

## **Contents of stomachs of fish (*labeo niloticus*) at Jebel Aulia reservoir-sudan**

**Ahmed Mohammed Musa Ahmed**

*Assistant prof of fish sciences  
Neelain University, Faculty of Agricultural Technology and Fish sciences,  
Department of fish sciences, Sudan, Khartoum*

### **Abstract**

Basic understanding on food ecology of one of the common and commercially important fish species in Jebel Aluia reservoir is provided. The study indicates that *labeo niloticus* is herbivores fish, depending on phytoplankton, diatomas, algae plants remains and organic debris. Variation of food activity is connectes with short and length. The intenstine length of *labeo niloticus* (8.3cm) it was to longer than the other fish.

**Keyword:** *Labeo niloticus*, phytoplankton, variation, intestine.

### **Introduction.**

Fish, like other organisms, required food (energy) in order to grow, survive, and reproduce. The food items (source of energy) in aguatic habitate are in the form of plankton, periphyton, nuestion, benthose, nekton and plants. The success of intensive fish culture depends on the formulation of fish feed that contains an optimum level of protein and energy necessary for the growth of fish and is also cheap. The family of cyprinidae is one of largest of the teleosti. over 1300 species one on record, 210 of these are panafrican, falling into 21 genera, eight of which are represented in the Nile system (Bolulenger 1907) five genera one from the Nile system with in Barbus are of commercial important magharby and Abdelrahman (1984). There are four basic eating groups' among fish carnivorous, amnivorous, herbivorous and limnivorous. Each group of fish needs to be fed in a particular way. Herbivorous fish are those that will eat only plants. Understanding the relation ship between body structures and fish diet could be important for predicting the diet of how they feed and machanics of the fishes in food web in their environment and in formulating management strategy

option in multi species fishery. The study carried out between (2004-2005) to know the kind of natural food for *labeo niloticus* at Jebel Aulia reservoir.

### Literature review

Sandon and Amin Eltayib 1953 they found that the Dabs length in blue Nile in may the stomach content mud, diatoms (Melosira), and some green algae special the length (11.5 cm), while the length (18 cm) in jouné begging of flood stomach was empty while the end of flood found the plant, mud, and samedra. Pekkola, 1919) said the *labeo niloticus* was herbivorous. Amirthaligam and Khalifa (1965) found the *labeo niloticus* feeding on small plants, green algae and mud. (Beshi and Khalifa, 1997) they said the dabs was herbivorous rely on diatoms, blue green algae green algae.

### Materials and methods:

#### Study of the area:

Jebel Aulia reservoir located 40 km south of Khartoum, is was formed by the construction of Jebel Aulia dam in 1937, it is a seasonal reservoir, water is stored from July to the end of January and released gradually starting February until the basic is emptied in May (Rzoska Etal, 1955). During July to September the flood fast shall or area adjoin the bank said Magraby and Abdrahaman (1984).

#### collection of sample:

Fish samples were obtained from the fishermen catches using gillnets, cast nets, hooks, lines and Malian traps. A total of one hundred and ninety eight (198) fish samples of each most economically fish species were identified and collected between (2004-2005), and later kept in deep freezer to prevent post human digestion. The fish were serially numbered and weighted of each, specimen were measured by the balance. The standard length was taken from the tip of the head to tail fin. The fish gut was removed and preserved in 4% formalin. The gut length of each specimen was taken and the stomach content was also weighted using a weighting balance. The gutted weight (GW) was taken after removal of the viscera organ. Each stomach was split open and contents emptied into petri-dishes. The various food contents were then analyzed using microscopic examination.

### Results and discussion

The results of this study agree with Sandon and Amin 1953 they found in blue Nile the stomach of *Labeo niloticus* contained mud, diatoms **table (1)**. Also these results agree with Pekkola 1919 who found four kinds of labeo in Khartoum and all was herbivores fish. Amirthaligam and Khalifa 1965 found the *labeo niloticus* feed on small plants, green algae and mud, and this records similar with this study **table (2)**. Bishai and Etal 1997 said the *labeo niloticus* feed on Diatoms, blue – green algae – crustacean, Rotifer and nematode, and this study not agree with them because crustacea, rotifer and nematode was animals feeding it does not found in this results

except in part of Daitoms and Algae only **table (2)**.Pekkola and et al 1919 they found In the begging of flood the stomach was empty but in the end of flood the stomach contents on plants remains, mud, and diatomas (synedra) this agree with this study in that time semi empty 17.68%, and full 33.33% of stomach special in the begging and end of flood season **table(3)**.

**Table (1) relation between the length of in intestine and standard length of labeo niloticus with other species.**

Species	Standard length mean	Intenstinlength mean	Sl: IL cm
Lates niloticus	17	25	1.5
Ereochromis niloticus	17	122	7.2
<i>Labeo niloticus</i>	18	149	8.3

**Table (2) show the kinds of food, no of item and pcentage of *Labeo niloticus***

Kind of items	No	%
Green algae	36	18.18
Phyto plankton	45	22.73
Higher plants	44	22.22
Filament algae	8	4.04
Green plants	5	2.51
Red and green algae	2	1.02
Diatomas sp	12	6.06
Blue algae	2	1.02
Diatomas melosira	8	4.04
Higher plants tissues	36	18.18
Total No	198	100

**Table (3) show relation between Degree of full stomach and No of fish**

Degree of stomach	No	%
Semi empty	35	17.68
Full	66	33.33
¾ full	32	16.16
½ full	36	18.18
Distended	29	14.65
<b>Total No</b>	<b>198</b>	<b>100</b>



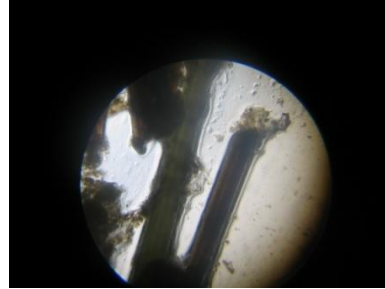
**Fig(1) methods of fish anatomy.**



**Fig(2) samle of plants.**



**Fig(3) digestive of *labeo niloticus*.**



**Fig(4) high plant tissuse**

#### **Recommendation:**

- You must be make items formulation from plants materials because the *labeo niloticus* was herbivorous fish.
- You must be develop, the factories to make nutrition for fish culture projects.
- You must be culture the *labeo niloticus* because it was common and commercially species depending on plants feeding very cheap and local materials.

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