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SPECIES COMPOSITION OF SOME FISHES IN LONTON VILLAGE, INDAWGYI LAKE, KACHIN STATE, NORTHERN MYANMAR

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Abstract:

A total of 38 species of freshwater bony fishes belonging to the 30 genera, 21 families and ten orders were collected from the Lonton village in Indawgyi Lake, Mohnyin Township, Kachin State. The study period was from May 2012 to July 2013. The highest number of species (31%) was recorded under order Cypriniformes and followed by Perciformes (26%), Siluriformes (24%).The lower of one species was observed in order Osteoglossiformes, Clupeiformes, Gasterosteiformes, Beloriformes, Synbranchiformes, Syngnathiformes and Tetraodontiformes respectively. Among recorded species, *Akysisprashadi*(Indawgyi stream catfish)is endemic species ofIndawgyi Lake and *Gudusia variegate* (Burmese river shad) is endemic species of Myanmar.Remaining species are native species of Myanmar except *Oreochromisnilotica.*

Keywords **—Endemic, Fish fauna, Indawgyi Lake, Native.**

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I. INTRODUCTION

The people of Myanmar like fish and fishery products which are essential of daily meals of them, no wonder, fish sauce and fish and shrimp paste are the favourite dishes of Myanmar. Fish constitutes a major source for animal protein in the diet of Myanmar people. Fisheries are a major activity for many people living in inland and coastal areas and are considered to be the major source of protein for rural population. Fish are invariable living components of water bodies. These organisms are important food resource and good indicators of the ecological health of the waters inhabit. Fishing is besides agriculture the second economic activity and income source for these people (FAO, 2003). Indawgyi Lake lies in the Mohnyin Township, Myitkyina District of Kachin State in the northern Myanmar. The lake is about 180 kilometers (112 miles) south-west from Myitkyina, the main town of Kachin State. The closet town is Hopin, which is 32miles away from Lonton, the main village at the bank of the lake. The lake can be reached in a five and a half hours drive from Myitkyina (Myitkyina University,2003:7)

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Indawgyi Lake M an N-S elongated basin with flat plains is one of the largest inland freshwater reservoirs, not only of Myanmar but also for Central South East Asia. The Lake stretches for about 24 Km from North to south and maximum width is 10 Km from East to West, within its deepest part about 18 meters. The Lake basin is slightly asymmetrical with greater depths and steeper sides to the east. The total area of the catchment is approximately 83, 000 ha (Davies, Sebastian and Chan, 2004). Indawgyi Lake is surrounded by mountain ranges, 300 m to 1,300 m in elevation about sea level (Ministry of forest Department, Myanmar, 2010).

The Lake is fed by many streams dendritic drainage system can be found. There are many inflows to the lake from the surrounding ridges, the most important of which the NanyinkhaChaung which flows into southwest area of the lake, NamsanthaChaung in the northwest of Nyaungbin, and NammonChaung from the southeast. Other inflows are NamtaungsalChaung, NammelungChaung, NammedeChaung, NamphaungsinChaung, MamaunkkanChaung, HepuChaung and NantameChaung. The only outlet is the "IndawChaung" or "Chaungwa" stream at the north eastern part of the Lake. To reach Chaungwa which is 51.499 km from Lon Ton. This stream runs towards northeast and enters the MoegaungChaung which feeds its water into the Ayeyarwaddy (Prashad&Mukerji, 1929).

The water of the lake is usually crystal clear, but the large mass of microscopic floating algae gives it a distinct greenish colour. The soft blackish clay near the shore covers the bottom of the lake while in the deeper regions, on the bottom; there is a large amount of sand mixed with the clay. These conditions favour various species of aquatic fauna including fishes.Thus, the present research was conducted with the following objectives:

- to record the fish species in the study area
- to determine the composition of fish fauna.

II. METERIALS AND METHODS

Study area

The study site was chosen Lonton village, Indawgyi Lake situated in Mohnyin Township at the southwest of Kachin State in northern Myanmar. Lonton village is situated at 25°05'52.4" N and 96°17'16.5" E, is about 33.80 km from north of Mohnyin Town. It stands at an elevation of 166 m above sea level (Fig1).

Study period

The field survey and specimen collection were carried out during the period from May 2012 to July 2013.

Collection of specimen

Collection of specimens was made with the help of local fishermen. Colour patterns, spots, blotches and distinctive morphological characters of studied species were carefully noted and photographic recorded were done by digital camera soon after catch. Collected specimens were weighted and total length measured to know the catch site.

Fish weights were recorded by using digital balance. Specimens were preserved in 10 to 40% formalin according to specimen size and brought to the laboratory for future identification. The local names of the studied species were informed by the local fishermen.Identification and classification were made according to Day (1967), Jayaram (2010), Talwar and Jhingran (1991) and Ferraris (1997).

Fishing gears

Fishes were found to be collected by using different fishing equipment such as grill nets and fish traps. The electro fishing method was not found to be used in this lake.

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Fig1. Location of Study Site

Source: From Google Earth

III. OBSERVATIONS AND RESULTS

A total of 38 species belonging to 10 orders, 21 families and 30 genera were observed in the study period.

Composition of Fish species

Among the total of 38 collected species, 12 species belonged to Cypriniformes, 9 to Siluriformes, 10 to Perciformes and the remainingseven Orders of Osteoglossiformes, Clupeiformes, Gasterosteiformes,Beloniformes, Synbranchiformes, Syngnathiformes and Tetraodontiformes found to be included one species in each in the study site (Table 1) .

The percent composition of fish species was found to be varied among different orders.The present study, Cypriniformes constitute 31%, Siluriformes 24% and Perciformes 26% (Fig 2,3).

Among the recorded species, *Notopterusnatopterus*in OrderOsteoglossiformes, *Gudusiavariegata*in Order Clupeiformes and*Cirrhinusmrigata, Catlacatla, Labeorohita, Labeocalbasu, Osteobramabelangeri, Puntius chola, Puntius sophore, Amblypharyngodonatkinsonii, Rasboradaniconius, Devarioaequipinnatus, Nemacheilusbotia, Schisturadevdevi*in Order Cypriniformes were observed in Lonton Village. In the Order Gasterosteiformes were found one species (*Indostomusparadoxus).*Among the Order Siluriformes, *Akysisprashadi*,*Mystusbleekeri, Mystuscavasius, Aorichthysaor, Ompokbimaculatus, Ompokpabda, Wallago attu, Clariasbatrachus and Hemipimelodusjatius*were collected in the study period. Among the Order Beloniformes, Synbranchiformes, Syngnathiformesand Tetraodontiformes were conducted eachone species. In the Order Perciformes,*Oreochromisniloticus, Anabustestudineus, Channamarulius, Channaorientalis, Channa punctatus, Channagachua, Channastriatus, Mastacembelusarmatus, Macrognathus aureus and Macrognathusmorehensis*were observed in the study area(Fig 4).

Table 1. Number of Taxa in each order

Sr.no	Order	Family	Genus	Species
1	Osteoglossiformes	1	1	1
2	Clupeiformes	1	1	1
3	Cypriniformes	3	8	12
4	Gasterosteiformes	1	1	1
5	Siluriformes	5	8	9
6	Beloniformes	1	1	1
7	Synbranchiformes	1	1	1
8	Syngnathiformes	1	1	1
9	Perciformes	6	7	10
10	Tetraodontiformes	1	1	1

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	Total	21	30	38

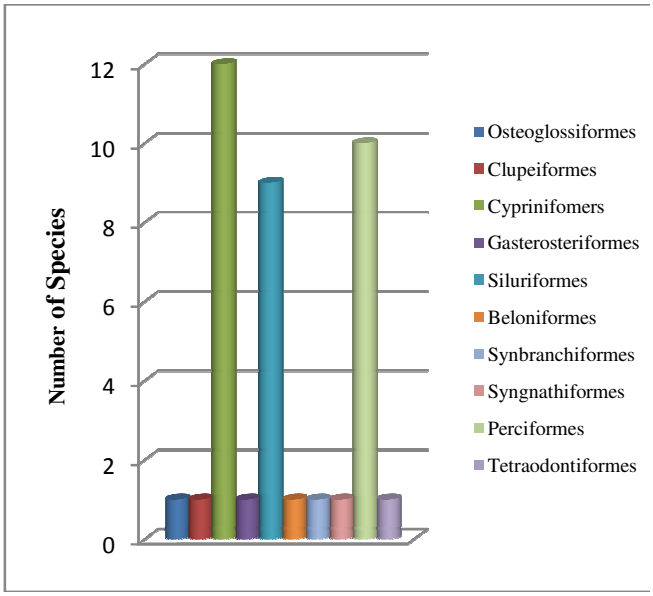

Fig 2. Recorded number of fish Species in different orders

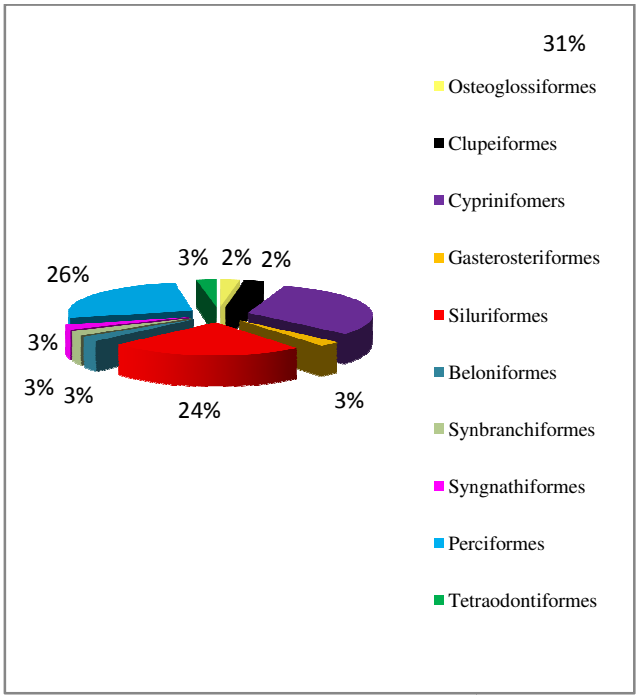

Fig 3. Percentage representation of fish Species in different orders

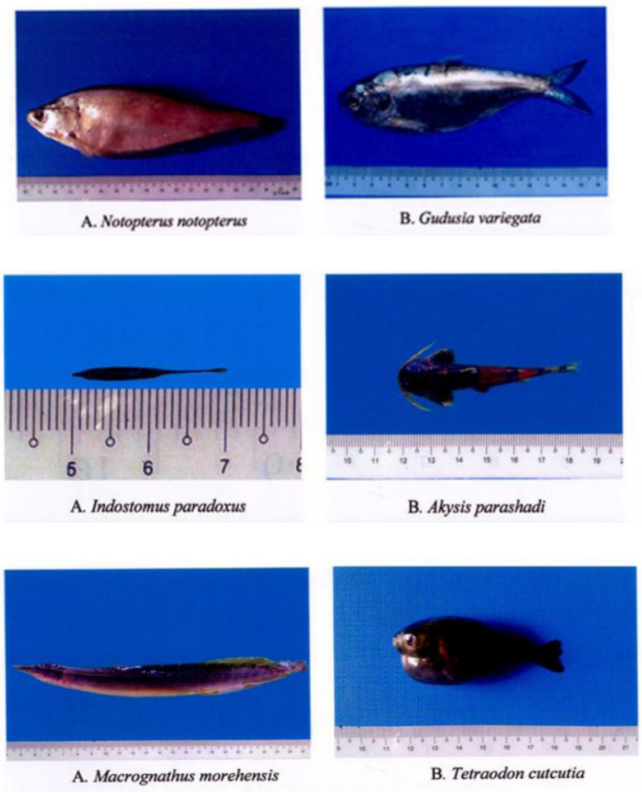

Fig 4. Some recorded fish species in the study site

IV. DISCUSSION

A total of 38 fish species belonging to 31 genera, 25 families of ten orders were recorded in the study site during the study periods.

Among the different orders, the order Cypriniformes, was revealed to be represented by the largest number of species, with 12 species confined to 8 genera. This is followed by the order Perciformes with 10 species confined to 7 genera and order Siluriformes was revealed to be represented with 9 species confined to 8 genera. The remainders orders with a single genus and species in each. Of these, Cypriniformes was predominant in the study area because the highest

number of fish species. It was followed by the second predominant group, Perciforms. And then third predominant group was order Silurids. The finding on the factor of predominance was in agreement with that of (Lagler, Bradach and Miller, 1962), who reported that Cyprinids are the major freshwater fish group and thus become conspicuous parts of the fauna in different streams and lakes. Robert (1989) also stated that one-third of all fresh water fishes were represented by cyprinids. In present study, the order Cypriniformes was found to be observed as major freshwater fish group because the highest number of cyprinid was recorded during the study period.

Among the recorded species, *Notopterusnatopterus, Catlacatla, labeoboga, Mystusbleekeri, Mystuscavasius, Aorichthysaor, Mastacembelusarmatus. Macrognathys aureus, Oreochromisniloticus and Macrognathusmorehensis* were commonest and collected from the study site. *Gudusiavariegata, Labeorohita, Ompokpabda, Xenentodoncancila*were fairly common in lake. *Cirrhinusmrigala, Amblypharyngodonatkinsonii, Ompokbimaculatus , Wallago attu, Clariasbatrachus, Anabustestudineus and Mastacembelusdayi* were rarely found in the lake.

Among the recorded species,*Akysisprashadi* (Indawgyi stream catfish)is endemic species ofIndawgyi Lake. *Gudusia variegate* (Burmese river shad)is endemic species of Myanmar (Prashad&Mukerji, 1929). Remaining species are native species of Myanmar except *Oreochromisniloticus.* Genus *Punitius* occurred in the Lake in very large numbers and appeared to be the commonest of the Lake dwelling species, and then Channids fish, *Channamarulius* was more or less common in the Lake and *Channagachua* was very common in the Lake.

Prashad&Mukerji in 1929 was recorded by first data on the 43fish species from the Lake Indawgyi alone, or 64 species including inflowing streams and marshy area. Zin Mar Than (2011) was reported the 22 fish species in five different study sites from Indawgyi Lake. The forest Department, the Zoology Department of Myintkyina University and Maurice Kottelet,al. (2013) was reported the 68 species observed in Indawgyi Lake.

V. CONCLUSION

In conclusion, data included in this work are discussed based within twelve months andthere is still needed to observe the fish fauna of study area. So the different fish species of Indawgyi Lake is important in supplementing the protein requirement and also economy for the local people. But over-fishing by some local fisher man was observed during the study period. They are fishing during the breeding season, and abandoning their fishing nets, which as "ghost" nets that continue to trap and kill fish. So some local fisherman and villager should be indicated the awareness raising and creation of fish sanctuaries in Indawgyi Lake.

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