the same vernacular name; 3—feeds on *ndagaa*; spoils very quickly.

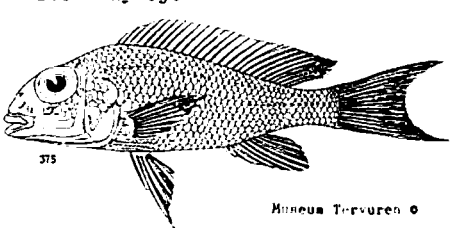
B59. *ǹ.dengela*
3—resembles B58, but has a shorter and higher body than B58; 4—abundantly caught with *ki.samba* (B4, small stage of larger species of *ndagaa*) in the seine net.

B60. *ǹ.gué*



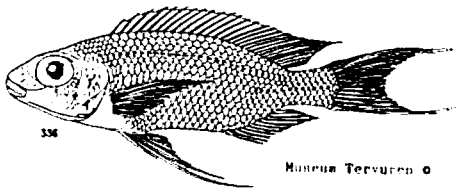
1—*Boulengerochromis microlepis* (BOULENGER); yellow belly (English); the largest cichlid species; 3—lives in the offshore, also comes to shallow sandy shores; bears fries on sandy shores; parents guard their small fries just like a pair of fowl guarding their chicks; 4—sometimes a shoal is caught in a seine net of large mesh (f83) and is very delicious; see under B50 for the comparison of the taste of this fish with other fishes.

B61. *ky.ọ̀ọ́*



1—*Callochromis melanostigma* (BOULENGER); 2—Bwari informant call this fish with the same name as B98-B101; Bembe and Vira names distinguish B16 with B98-B101; 3—found exclusively in sandy shores (Bembe).

B62. *.lala*

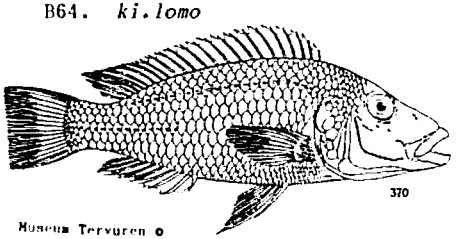


1—*Cardiopharhynx schoutedeni* POLL; 2—see B65; 3—lives on sandy shores and hide itself in the sand (Bembe).

B63. *.LENDA*

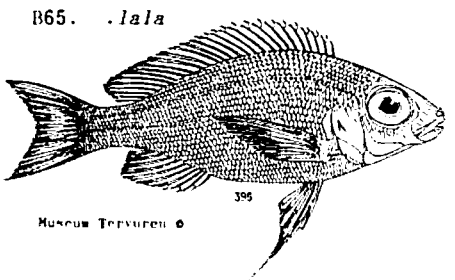
2—has no particular characteristics, and is one of *.LENDA*; 3—a small fish.

B64. *ki.lomo*



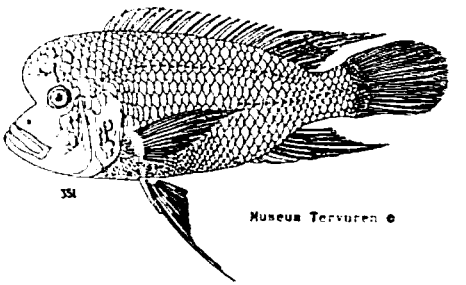
1—*Ctenochromis horei* (GÜNTHER); 2—*.lomo* (Bwari) and *.domo* (Vira and Bembe) mean "lips" and refer to the projecting snout of this fish; 3—a small fish; 9—when caught by angling, its tug is felt as if it says in Bwari language "*nékukija kicí né macakacaka* (I am pleased with the rod in the grass foliage)"

B65. *.lala*



1—*Cyathopharynx furcifer* (BOULENGER); only this species seems to agree with the characteristics explained by Bwari informants; 2—see also B62, B65, B90 and B91; 3—has long ventral fins; makes a round nest on sandy bottom; this nest is called *ki.fukyo-ky.é-.lala*.

B 66. *ǹ.dúbú*



1—*Cyphotilapia frontosa* (BOULENGER); 3—has a lump on its front; seems as if it had two heads; 4—caught most frequently 10-11 o'clock in the morning; 6—fat and delicious; has strong *lu.ké* (*shombo* in Swahili) or smell of fish; 11—see B89.

B67. *ka.shíní*

2—one of *.LENDA*; 3—a small fish.

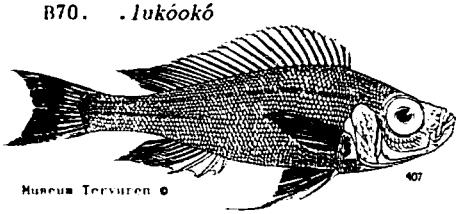
B68. *m̀.lunda*

2—one of *.LENDA*; 3—a small and slender fish; 4—caught night and day; 6—delicious in spite of its small size; but at the size of a finger.

B69. *.nungí*

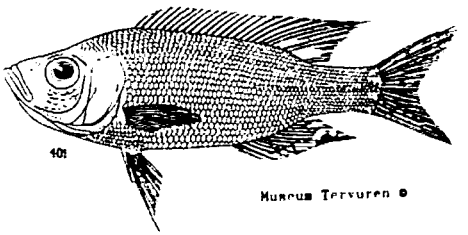
2—one of *.LENDA*; 3—a small fish; 4—tasty.

B70. *.lukóokó*



1—*Haplotaxodon microlepis* BOULENGER; 3—lives exclusively in sandy places; feeds on *ka.uzu* B8, and *mw.ala* (B5, B9).

B71. *ʔe.lolóké* (Bembe)



1—*Hemibates stenosoma* (BOULENGER); 11—probably has the same vernacular name as B59 because of their resemblance of forms, but I could not obtain a specimen in Ubwari Peninsula.

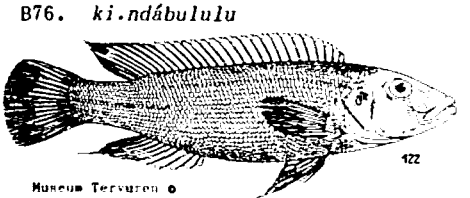
B72. *.ʔulʉngu* (Bembe)
1—this name may also include the species of *Charinochromis*; 3—small and slender; has horizontal lines on its body; 11—has seemingly the same etymology as *ǹ.kulungú* (S74) of the Songola-Enya, but B72 and S74 belong to different families, and are very different in form and size.

B73. *ǹ.jéenjá*
3—a small fish; lives near the shore; 6—fat; has a bitter head as B76.

B74. *ki.kalakata*
3—fish of rocky places not far from the shore.

B75. *ka.líla/.wakalindí*
2—one of *.LENDA*; informants gave different names; 3—a small fish.

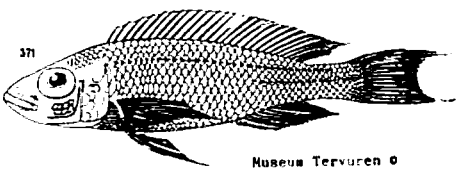
B76. *ki.ndábululu*



1—*Lepidiolamprologus cunningtoni* (BOULENGER); 6—has a very bitter head; its intestines are also bitter.

B77. *ki.sóndója/m̀.sóndéja*
2—an old informant (Use) says that *ki.sondója* is the authentic Bwari term; 4—caught night or day; 6—tasty and not bitter.

B78. *ka.shikwa*

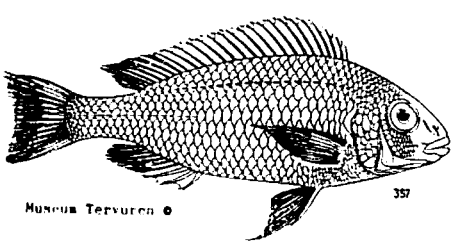


1—*Lestradea perspicax* POLL; 2—one of *.LENDA*; 3—resembles *ka.pópó* (B83, B109 and B111), but has a horizontal line on its body; 4—caught by children.

B79. *ʔe.ɸʉ́béɸʉ́be* (Bembe)
3—when caught, this fish never opens its mouth again after once closing it (Bembe informant).

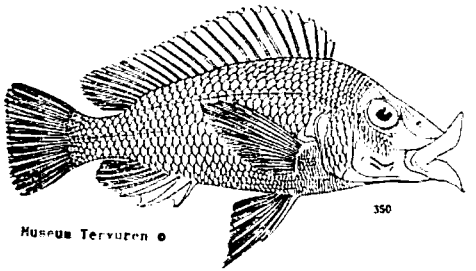
B80. *munugóbángolí* (Vira)
1—this name was obtained from a photograph of *Limnochromis nigripinnis* (Brichard, 1978: 237)

B81. *ɲuɲula*



1—*Limnotilapia dardennii* (BOULENGER); 3—has a red throat when mature; 4—common; 6—large individuals are very tasty; good for roast and boiling.

B82. *ǹ.dafwa/m̀.lomo*
1—*Lobochilotes labiatus* BOULENGER; 2—*m̀.lomo* is the authentic Bwari name; 11—*.lomo* means lips and has the same implication as B64 for its projecting snout.



B82

B83. *ka.pópó*
1—B83, B109 and B111 has the same name; 2—one of *.LENDA*.

B84. *ki.tébo/m̀.basá*
2—*m̀.basá* means an axe; 3—has a pointed snout and resembles the triangular blade of an axe in form.

B85. *m̀.bongo-y.é-ma.ázi*
2—*m̀.bongo* (Vira name) is a terrestrial bushbuck (*Kobus ellipsiprymnus*); because of its bright yellow body color, is called as an "aquatic bushbuck."

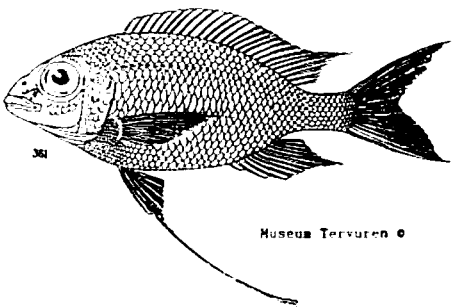
B86. *m̀.gunda*
2—one of *.LENDA*; 3—a small fish: 4—caught by children.

B87. *swahili* (Bembe)
2—*swahili* (Bembe) derives from Swahili, and *sumaili* (Vira) from Ismaili; both names refer to the polite behavior of Muslims; 3—stays calmly at a place and does not move a long way: this characteristic is compared to that of Muslims.

B88. *.LENDA*
3—a small fish.

B89. *ya.ána-y.é-ǹ.dúbú*
/ǹ.dúbú-y.é-ma.bwe
2—*ya.ána-y.é-ǹ.dúbú* means a "young of *ǹ.dúbú* (B66)"; *ǹ.dúbú-y.é-ma.bwe* means "*ǹ.dúbú* of rocks"; 3—some informants say that this is the young of *ǹ.dúbú*, and others say that this is a fish resembling n.dubu but different from it; lives in a sandy place near a rocky place; 6—is not fat; 11—some other Cichlids (B95 and B97) have the same lexime *ma.bwe* in their vernacular names, which indicate that rocky shores are the habitats of the fish.

B90. *.lala*

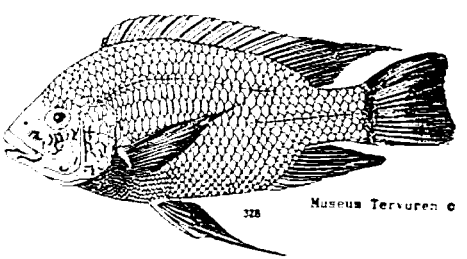


1—*Ophthalmotilapia ventralalis* (BOULENGER); 2—Bwari name is the same as that of B65; Bembe distinguish this fish by a distinctive name from B65.

B91. see B90.

B92. *.kímbwi*
3—a fish resembling *ǹ.ɲee* B93; darker than B93; lives in swamps; 4—caught with *ki.zole* (B55); 6—a fat fish.

B93. *ǹ.ɲeé*

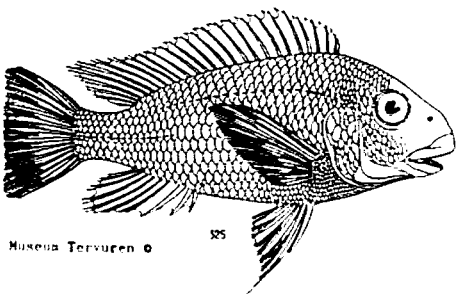


1—*Oreochromis (Oreotilapia) tanganicae* (GÜNTHER); 3—has the same body form as B92; 4—common and abundant; at night the Bembe beat the boatside to drive a school of this fish in a seine net of large mesh size (f83).

B94. *m̀.béetá*

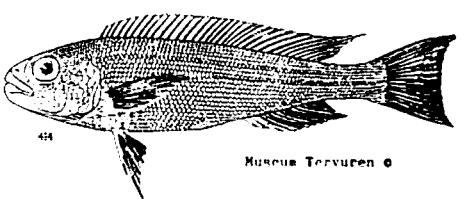
1—scale eater; 3—has as slender body; feeds on the scales of other fishes.

B95. *ky.oŋó-ky.é-ma.bwe*



1—*Petrochromis polyodon* BOULENGER; 2—"*ky.oŋó* of rocks" refer to its habitat; 3—larger than a *ky.oŋó* (B98-B101).

B96. *m̀.béetá*



1—*Plecodus paradoxus* BOULENGER; 3—see B94 for other information.

B97. *m̀.béetá-y.é-ma.bwe*

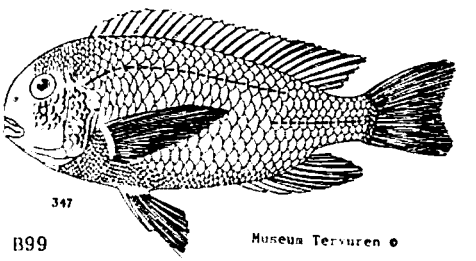
1—scale eater; 2—the name "*m̀.béetá* of rocks" refers to its habitat; 3—has larger body height than B94 and B96; grows to the size of an arm; lives in rocky places when young.

B98. *ky.oŋó*

1—belong to the genus *Simochromis* with B99, B100 and B101; 3—lives in rocky places; 4—common; pulls the thread twice when caught by angling; 9—the onomatopeia for its tug is "*m.néngéneenge.*"

B99. *ky.oŋó*

1—*Simochromis curvifrons* POLL; see B98.

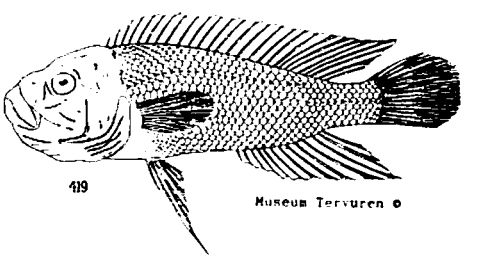


B100 and B101. See B98 and B99.

B102. *bu.tjnya* (Bembe)

1—Bembe name was given for the photographs of *Julidochromis*, *Eretmodus* and *Spathodus* in Brichard (1978); 3—lives in sandy places and in the Ruzizi River.

B103. *ki.ílúfifí*



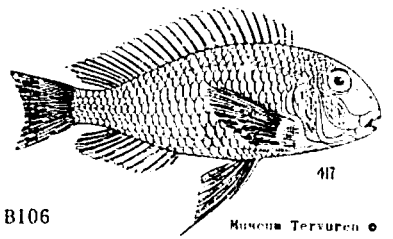
1—*Telmatochromis dhonti* (BOULENGER); 2—*ki.ílu* means "black"; 3—a small, black fish.

B104 and B105. *.sakasaka*

2—one of *.LENDA*; 3—a white fish; easily found because of its body color; resembles B59, but does not grow so large; 4—driven by the seine net for *ndagaa*, it comes to the shore when the net is yet very far from the shore; 6—has small bones; cooked in the same way as *ndagaa*.

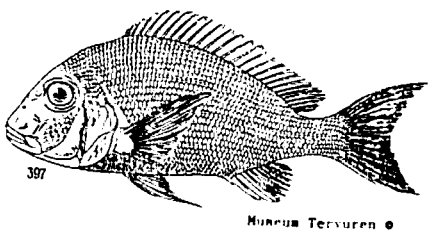
B106. *ky.oŋó-ky.é-m̀.lábá*

1—*Tropheus moorii* BOULENGER; 2—"*ky.oŋó*" having a girdle; 3—has a wide band of yellow pattern on its back; *ʔe.c.ʃíka* (Bembe name) is a fish having a red pattern on its abdomen; lives among the rocks.



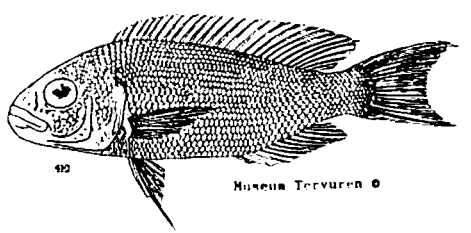
B106

B107. *ǹ.daɲá*



1—*Tylochromis polylepis* (BOULENGER); 2—the Virn call this fish as *ka.bálala* only when it is breaking the water; they say this name is an onomatopeia; 3—grows rather large; 4—not available with hooks, gets out of a drag net by jumping, and is scarcely caught in a seine net.

B108. *m̀.béetá*

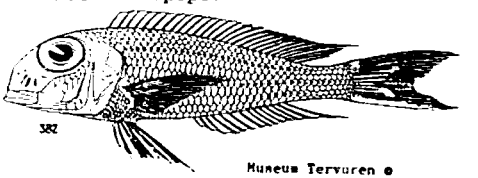


1—*Xenochromis hecqui* BOULENGER; is not a scale eater like B94 and B96 of the same vernacular name; 6—very delicious.

B109 and B111. *ka.pópó* See B83.

B110. *ki.lyongo/ki.ngúmúngumu*
2—an informant says that *ki.lyongo* is the authentic Bwari term, and that *kingumungumu* is a Swahili term; one of *.LENDA*; 3—resembles *ka.pópó* (B83, B109 and B110), but has larger eyes; grows to the size of a thumb; 4—its tug is mincing, and the Bwari take it for "*m̀.beléjé i.sé i.sé* (give me a little)."

B111. *ka.pópó.*



1—*Xenotilapia sima* BOULENGER; see B109.

B112. *ki.kulikuli*
1—a Bwari name give to a photograph of an unidentified *Simochromis* having 9 horizontal rows of red spots on its whitish body with black patterns (Brichard 1978: 274); 3—common near Baraka (Fig. 3); 6—tasteless.

B113. *ʔa.mịsịmịsị* (Bembe)
1—Bembe name was given to the photograph of an unidentified species of the genus *Lamprologus* having bright yellow fins (Brichard, 1978: 209).

B114. *j.ʔoola* (Bembe)
3—a fish resembling B106, but having a band of a color different from fire-red of B106.

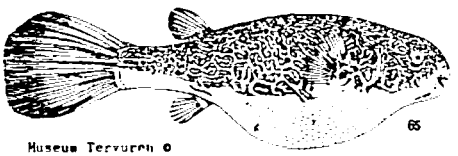
B115. *ʔi.túmbú* (Bembè)
1—Bembe name was given to an unidentified species of the genus *Xenotilapia* having yellowish body color (Brichard, 1978: 333).

B116 and B117. *m̀.lombó*
1—see Fig. 4.70 for another species of the same genus; spiny eel (English); see Fig. 5.70 for another species of the same genus, *Afromastacembelus congicus* BOULENGER; 3—yellowish and has no patterns; hides itself between rocks (Bembe informant); 7—some Bwari eat it, other Bwari don't.

B118. *m̀.lombó-w.é-.filiji*

2— the meaning of *.filiji* is not remembered; 3— has dark bands on its long body; lives in sandy places having scattered rocks; lives on the sandy bottom (Bembe informant).

B119. *.sama* (Vira)



1— *Tetraodon mbu* BOULENGER; 3— puffer-fish (English); swells like a ball; found in large rivers; not found near the Ubwari Peninsula; 8— Tanzanian people use it as a charm for crops in the fields; dried skin is sold at the market of Kigoma for this purpose.

4. Comparison and conclusion

4.1 Comparison of the nomenclatures of fish

It may be useful to compare the nomenclatures of animals if the groups of people share similar natural environments with more or less identical fauna (see Ankei, 1988). In the case of this paper, however, it is difficult to compare the nomenclatures of the fish between the different water systems. The fish fauna of Lake Tanganyika has a very high number of endemic species, and only about 10% of the species are the same as those in the Zaïre-Lualaba River system.

I found only two fish names which seemed to have the same etymological origins: lung-fish, *ñ.sémbé/.sémbé* (Songola, S1) and *.sémbe* (Bwari, B1) and electric catfish *.nyjnkj/.nyjkj* (Songola, S105) for *.nyika* (Bwari, B39).

On the other hand, the three groups of fishing peoples of Lake Tanganyika reported in this paper have much larger overlap in fish nomenclature: Bwari-Vira, 28 names; Bwari-Bembe, 27 names; Vira-Bembe, 28 names. At least a third of fish names are common between these groups.

Before drawing conclusions from these facts, we should examine further examples. I checked the nomenclature of fish among the following Bantu-speaking peoples: from Lake Tanganyika, south of the Ubwari, Tongwe (zone N, Itani, 1977) and Tumbwe (zone D, Matsui, 1977), from the Zaïre River near Kisangani, Lokele-Yaokandja, Lokele-Yawembe, Eso (Topoke), and Olombo(Turumbu), all from zone C (Gosse, 1961). Examples are also taken from three peoples near Mbandaka who speak languages of zone C: Mongo, Kundu(Nkundo) and Ringa (Poll & Gosse, 1963). Finally, fish names among two subgroups of Bemba (zone M) speaking fishermen are examined: Unga of Lake Bangweulu and Unga of Chambesi River (Brelsford, 1946). Table 13 shows the total number of fish names for each group and the number of etymologically common fish names between each of the peoples cited. The table indicates that the fish nomenclature of each of the water systems are practically independent with only a sporadic number (1 to 3) of common names. I assume that these common fish names may include words widely distributed in Bantu-speaking peoples of Africa.

The coefficience of similarity (Sørensen, 1948) was calculated to establish a dendrogram of the peoples concerned (Fig. 7). The figures demonstrate the intraregional similarity of fish names within a water system and very low inter-regional similarity. Peoples speaking similar languages belonging to one linguistic zone of Bantu languages, Songola and Bembe of zone D for example, may have quite different fish nomenclatures. See Ankei (1988) for the problem of discrepancy between linguistic classification and nomenclature of animals.

This fact may be explained by two different assumptions. 1) A new nomenclature of fish may have been adopted when a group of people migrated into a different natural environment. 2) A new language replaced the other by some socio-political reasons, while the old nomenclature of fish remained unchanged in spite of superficial alternations in pronunciation, prefixes, etc. As for the peoples of this paper, only the Bembe can be cited as an example of the former assumption because of their recent migration along the coast of Lake Tanganyika. Although either of these two assumptions seem possible for the other peoples at present, further studies on the total knowledge of natural environment (as in Thomas et Bahuchet, 1981-) will provide us more clues to this problem. There is observable merit in the remark of Thomas (1979) that the ancient traits in biological nomenclature remain for creatures of little or no economic importance.

Table 13. Number of fish names of the same etymology among 15 peoples of Central Africa.

	Vi	Be	Bw	Tu	To	So	Lo Yao	Lo Yaw	Ol	Eso	Ri	Ku	Mo	Uc	Ub
Unga[1] (Bangueulu)	2 2.3	3 3.6	2 2.1	1 1.3	2 2.3	1 0.8	0 0	0 0	0 0	0 0	0 0	0 0	0 0	20 27.0	total 106
Unga[1] (Chambesi)	2 3.5	2 4.0	2 3.1	1 2.3	1 1.9	1 1.1	0 0	0 0	0 0	0 0	0 0	0 0	0 0	total 42	
Mongo[2]	1 1.2	2 2.6	2 2.2	1 1.4	1 1.2	10 8.7	6 4.7	6 4.9	6 7.1	6 7.1	11 15.7	12 15.0	total 98		
Kundu[2] (=Nkundo)	0 0	0 0	0 0	0 0	0 0	8 8.2	6 5.5	5 4.8	6 9.1	4 6.1	20 38.5	total 62			
Ringa[2]	0 0	0 0	0 0	0 0	0 0	5 5.7	5 5.0	5 5.3	5 8.9	3 5.4	total 42				
Eso[3] (=Topoke)	0 0	0 0	0 0	0 0	0 0	6 5.9	38 33.5	44 40.7	41 58.6	total 70					
Olombo[3] (=Turumbu)	0 0	0 0	0 0	0 0	0 0	5 4.9	61 53.7	53 50.0	total 70						
Lokele-Yaokandja[3]	0 0	0 0	0 0	0 0	0 0	6 4.3	96 63.4	total 146							
Lokele-Yawembe[3]	0 0	0 0	0 0	0 0	0 0	6 4.1	total 157								
Songola[4]	1 1.0	2 2.1	2 1.8	3 3.3	1 1.0	total 133									
Tongwe[5]	13 19.0	12 19.4	18 23.8	15 26.8	total 65										
Tumbwe[6]	8 13.5	11 20.8	14 21.1	total 47											
Bwari[5]	28 35.4	27 37.2	total 86												
Bembe[5]	28 42.8	total 59													
Vira[5]	total 72														

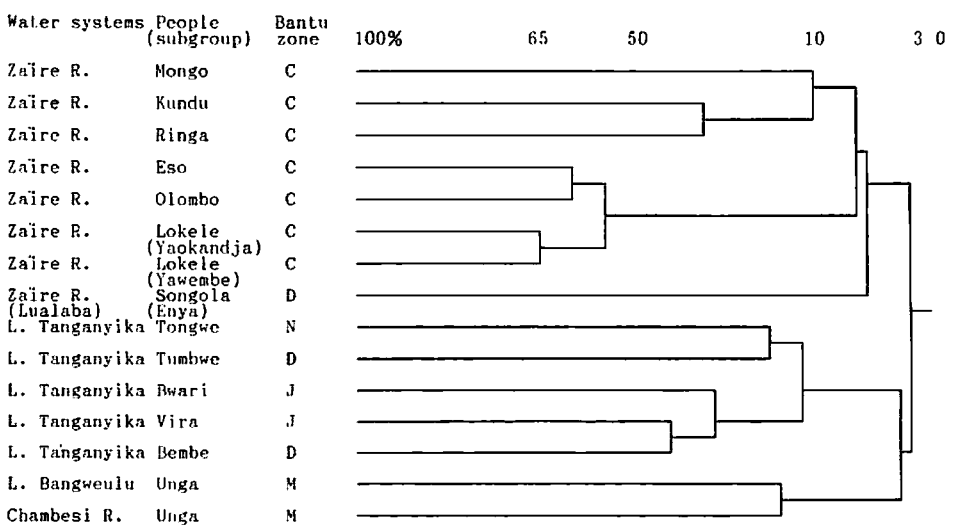
References:

[1] Brelsford, 1946
[2] Poll & Gosse, 1963
[3] Gosse, 1961
[4] Ankei, the present paper
[5] Itani, 1977
[6] Matsui, 1977

Upper figures: numbers of common names
Lower figures: similarity coefficience of Sørensen (1948). An example of coefficience between Bwari and Bembe is,

$$\frac{27}{86 + 59} \times 2 = 37.2\ \%.$$

Fig. 7. Dendrogram of the similarity of fish nomenclatures in Central Africa



4.2 Comaprison of the uses of fish among river and lake fishermen

I have shown in the above sections that Songola-Enya and Bwari have an accurate and detailed knowledge about fish and theirenvironment. Without such objective knowledge, these full-time fishermen could not maintain their liverihood. In other words, the knowledge concerning the catching of fish can be less arbitrary than other domains of the usage of fish.

Here I will compare some of the fish uses that are not directly concerned with fishing. Presumably, these uses reflect the differences in the system of thought among Central African fishermen. Examples are taken from Bwari (this paper) and Tongwe (Itani, 1977) of Lake Tanganyika, and Songola-Enya (this paper) and Lokele (Gosse, 1962) from the Lualaba-Zaïre River.

These are the number of fish species treated as some taboo: Songola-Enya, 9; Lokele, 6; Bwari, 0; and Tongwe, 3.

Most of the taboo species for Songola-Enya were prohibited for nursing women for fear of causing a specific illness for their infants. Their taboo was related with 1) five species of Distichodontidae and Citharinidae which grow to have distinctive yellow flesh (S44 *etc.*), 2) one species of the genus *Synodontis* having bright yellow patterns on its coal-black body (S110), and 3) Nile perch which is believed to bear no eggs (S122). A small fish of the family Notopteridae is a taboo because it dies a long and seemingly painful death after being taken out of water. Crunching a bone of lung-fish, the sole fish that has no rayed fins, was a taboo for adult men. This taboo should be observed lest they should become impotent. Although informants did not tell me the reason for this taboo, it may seem apparent to a Songola that the destruction of the rigid part in this flabby cylindlical creature should endanger men's sexual energy.

Among the Lokele fishermen near Kisangani, women are forbidden to consume the heads of four species of fish and all the intestines of the catch in seine nets (f51 of this paper). It is always the fisherman himself that cooks and eat these. Secondly, a Lokele child must not eat a small clupeid (*Odaxothrissa losera* BOULENGER) for fear of becoming irresistant to illness. Thidly, if a unmarried Lokele girl eat a butterfly-fish, she will fly with her lover before being married (Gosse, 1962: 62-68).

Although the Bwari refrain from consuming a number of fish, they are not regarded as a taboo.

Among the Tongwe of the eastern coast of Lake Tanganyika, a traditional doctor cures swelled arms and waist with a sharp knife made from the bone of electric catfish, and the patient must not lean against a door. One of the cichlids which jumps out of a seine net is a taboo for persons who have lost their sanity as a result of a high fever. The queer characteristics of this fish having a special name when jumping (like Vira nomenclature) may aggravate the symptoms of such people. There was a taboo, applicable only in a certain small stream, for the fishing method of a small but important species of a carp. In order to eat this fish properly, a fisherman must stay overnight on the opposite streamside of the catch (Itani, 1977: 475-500).

Songola-Enya do not consume 3 species although they are not taboo, Lokele have 3 such fishes; Bwari, 4; and Tongwe, 1 fish.

Non-food fish species of the Songola-Enya were all small in size and had a standard length of less than 100 mm. Among these three, one species was regarded as food for the forest-dwelling Kuko subgroup who lack large fish because of their locality. The second species is used as an important charm medicine, and the third species is butterfly-fish having has a vernacular name composed of "bird" and "fish" and lives where the evil spirits live.

Some fishes have livers regarded as harmful for the health of the person who eats them. We may suppose the existence of some poisonous matter in the livers of these fishes (excessive vitamine A and tetrodotoxin, respectively). Many of the Songola-Enya do not eat the flesh of puffer-fish for fear of introducing bad luck among the active fishermen; it is a food (probably a delicacy) reserved for old persons who are less influenced by such magical powers.

Lokele do not eat a small fish of the family Flactolaemidae because it has too bright a color and has "blood like humans." Two species of puffer-fish are not eaten either (Gosse, 1962: 68).

Bwari refuse lung-fish for its pattern resembling a python, a horrible animal for the Bwari, and say that only the Bembe eat such fish. A small carp is rejected by all peoples because it causes a bad head-ache which is difficult to cure. A tooth-carp having a very colorful body, is consumed only by children. Many refrain from eating electric catfish. Bwari women refuse larger scaleless fish, probably as a result of some influence of Islam.

Tongwe regard many fishes as having a very low value as food. For example, the tooth-carp described above causes head-ache if you eat an exessive amount. Only puffer-fish is completly refused by all Tongwe. It is regarded as having "bad flesh" although it is not poisonous (Itani, 1977: 475).

Songola-Enya use three fishes as medicine (in most cases as charm medicine, a remedy that cannot be replaced with a new orimported medicine). The use of fish as charm medicine is not treated in the article of Gosse (1962). Bwari seem to have no such fish for medicine. And lastly, Tongwe utilize 3 species of fish for this purpose.

Songola-Enya burn the fish with other medicinal plants and rub the ash on artificial wounds. A tiny fish having a vernacular name composed of "log" and "fish" (S94) is used for men's sexual energy because its flesh is always as hard as a log. Charm medicine made from electric catfish gives you the power of paralizing your enemies, and the leather-like skin of puffer fish makes you skin resistant against whips and blades.

Bwari, who are under the most profound influence of Islam among the peoples studied, seemed to have restricted the use of such charm medicine, to the effect of losing the knowledge of fish as medicine.

Tongwe rub their feet with grease of a giant catfish and protect themselves from the infection of sand fleas. Usage of the bone of electric catfish as a lancet is described above. Puffer-fish is used for three different kinds of charms. It is used as 1) an erogenous drug, 2) protection against sorcery, and 3) a charm buried in the field for a good yield, all for the single reason that this fish can multiply its volume very quickly (Kakeya, 1978).

Among the four societies chosen for comparison in this section, Lake Tanganyika fishermen seem to have a less supernatural knowledge on the fish than the Zaïre-Lualaba fishermen. In spite of such a difference, there is common pattern of thought concerning fish, if we ignore the apparent similarity in the fishing methods and some common nomenclature. A fish having an intermediate characteristics between fish and other creatures (bird and tree) are treated as having special power (Douglas, 1957). Anomalous features (man-like blood, jumping, swelling, and paralizing) are also good reasons to believe in some supernatural power behind these fishes.

4.3 Comparison of the folk classification systems

Both the Lualaba River and Lake Tanganyika fisherman call fish by a single inclusive name that corresponds to Teleostei. The Songola-Enya system of folk classification consists of six levels of categorization in terms of the maximum

Table 14. Comparison of folk classification systems among the Zaïre (Lulalaba) River fishermen and Lake Tanganyika fishermen

Areas	*Lake Tanganyika*				*Zaïre (Lualaba) River*			
People Subgroup	Bwari	Bembe	Vira	Tongwe	Songola Enya	Kuko	Binja	Lokele Yaokandja
Individual names	79	73	63	58	108	39	28	148
Inclusive names	4	3	3	2	12	1	2	?
Series of "growth fish"	8	4	6	1	18	2	1	57
Individual names related with "growth fish"	20	10	13	2	43	4	2	130
Levels of categorization	3	3	3	3	6	2	3	?
Source	Ankei, the present paper			(Itani, 1977)	Ankei, the present paper			(Gosse, 1961)

number of folk names from the most inclusive name to the least inclusive, or individual names. In contrast with this, Lake Tanganyika systems (Bwari, Vira and Bembe) consist of three levels of categorization, and that of Songola-Kuko, only two. Since the number of the levels of categorization is a good index for the complexity of a folk classification system, we can assume that Songola-Enya have the most complex system, and Songola-Kuko the simplest, whereas Lake Tanganyika fisherman's system fall between these two extremes. Table 14 compares the numbers of 1) levels of categorization, 2) individual names, 3) inclusive names, 4) sets of vernacular names related to "growth fish", and 5) particular vernacular names that are related to the "growth fish". Table 14 quotes data from the Lokele of the Zaïre River and the Tongwe of Lake Tanganyika for the purpose of comparison. After this comparison we are convinced of the complexity of the folk classification system of the Zaïre-Lualaba River fishermen compared with that of Lake Tanganyika fishermen, and that cultivators of the forest area are no match for the full-time fishermen either of the Lake or the River. We will consider the possible determinants of these differences in the following sections.*2

4.4 Fish fauna and folk classification

The Songola-Enya have 108 individual names of fish whereas the Bwari have only 79, or 73 percent of the Enya. If the difference in the study period of the three Lake Tanganyika peoples is taken into account, the 73 individual names among the Bembe and 63 among the Vira might indicate a number close to that of the Bwari. As for the prominent fishermen and traders living along the Zaïre River downstream of Kisangani, the Lokele, Gosse (1961) reported that the Yaokandja subgroup has 148 vernacular names of fish, and the Yawembe subgroup has 131 names (see Table 14). These results illustrate the relatively greater

abundance of vernacular names along the Zaïre (and Lualaba, its upper reaches) than in Lake Tanganyika, and we might suppose that this difference is caused by the existence of more species of fish in the Zaïre River systems than in the Lake Tanganyika.

A species of fish is occasionally given several vernacular names in accordance with its life cycle stages, and if the numbers of species corresponding to such "growth fish" are counted as one fish, we get 72 for Bwari, 85 for Songola-Enya and 75 for Lokele-Yaokandja. Thus, the apparent abundance of fish names in the Zaïre basin become less impressive. Therefore, it is concluded that the Zaïre-Lualaba River systems of fish-naming is characterized by more growth names than the Lake Tanganyika system of folk classification.

Compared with that of the Zaïre River systems, fish fauna of Lake Tanganyika is characterized by an overwhelming abundance of a single family, Cichlidae. Many species of this family are small fish with a standard length shorter than 15 centimeters, and many of them very much resemble each other. Lake Tanganyika fishermen have an inclusive category to deal with this difficulty; they call the smaller Cichlidae *.LENDA* (Bwari and Vira) or *ɟ.LENDA* (Bembe). In contrast with this, the Enya or Lokele have no such inclusive names that contain more than ten individual names.

All the "growth fish" of the Enya are larger fish. I saw 17 species of the Lualaba River fish that exceeded 50 cm in their standard length, whereas only five of the Lake Tanganyika fish exceed this size. The Enya say that a "growth fish" changes its vernacular name when it passes a threshold in its size, and that the thresholds are fixed regardless of the fish species. Scaly fish or *Ñ.FII-C.É-MA.MBA* change their "growth names" when their body height exceeds the width of a palm (*ɟ.canca*) and/or two palms. Scaleless fish or *Ñ.FII-C.É-BO.SÉLO* change their growth names when their body exceeds the size of an arm (*ka.bóko*), a calf (*ki.nkúncu*), and a thigh (*ɟ.bimbi*) (Fig. 8). Figure 8 illustrates that *Ñ.FII-C.É-MA.MBA* have three life cycle stages at most, whereas *Ñ.FII-C.É-BO.SÉLO* have a maximum of four stages.

In contrast with the Enya system of classification, Lake Tanganyika fishermen do not limit their "growth fish" to larger fish. Two of the smallest species in the Lake, *LU.ZANGA* (or *ndagaa*) have three or four stages. Figure 9 explains that the Bwari system of growth names of fish takes little account of their size in the choice of the "growth fish".

4.5 Economy and folk classification

Before the introduction of nylon fishing nets in the 50's, the Enya depended mainly on the use of nets made of wild liana *lu.kúsa* and large traps called *lo.léka* (f46). Fishes caught with a *lo.léka* are called as *Ñ.FII-C.É-LO.LÉKA* and are mostly smaller ones. Traditional nets *ma.kɟla* could not catch such small fishes because of their mesh size. A *ma.kɟla* had the mesh size of 6-7 times the width of a finger, and there was another sort of net called *ka.kɟla* that had a mesh size of four fingers. It is natural to guess that the catch of net fishing divided itself into four groups according of the body size: 1) smaller than the *ka.kɟla* mesh size and not obtainable with either of the nets, 2) obtainable with a *ka.kɟla*, 3) obtainable with a *ma.kɟla*, and 4) too large for net fishing. Figure 8 shows that these thresholds coincide for scaly and scaleless fish, and sustains the view described above. Thus, it can be speculated that the Enya's folk classification system of fish is closely related to their fishing methods traditionally used.

Another feature of Enya's folk classification of fish is that it has six

Fig. 8. Thresholds of life-cycle stages for "growth fishes" of Songola-Enya.

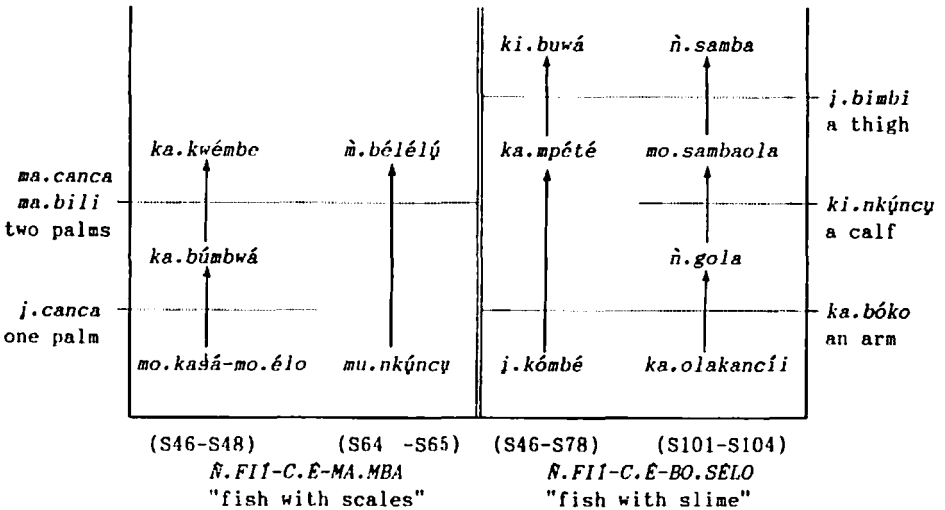
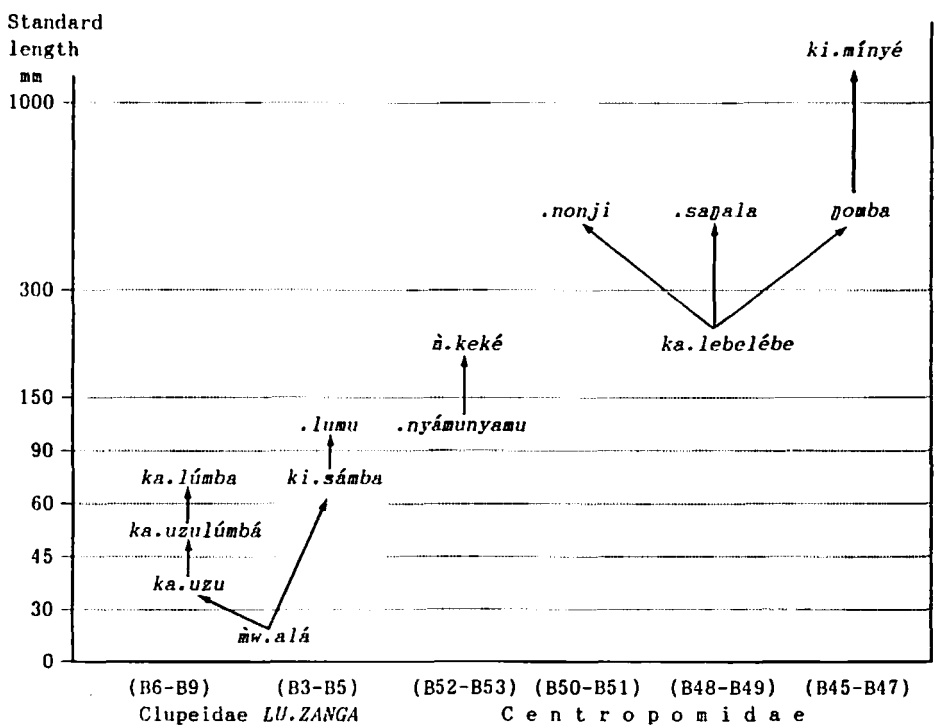


Fig. 9. Thresholds of life-cycle stages for "growth fishes" of Bwari.



levels of categorization, much more than other fishermen of the Lualaba River or Lake Tanganyika. The levels of categorization increase for two reasons: 1) The Enya work out overt categories by criteria such as existence/absence of scales or poisonous spines. Such criteria generally give birth to covert categories among other fishermen. 2) The Enya's system of folk classification is enhanced by more inclusive names (11.4 percent to the total individual names) compared with Bwari (3.9 percent). Only the second fact will be discussed in this section. At first sight it is difficult to understand the function of the abundant inclusive names of the Enya because a single glimpse at a fish is sufficient for most Enya fishermen to answer the individual name of it. Even if these inclusive names do not seem to operate among the Enya, they do so between the Enya and other subgroups of the Songola. It was observed in a barter market of the Songola that fishermen providing cultivators with their fish usually use inclusive names such as *.MANDA*, *MO.KASÁ*, and *Ṁ.PENGELE* (or its corresponding Swahili names *manda*, *mukasa*, and *pengele*) instead of the complicated individual names of the Enya when they speak with a woman from the forest (Ankei, 1984).

Today's Lake Tanganyika fishermen are economically dependent, without exception, on the clupeids, *LU.ZANGA* or *ndagaa*. The second most important fishes belong to Centropomidae, which include *mi.kéké* (S52) and *.nonzi* (S50). The Bwari state that they take various fishes other than *ndagaa* only for their own consumption. In such cash-oriented economies, economically important fish have many life cycle stages, in accordance with different market prices. The Bwari and Vira have an identical system of folk classification of fish concerning life cycle stages, and the Bembe, newcomers to the coast from the mountainous areas to the west, also have the same system. These examples show that economic activities may have a direct impact on the folk classification of fish.

I collected many fish specimens from Lake Tanganyika out of the catch of *ndagaa* seine nets. These fishes other than *ndagaa* were not utilized and were abandoned on the shore. It seems queer that today's Bwari have a knowledge of as many as 79 vernacular names of fish. They say that the Bwari have become more and more dependent on *ndagaa* fishing these past thirty years. Some of the vernacular fish names that have been of importance for self-sustaining fishermen are now in the course of being lost with the expansion of cash-oriented fishing.

4.6 Conclusion

It is concluded that both the Lualaba River fishermen (Enya) and Lake Tanganyika fishermen (Bwari, Vira and Bembe) have accurate and rather objective knowledge of fish. This fact seems natural since daily fishing activities arenecessarily accompanied by such holistic knowledge on the habitats, behaviors, seasonality, and tastes of fish. They have, however, supernatural beliefs concerning fish. Some of the fish are prohibited as a taboo food, for example yellow fish, or those with "wings like birds" (among the Enya) or those without scales, those resembling pythons, or among the Bwari, some fish are said to damage the human brain. There are some fish used as charm medicines. It seemed that the Lualaba River fishermen have more folk beliefs than on fish Lake Tanganyika fishermen.

There are differences in the folk classification systems of fish between the Enya fishermen and the Lake Tanganyika fishermen. The system of the Enya seems to be much more complex than that of the Lake Tanganyika fishermen. I have suggested that part of these differences may be explained by the fish fauna and

the economic activities of the two areas.

Further studies of the folk knowledge of fish and the environment among the fishermen of African freshwater systems will add light to the ecological and epistemological problems of the interrelationship between man and his environment, and will provide us some clue to the problems of little known ethnohistory of the African fishermen.

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NOTES

*1 The present paper is a revised and enlarged edition of a former version written in Japanese (Ankei, 1982). I also wrote an abridged edition of it in French (Ankei, 1987). The scientific names are updated using CLOFFA vols. 1-3, (Daget *et al.* 1980-), and Poll (1986). Takako ANKEI, my wife, prepared the line drawings of fishing methods and the front piece after her sketches and my photographs.

*2 I did not deal with folk categories that crosscut the hierarchical classification ("crosscutting categories" of Anderson, 1972). However, the existence of Bantu noun classes is one of the most prominent features in both areas. Songola and Bwari words having a set of prefixes *ka.(tu.)*, for example, are generally small in size.

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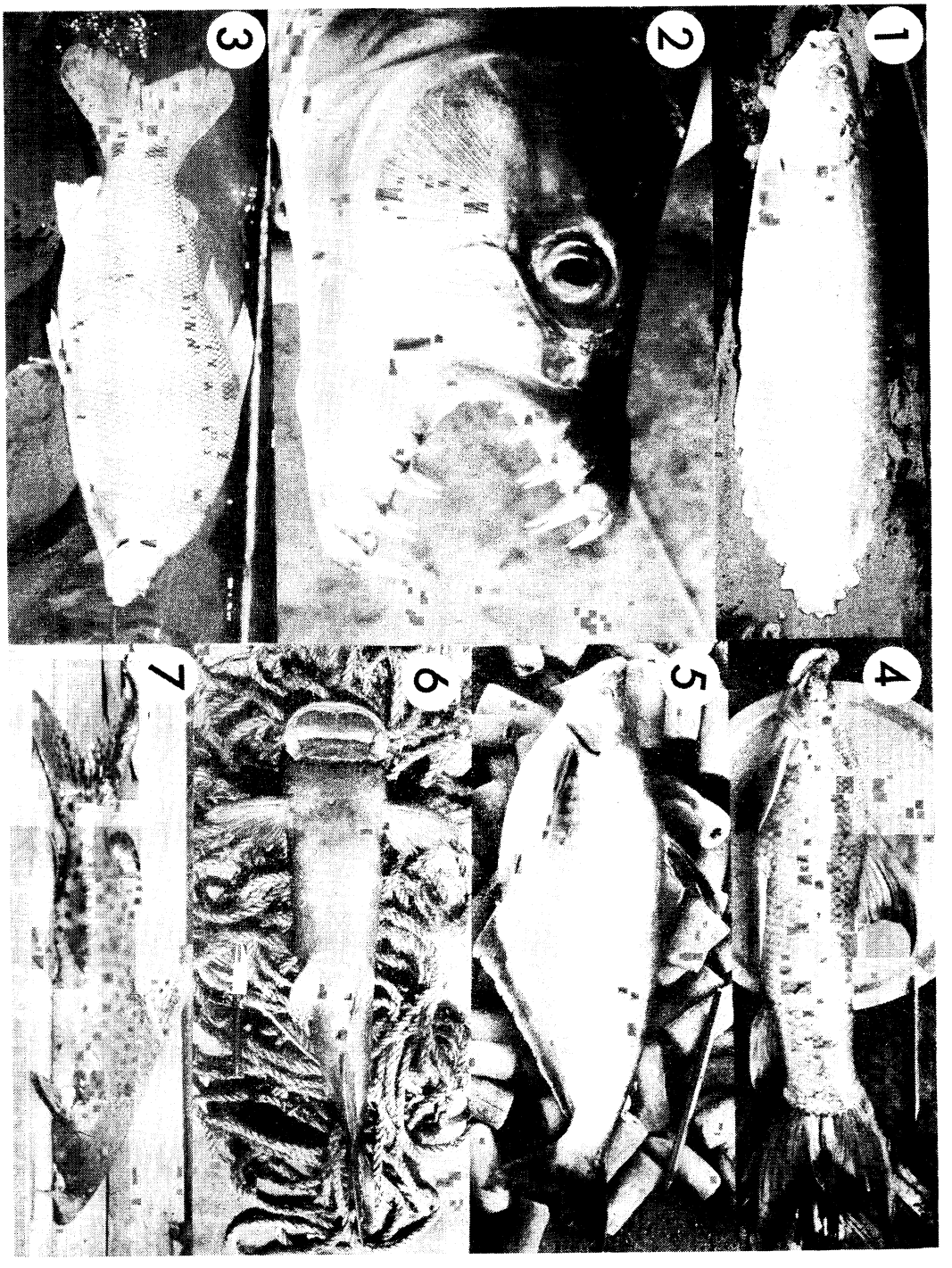
APPENDIX

Photographs of some fishes of the Lualabal River (Yuji ANKEI ©).

Ref. No.	CLOFFA #	Scientific names
1. S8	13. 1. 1	*Heterotis niloticus* (CUVIER), a new fish in the Lualaba.
2. S37	26.10	*Hydrocynus* sp. has an English name tiger-fish.
3. S49	27. 3.12	*Distichodus langi* NICHOLS & GRISCOM has a small head.
4. S69	29.10.68	*Labeo sorex* NICHOLS & GRISCOM lives in a rapid.
5. S90	32. 4.12	*Schilbe (Eutropius)* sp. on ceramic sinkers for a net.
6. S106	36. 5. 4	*Euchilichthys guentheri* (SCHILTHUIS) showing its snout.
7. S116	36.10	*Synodontis* sp., one of the most abundant in this family.
8. S62	29.10	*Labeo* sp. 1. Songola-Enya name is *m̀.póloŋóni.*
9. S67	29.10	*Labeo* sp. 2. Songola-Enya name is *ǹ.síla-y.e-lú.ngúla.*
10. S68	29.10	*Labeo* sp. 3. Songola-Enya name is *mo.langancala.*
11. S73	29.10	*Labeo* sp. 5. Songola-Enya name is *mu.úli.*
12. S58	29. 4.14	*Barbus holotaenia* BOULENGER caught by bailing a stream.
13. S131	69. 1.19	*Ctenopoma nigropannosus* REICHENOW caught by bailing.
14. S130	69. 1.18	*Ctenopoma nanum* GÜNTHER caught by bailing.
15.	16.	MORMYRIDAE caught by bailing.
16. S124	61	*Hemichromis fasciatus* PETERS caught by bailing.
17. S96	34. 3. 7	*Clarias buthupogon* SAUVAGE caught by bailing.
18. S135	?	Unidentified species having a Songola name *ka.seko.*
19. S64	29.10.25	*Labeo falcipinnis* BOULENGER and a Songola-Enya boy.
20. S37	26.10	*Hydrocynus* sp. just caught in a flowing gill net.
21. S64	29.10.25	*Labeo falcipinnis* BOULENGER brought into the kitchen.
22. S82	31. 6. 7	*Chrysichthys cranchii* (LEACH) at Kindu Central Market.
23. S102	34. 7. 3	*Heterobranchus longifilis* VALENCIENNES at market.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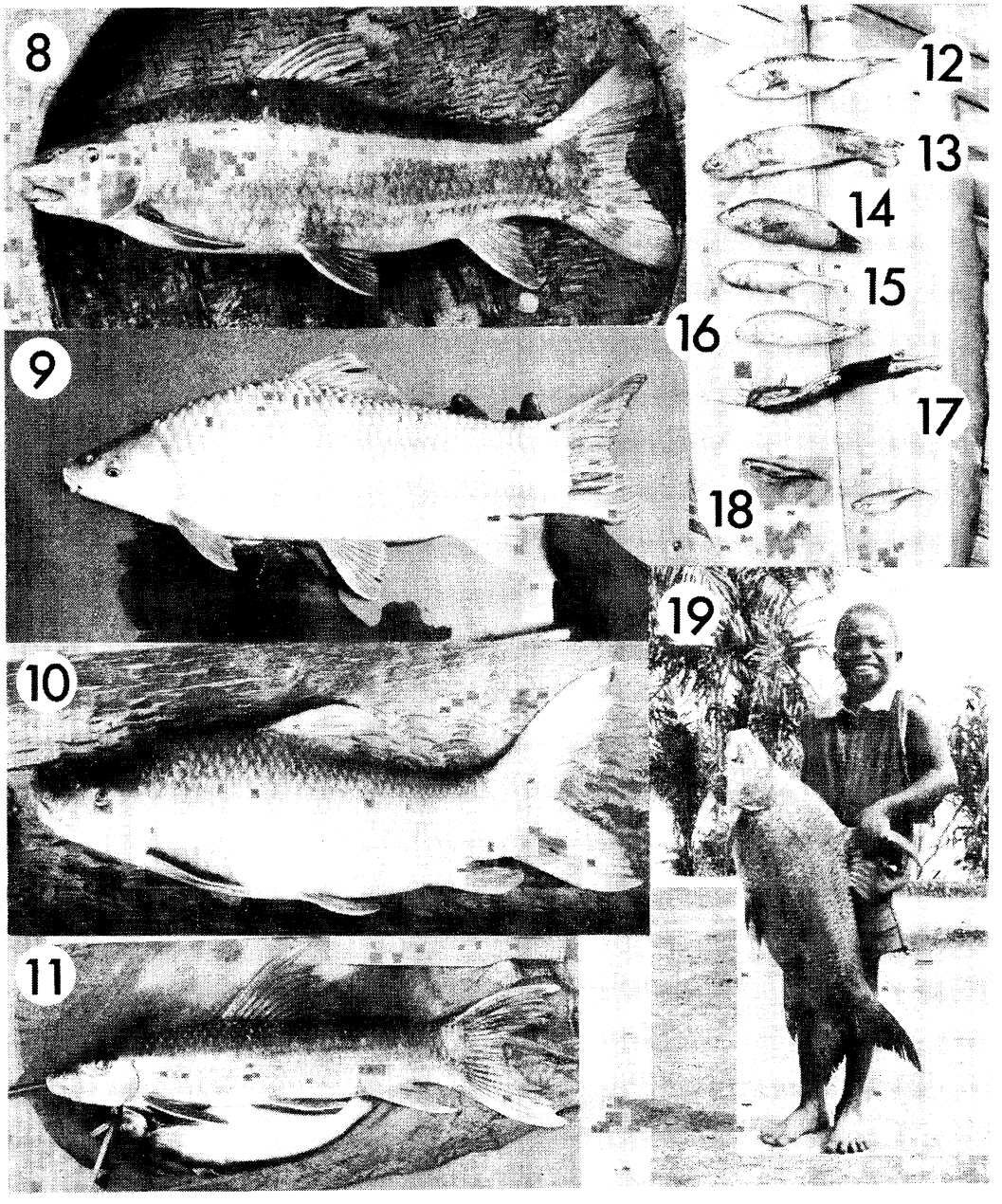
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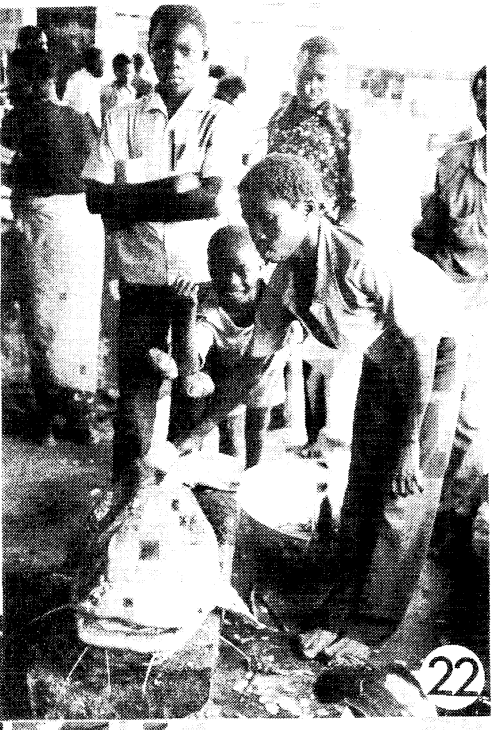
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