A FRESHWATER FISH INVENTORY OF DANIOG RIVER, LANUZA, SURIGAO DEL SUR , PHILIPPINES

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ABSTRACT: *This investigation has surveyed the freshwater fish in daniog river. Three sites were established in daniog river between june 2016 to December 2017.Fish samples were caught by local fishermen using a net fishing, scoop net/tryscareline, harpooning, trapsand, cast net fishing, angling. A total of 13 species of freshwater fish was identified. In site 1 ambassis was recorded to be the most abundant, followed by Puntius binotatus.Site 2 Puntius binotatus was dominant, followed by Oreochromis niloticus. Site 3 revealed that Ambassis sp. was the most abundant, followed by Mugil curema. The result of physicochemical properties of the three representative sites of Daniog River. Parameter dissolved oxygen and water temperature in site 2 and site3 appeared no significant difference while pH recorded be significantly higher in site 1. Site 1 served as a laundry place, carabao bath, Irrigation, small scale quarrying, fishing area, a swimming and bathroom/restroom of the community. Site 2 used as a swimming place and tourism spot of Lanuza Silop. The local government is maintaining the cleanliness. Site 3 is utilized as a carabao bath, fishing area, swimming area by the nearby household. This diversity is threatened by human activities in the local community. It is recommended to educate the locals on the negative impact of fish abundance in the area.*

Keywords: Human activities, Abundant, Fresh Water, Community

INTRODUCTION

Lanuza encompassed a mountainous area to her west and southwest with a big river and some tributaries or creeks and brooks to her east and northeast. Lanuza belongs to the economic zone of Cantilan, one of the major economic zones of Surigao del Sur. Business opportunity is mainly dependent on agriculture, fishing, and eco-tourism. Lanuza was awarded a "clean and green" municipality title of the Caraga Region. Lanuza's climate is characterized by rainfall that is distributed throughout the year. The period from April to August has the lowest level of rainfall while heavier rains occur from November to February and has 7% exposure to tropical cyclone.

Biota of an aquatic ecosystem directly reflects the conditions existing in the environment in terms of the quality and quantity of the biota[2]. Freshwater system is amongst the most vulnerable natural systems on the earth spread over 0.8 % of Earth's surface, cover 0,.01% of world's water resource [3]. The sustainability of freshwater fish is highly dependent on suitable habitat as species diversity and populations are closely linked to habitat conditions. The composition of the fish community is a living representation of the physical, chemical and biological characteristics of the community they live in [4].

Mallari et al. (2001) Ong et al.(2002) as mentioned by Paller, VG (2011) , the Philippines is a globally important hotspot for biological diversity and center for endemism, but much of the studies in terrestrial and marine biodiversity.

The significance of this study is to record and collect fish samples, determine diversity to help the local understand the importance of abundance of fish in the area.

MATERIALS AND METHODS

Study sites

The present study focuses on Daniog River located in municipality of Lanuza in the Province of Surigao del Sur, Caraga, Philippines. The estimate terrain elevation above sea level is 8 metres.

Latitude$9^0$13'59.99" andlongitude$126^0$3'0.01". **Lanuza** isafourt class municipality the province of Surigao del Sur, Philippines. According to the 2015 census, it has a population of 12,001 people.Lanuza belongs to the economic zone of Cantilan, one of the major economic zones of Surigao del Sur. Business opportunity is mainly dependent on agriculture, fishing, and eco-tourism. Lanuza's climate is characterized by rainfall that is distributed throughout the year.

average of 4.833 per sampling, *Oreochromis niloticus* with an average of 2.33 per sampling. Site 3 revealed that *Ambassis sp.* was the most abundant with the average of 13.16 per sampling, followed by *Mugil curema* with the average of 10.16 per sampling. The table also shows the total number of individual in each site. Site 1 recorded a 205 individuals, site 2 with 61 and site 3 with two hundred 42 individuals. Site 2 recorded the lowest catch of fish since the site is disturbed by the local who use the river as laundry place, carabao bath, swimming area often compared to site 1 and site 3. This result implies that the fish dwellers need their space to be abundant.

Figure 1. Daniog River – Site 1

Fugure 2. Daniog River – Site 2

gure 3. Daniog River Site 3

Table 1. Physicochemical properties of the three representative sites of Daniog River

Location	Parameters	Site	Sum	Average	Variance	P-value
Upper stream	Dissolved Oxygen	site 1	34.80	5.80	0.07	0.395
Middle stream		site 2	31.00	5.167	1.435	
Lower Stream		site 3	34.233	5.705	0.609	
Upper stream	pH	site 1	48.686	8.114	0.171	0.000906
Middle stream		site 2	45.42	7.57	0.044	
Lower Stream		site 3	44.14	7.356	0.021	
Upper stream	Water Temperature	site 1	194.8	32.466	17.491	0.70098
Middle stream		site 2	182.22	30.370	13.762	
Lower Stream		site 3	190.033	31.672	24.150	

Table 2. List of fish species and abundance of the three representative site of Daniog River during July to December, 2017.

Family	Species	Mean		
		Site 1	Site 2	Site 3
Mugilidae	*Mugil curema*	2	-	10.16
Cyprinidae	*Puntius binotatus*	11.33	4.833	1.5
Gobiidae	*Proterorhinus semilunaris*	0.166	-	-
Osphronemidae	*Trichogaster trichopterus*	0.166	0.5	1.667
Channidae	*Channa striate*	0.666	-	1.667
Ambassidea	*Ambassis sp.*	13.16	1.333	13.16
Gobiidea	*Glossogobius giuris*	-	0.5	0.166
Eleotriadae	*Mogurnda*	0.333	-	-
Anguilidae	*Anguilla marmorata*	-	0.166	-
Scatophagidae	*Scatophagus argus*	0.166	-	1.333
Carangidae	*Alepes macrurus*	-	0.166	1.667
Gerreidae	*Gerres abbreviatus*	0.166	0.333	3.5
Cichlidae	*Oreochromis niloticus*	9.333	2.333	5.5
Total number of Individual		225	61	242

Identification of Fish: Fishbase.org. Tropical Freshwater Fish/Biotope aquaria/Country Index

F : Osphronemidae
SN: *Trichogaster Trichopterus*
L : Gurami

F : Channidae
SN: *Channa Striate*
L : Haluan

Fish Species in Daniog River

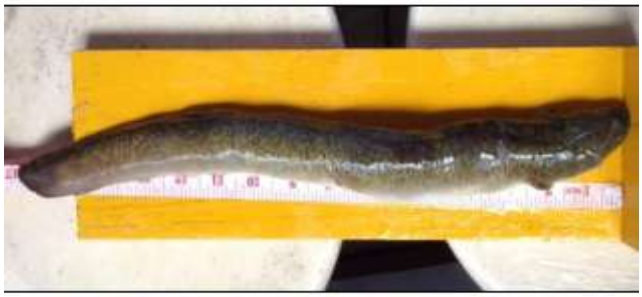
F : Mugilidae
SN: *Mugil Curema*
L : Byanak

F' :!Ambassidae!
SN': *Ambassis(sp*
L' :'Ibis!

F' :!Cyprinidae!
SN': *Puntius(binotatus*
L' :'Gabot!

F : Gobiidae
SN: *Glossogobuis giuris*
L : Ilongan

F : Eleotridae
SN: *Mogurnda sp.*
L : Japingan



F : Anguilidae
SN: *Anguilla marmorata*
L : Kalijud/Kasili

F : Scatophagidae
SN: *Scatophagus argus*
L : Kikilo

F : Carangidae
SN: *Alepes Macrunus*
L : Langog-langog

F : Gerreidae
SN: *Gerres Abbreviatus*
L : Latab

F : Cichlidae
SN: *Oreochromis Niloticus*
L : Tilapia

F : Eleotridae
SN: *Eleotris*
L : Bunog

CONCLUSION

The daniog river serves as the source of food by the local community. The river is still capable of supporting life but the number of species identified in the area is less. Anthropogenic activity affects the abundance of the fish in the river and the method of catching used by the local should be properly monitored by the local government to assure the sustainability of fish in the river.

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