

FISH SPECIES COMPOSITION IN IGBEDI CREEK, BAYELSA STATE

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ABSTRACT

A preliminary survey of fish species composition in Igbedi Creek was carried out between July and September, 2007. Fish samples were collected from the fishermen's catches operating in the Creek and its distributary Ogoubiri River. Collected fish specimens were identified in the laboratory using standard identification keys. Thirty-seven (37) fish species belonging to 17 families were observed. The most abundant families were the Mochokidae with seven (7) species which constituted 23.79% of the total sample collected followed by the Clariidae (10.78%) and Mormyridae (10.04%).

INTRODUCTION

Freshwater fisheries is an important aspect of the Nigerian fisheries economy as it contributes about 40% of the fish supply in Nigeria (Ita, 1993; FDF, 2003). There are about 268 freshwater fish species in Nigeria (Olaosebikan and Raji, 1998). Ita (1993) reported that they inhabit over 34 well-known freshwater bodies (rivers, lakes and reservoirs), which constitute about 12% of Nigeria's total surface area put at 94,185,000ha.

The Igbedi Creek is known to house many species of freshwater food fishes, but there is no record of its ichthyofauna. This work provides preliminary data on the composition and relative abundance of the ichthyofauna of Igbedi Creek in Bayelsa State.

MATERIALS AND METHODS

Igbedi Creek is a distributary of River Nun that flows through some communities in Bayelsa State. Geographically, it lies between longitudes 6°00'E and 6°20'E, and Latitudes 4°40'N and 5°20'N. The creek measures approximately 67km in length. Some communities situated along the banks of the Creek are Igbedi, Agorogbene and Ogobiri. Somewhere before Toru - Ibeni, it splits and a distributary (Ogoubiri River) of it rejoins the Nun River after Otuan. Oil exploratory activities have just started in the creek. Fish samples collected from fishers in the communities (Igbedi, Agorogbeni and Ogoubiri) along the creek. Samples were also collected from a Control Station (Amassoma) on the Ogoubiri River (a distributary of Igbedi Creek). Fishes were caught with gill nets of mesh sizes 33mm, 42mm and 50mm mostly around the convex banks of the creek/river from July to September 2007, while some fish specimens were also caught with stationary fish traps and spear.

RESULTS AND DISCUSSION

The results of the study showed that 37 fish species belonging to 17 families were recorded in the Igbedi Creek (Table 1). Three families namely Mochokidae (23.79%), Clariidae (10.78%) and Mormyridae (10.04%) constituted the dominant fish families in the Creek. Among the Mochokidae, *Synodontis nigrita* was the most abundant species with 35.94% abundance while among the Mormyridae, *Mormyrops deliciosus* was the most abundant species with 8.92% abundance. The Family Mochokidae had the highest representation with seven species while the Families Centropomidae, Citharinidae, Gymnarchidae, Hepsetidae, Malapteruridae, Polynemidae, and Polypteridae were represented by one species each.

Table 2 shows that 18 species belonging to 10 families were found in Amassoma (Ogoubiri River). Twelve (67%) of these species were also found in the Igbedi Creek, signifying their similarity. The Families dominant in the Ogoubiri river during the study period included Mochokidae (37.83%), Mormyridae (20.27%) and Bagridae (9.45%). The most abundant species were *Synodontis omias* (16.22%), *Synodontis budgetti* (12.16%) and *Mormyrops deliciosus* (12.16%). The number of species found in this creek was higher than the 18 species found in the Control Station (Amassoma) in the Ogoubiri River, 26 species in 16 families (Sikoki *et al.*, 1998) and 25 species in 14 families (Allison and Okadi, 2009) observed in the Lower Nun River and the 27 species reported for Oramiriukwa River (Okorie, 2005), but lower than the 46 species recorded in Otamiri river (Nwadiaro and Okeke, 1993), or the more than 80 species found in the Ofonitorubuo Lake, close to the Igbedi Creek (Alfred - Oekiya and Otodo, 1990). The differences in species number may be due to several reasons; these include seasonal changes, length of rivers (Okorie, 2005), variations in sampling techniques and gear or even changes in water quality (Obasohan and Oronsaye, 2006), and part of water body fished

(Allison *et al.*, 1997). The high number of species of Mochokids and Mormyrids found in Igbedi Creek agreed with the report of Egborge (1992), that those freshwater fish families important in species diversity included Mormyridae (36), Cichlidae (24), Mochokidae (24) and Cyprinidae (20). The entire 'single - species - in - the - family' found in this study qualify for protection, as they are all included in the list of endangered freshwater fishes in Nigeria (Egborge, 1992).

The preliminary study of the fish species composition of Igbedi Creek between July and September revealed the presence of 37 species in 17 families. More studies need to be carried out to cover all seasons of the year and other gear for a more comprehensive understanding of the fish species composition of the Creek, especially now that oil exploratory activities have just started there.

Table 1: Species Composition and Relative Abundance of fishes found in Igbedi Creek

Family	% by No	Species	No of Specimens	% by No
Bagridae	6.32	<i>Bagrus docmac</i>	2	0.58
		<i>Bargrus bayad</i>	2	0.58
		<i>Clarotes laticeps</i>	13	4.83
Centropomidae	1.49	<i>Lates niloticus</i>	4	1.49
Channidae	5.95	<i>Parachanna africana</i>	6	2.23
		<i>Parachanna obscura</i>	10	3.72
Characidae	1.86	<i>Alestes baremoes</i>	2	0.74
		<i>Brycinus macrolepidotus</i>	3	1.13
Cichlidae	2.97	<i>Oreochromis niloticus</i>	3	1.13
		<i>Tilapia zilli</i>	5	1.86
Citharinidae	1.12	<i>Citharinus citharus</i>	3	1.13
Clariidae	10.78	<i>Clarias anguillaris</i>	6	2.23
		<i>Clarias camerunensis</i>	3	1.13
		<i>Clarias macromystax</i>	18	6.69
		<i>Heterobranchus bidorsalis</i>	2	0.74
		<i>Distichodus brevipinnis</i>	3	1.13
		<i>Distichodus engycephalus</i>	4	1.49
Eleotridae	7.81	<i>Bostrychus africanus</i>	18	6.69
		<i>Eleotris senegalensis</i>	3	1.13
		<i>Gymnarchus niloticus</i>	4	1.49
Hepsetidae	5.20	<i>Hepsetus odoe</i>	14	5.20
Malapteruridae	3.72	<i>Malapterurus electricus</i>	10	3.72
Mochokidae	23.79	<i>Hemisynodontis membranaceous</i>	7	2.60
		<i>Synodontis budgetti</i>	9	3.35
		<i>Synodontis clarias</i>	4	1.49
		<i>Synodontis gambiensis</i>	2	0.74
		<i>Synodontis nigrita</i>	23	8.55
		<i>Synodontis schall</i>	9	3.55
		<i>Synodontis vermiculatus</i>	10	3.72
		<i>Hiperopisus bebe occidentalis</i>	3	1.13
		<i>Mormyrops deliciosus</i>	24	8.92
		<i>Polydactylus quadrifilis</i>	10	3.72
Polypteridae	1.12	<i>Polyterus ansorgei</i>	3	1.13
Schilbeidae	5.52	<i>Parailia pellucida</i>	5	1.86
		<i>Schilbe intermedius</i>	5	1.86
		<i>Schilbe uranoscopus</i>	5	1.86
	100.00	Total	269	100.00

Table 2: Species Composition and Relative Abundance of the fishes in Ogoubiri River (Amassoma).

Family	Species	No of Specimens	% by No
Bagridae	<i>Bargrus filamentosus</i>	2	2.70
	<i>Chrysichthys nigrodigitatus</i>	3	4.05
	<i>Clarotes laticeps</i>	2	2.70
Centropomidae	<i>Lates niloticus</i>	3	4.05
Cyprinidae	<i>Labeo pseudocoubie</i>	4	5.41
Distichodontidae	<i>Distichodus rostratus</i>	5	6.76
Gymnarchidae	<i>Gymnarchus niloticus</i>	3	4.05
Hepsetidae	<i>Hepsetus odoe</i>	4	5.41
Mochokidae	<i>Synodontis budgetti</i>	9	12.16
	<i>Synodontis gambiensis</i>	2	2.70
	<i>Synodontis nigrita</i>	2	2.70
	<i>Synodontis omias</i>	12	16.22
	<i>Synodontis schall</i>	3	4.05
Mormyridae	<i>Gnathonemus tamandua</i>	2	2.70
	<i>Hyperopisus bebe occidentalis</i>	4	5.41
	<i>Mormyrops deliciosus</i>	9	12.16
Polynemidae	<i>Polydactylus quadrifilis</i>	2	2.70
Schilbeidae	<i>Schilbe uranoscopus</i>	3	4.05
Total		74	100.00

REFERENCES

- Alfred – Ockiya, J.F. and Otobo, A.J.T. (1990). Biological Studies of Ofonitorubuo Lake in the Freshwater Swamps of the Niger Delta, Rivers State, Nigeria. *Journal of Aquatic Sciences*. 5: 77 – 82.
- Allison, M.E., Gabriel, U.U., Inko – Tariah, M.B., Davies, O.A. and Udeme – Naa, B. (1997): The Fish Assemblage of Elechi Creek, Rivers State, Nigeria. *Niger Delta Biol.* 2: 90 – 96.
- Allison, M.E. and Okadi, D. (2009): Species Distribution and Abundance in the Lower Nun River, Niger Delta, Nigeria. *Journal of Fisheries International* 4: 13 – 18.
- Egborge, A.B.M. (1992). Problems of aquatic resources conservation. A case study of Nigerian fishes. *In Proceedings of the National Conference on Aquatic Resources, Calabar, 11 – 14th May, 1992.* 27p.
- F.D.F. (Federal Department Fisheries) (2003). Presidential Forum on Fisheries and Aquaculture (Status and Opportunities). Federal Department of Fisheries Report, Abuja, Nigeria. 49p.
- Ita, E. O. (1993). Inland Fishery Resources of Nigeria. *CIFA Occasional Paper.No.20.* Rome, FAO. 120 pp.
- Nwadiaro, C.S. and Okereke, F. (1993). Further observations on the fish of Otamiri River in Southern Eastern Nigeria. *Arch. Hydrobiol.* 128 (2): 237 – 254.
- Obasohan E.E. and Oronsaye, J.A.O. (2006). Biodiversity and Sustainability of freshwater fishes of Nigeria. *In Proceedings of Fisheries Society of Nigeria.* Pp. 230 – 237.
- Olaosebikan, B.D. and Raji, A. (1998). *Field guide to Nigeria Freshwater Fishes.* Federal College of Freshwater Fisheries Technology, New Bussa. 106 pp.
- Okorie, P.U.(2005). Ichthyofauna of Oramiriukwa River in Imo State, Nigeria.*In Proceedings of Fisheries Society of Nigeria.* Pp.612 – 619.
- Sikoki, F.D., Hart, A.I., Abowei, J.F.N.(1998): Gill net Selectivity and Fish Abundance in the Lower Nun River, Bayelsa, Nigeria. *J. Applied Sci. Environ. Mgt.* 1: 14 – 19.