

Fish species observed in Lake Indawgyi and its basin in November-December 2013

by

Dr Maurice Kottelat
Rue des Rauraques 6
2800 Delémont
Switzerland
mkottelat@dplanet.ch

Introduction

The first data on the fish fauna of Lake Indawgyi were published by Prasad & Mukerji in 1929. They recorded 65 species. Since, a few ichthyologists visited the lake and this has resulted in the addition of a few species, both species already known from elsewhere in Myanmar and also a few species new to science (e.g., Britz, 2007, 2010; Kullander, 2008; Kullander & Britz, 2002; Kullander & Fang, 2005; Ng & Kottelat, 2009).

A survey was conducted in 2013 by the Forest Department, the Zoology Department of Myitkyina University and Fauna & Flora International. The present report documents the 68 species observed by the survey and provides a list of 88 native fish species now recorded from the lake.

Material and methods

Fish samples were collected in December 2013 by the survey conducted by the Forest Department, the Zoology Department of Myitkyina University and Fauna & Flora International. Fish were obtained by seine, pushnet and dipnets depending of the conditions at the different sites. The catches of fishermen were inspected everyday at the landing spots in Lonton.

A small collection at the Forestry Office in Lonton was examined. They are in poor state of conservation and many cannot be readily identified. Among the species that be identified, a few species have not been observed by the survey and are included in the list (*Bangana devdevi*, *Cyclocheilichthys* sp., *Mystus leucophasis*, *Hara filamentosa*, *Hemibagrus microphthalmus*, *Mystus leucophasis*).

Results

Fish were observed and sampled at 9 sites in Lake Indawgyi and its basin between 28 November and 5 December 2013:

- 13-059** Nan Yin Hka Chaung (stream), entering Lake Indawgyi south of Lonton; 25°05'01"N 96°17'08"E; 28 Nov 2013.
- 13-060** Nan Made Chaung near Nan Made village, entering Lake Indawgyi north of Shwe Myint Zu pagoda. [on map in Forestry Office: Hwe Ta Dwin, tributary of Nam Pa De]; 25°09'38"N 96°18'25"E; 29 Nov 2013.
- 13-061** Lake Indawgyi north of Lonton; 25°06'52"N 96°17'28"E; 29 Nov 2013
- 13-062** Hepu Chaung (stream) upstream of Hepu village, east shore of Lake Indawgy; 25°05'09"N 96°23'16"E; 30 Nov 2013.
- 13-063** Lake Indawgy, in front of guesthouse in Lonton; 25°05'52"N 96°17'17"E; 30 Nov 2013.
- 13-064** Lake Indawgy; from fishermen at fish landings at Lonton; 25°05'39"N 96°17'26"E; 30 Nov–5 Dec 2013.
- 13-065** Indaw Chaung, outlet of Lake Indawgyi; 25°15'14"N 96°25'14"E; 1 Dec 2013.
- 13-066** Lone Kok Chaung (stream) upstream of Lone Kok village, entering Lake Indawgyi north of London. [on map in Forestry office: Lon Kauk Chaung]; 25°07'26"N 96°17'26"E; 3 Dec 2013.
- 13-067** Nan Mon Chaung (stream), about 2 km upstream of Nan Mon village. [on map in Forestry office: Nan Mun or Nam Mun village, Nam Mun Chaung]; 24°59'05"N 96°20'44"E; 4 Dec 2013.

A total of 68 species were observed (Table 1). Photographs of 67 are appended; the only examined specimen of *Hemibagrus microphthalmus* was not in a state suitable for photography.

Twenty native species recorded from Lake Indawgyi in earlier reports and in the scientific literature but not

observed by the 2013 are listed in Table 2. Among these species, *Olyra horae*, *Akysis prashadi* and *Macrognaathus aureus* were originally described from the lake and unambiguously belong to the local fauna. Among these missing species were possibly misidentifications and may appear in Table 1 under a different name.

This makes a total of 83 fish species presently known from the lake and its basin.

A single non-native species was observed in Lonton, *Oreochromis niloticus* (tilapia). In the earlier reports, only one non-native species had been listed, *Trichopodus trichopterus*, but this might have been misidentified *Trichogaster labiosa*.

Among the species observed:

- three (*Lepidocephalichthys* sp. Indawgyi, *Acanthocobitis* sp. Indawgyi and *Physoschistura* sp. Indawgyi) are apparently new to science and unnamed. This still need confirmation by further taxonomic studies;
- *Cyclocheilichthys* sp. is the first record of the genus in Myanmar outside Tanintharyi. The genus is otherwise known only from the Sundaic and Indochinese areas. A single specimen was observed among the material at the Forestry Office. It is not available for detailed examination but, judging from photographs, it is potentially an unnamed species;
- *Devario* sp., *Oreochromis* sp. and *Oryzias* sp. belong to genera (or groups of species) whose taxonomy is not clear and an objective identification is not possible;
- twelve species (*Bangana devdevi*, *Brachydanio albolineatus*, *Brachydanio* cf. *kyathit*, *Celestichthys choprae*, *Cyclocheilichthys* sp., *Devario* sp., *Esomus danrica*, *Labeo boga*, *Labeo dyocheilus*, *Lepidocephalichthys* sp. Indawgyi, *Physoschistura* sp. Indawgyi, *Macrognaathus* cf. *morehensis*) had apparently not been recorded earlier in the basin;
- the most common species at most sites (*Esomus danrica*) had apparently not been reported before.

Lake Indawgyi is one of the few areas of Myanmar whose fish fauna has been the subject of extensive survey and publications. With Lake Inle, it is probably the single area most visited by national and international experts and most cited in international literature. Still, the present fauna of 88 species includes 23 species (26 %) first recorded in the last 15 years (at least in the scientific literature). More surveys in the basin are likely to add a few species to the list, especially small-size species.

References

- Britz, R. 2007. Two new species of *Mastacembelus* from Myanmar (Teleostei: Synbranchiformes: Mastacembelidae). *Ichthyological Exploration of Freshwaters*, 18 (3): 257–268.
- Britz, R. 2010. *Macrognaathus aureus*, a new spiny eel of the *M. aculeatus* species group from the Upper Ayeyarwaddy River Drainage, Myanmar (Teleostei: Synbranchiformes: Mastacembelidae). *Zootaxa*, 2514: 55–60.
- Kottelat, M. 2013. The fishes of inland waters of Southeast Asia: a catalogue and core bibliography of the fishes known to occur in freshwaters, mangroves and estuaries *Raffles Bulletin of Zoology, Supplement 27*: 1-663, 4 figs.. [PDF](#)
- Kullander, S. O. 2008. Five new species of *Puntius* from Myanmar (Teleostei: Cyprinidae). *Ichthyological Exploration of Freshwaters*, 19 (1): 59–84.
- Kullander, S. O. & R. Britz. 2002. Revision of the family Badidae (Teleostei: Perciformes), with description of a new genus and ten new species. *Ichthyological Exploration of Freshwaters*, 13 (4): 293–372.
- Kullander, S. O. & F. Fang. 2005. Two new species of *Puntius* from northern Myanmar (Teleostei: Cyprinidae). *Copeia*, 2005 (2): 290–302.
- Ng, H. H. & M. Kottelat. 2009. A new species of *Mystus* from Myanmar (Siluriformes: Bagridae). *Copeia*, 2009 (2): 245–250.
- Prashad, B. & D. D. Mukerji. 1929. The fish of the Indawgyi lake and the streams of the Myitkyina district (Upper Burma). *Records of the Indian Museum*, 31: 161–223, pls. 7–10.

Table 1. List of fish species observed in November-December 2013 in Lake Indawgyi basin. Nomenclature follows Kottelat (2013). Names used in earlier lists and publications on the fauna of the lake are in parentheses. Asterisks (*) indicate identifications that need confirmation.

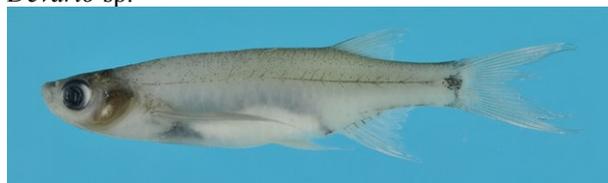
family	species	names used in earlier lists and publications (misspellings not included)
Notopteridae	<i>Notopterus notopterus</i>	
Clupeidae	<i>Gudusia variegata</i>	
Cyprinidae	<i>Amblypharyngodon atkinsonii</i>	
	<i>Bangana devdevi</i> *	(<i>Labeo devdevi</i>)
	<i>Brachydanio albolineatus</i>	(<i>Danio albolineatus</i>)
	<i>Brachydanio cf. kyathit</i>	(<i>Danio rerio</i>)
	<i>Celestichthys choprae</i>	(<i>Danio choprae</i>)
	<i>Cylocheilichthys</i> sp.	
	<i>Devario</i> sp.	(<i>Danio aequipinnatus</i>)
	<i>Esomus caudocellatus</i>	(<i>Esomus ahli</i>)
	<i>Esomus danrica</i>	
	<i>Gibelion catla</i>	(<i>Catla catla</i>)
	<i>Hypsibarbus myitkyinae</i>	(<i>Barbus myitkyinae</i> , <i>Poropuntius myitkyinae</i>)
	<i>Labeo boga</i> *	
	<i>Labeo dyocheilus</i> *	
	<i>Labeo nandina</i> *	
	<i>Laubuka fulvescens</i>	
	<i>Morulus calbasu</i>	(<i>Chela laubuca</i>)
	<i>Opsarius barnoides</i>	(<i>Labeo calbasu</i>)
	<i>Oreichthys</i> sp.	(<i>Bariilus barila</i>)
	<i>Osteobrama belangeri</i>	(<i>Oreichthys cosuatis</i>)
	<i>Osteobrama cunna</i>	(<i>Rohtee belangeri</i>)
	<i>Osteochilus rostellatus</i> *	(<i>Rohtee alfrediana</i>)
	<i>Pethia didi</i>	
	<i>Pethia erythromycter</i>	(<i>Puntius phutunio</i>)
<i>Puntius chola</i>	(? <i>Puntius puntio</i>)	
<i>Rasbora daniconius</i>	(<i>Barbus chola</i>)	
<i>Rasbora rasbora</i>		
<i>Rohita rohita</i>	(<i>Labeo rohita</i>)	
<i>Systemus sewelli</i>	(<i>Barbus sewelli</i> , <i>Puntius orphoides</i> , <i>Barbus caudimarginatus</i> , <i>Puntius caudimarginatus</i>)	
Cobitidae	<i>Acantopsis spectabilis</i>	
	<i>Lepidocephalichthys berdmorei</i>	
	<i>Lepidocephalichthys guntea</i>	

Table 1. Continued.

family	species	names used in earlier lists and publications (misspellings not included)
	<i>Lepidocephalichthys</i> sp. Indawgyi	
Nemacheilidae	<i>Pangio pangia</i> <i>Acanthocobitis</i> sp. Indawgyi <i>Physoschistura</i> sp. Indawgyi	(<i>Acanthopthalmus pangia</i>) (<i>Nemacheilus botia</i> , <i>Acanthocobitis mandalayensis</i>)
Balitoridae	<i>Homalopteroides rupicola</i>	(<i>Chopraia rupicola</i> , <i>Homaloptera rupicola</i>)
Bagridae	<i>Hemibagrus microphthalmus</i> <i>Mystus cineraceus</i> <i>Mystus leucophasis</i> <i>Sperata acicularis</i>	(<i>Mystus microphthalmus</i> , <i>Aoria gulis</i>) (? <i>Mystus cavasius</i>) (<i>Aoria leucophasis</i>) (<i>Aoria aor</i>)
Siluridae	<i>Ompok pabda</i> <i>Pterocryptis berdmorei</i> <i>Wallago attu</i>	(<i>Ompok bimaculatus</i>) (<i>Silurus cochinchinensis</i>)
Sisoridae	<i>Pseudolaguvia tuberculata</i>	(<i>Glyptothorax tuberculatus</i>)
Erethistidae	<i>Hara filamentosa</i>	(? <i>Erethistes conta</i>)
Clariidae	<i>Clarias</i> cf. <i>batrachus</i> <i>Heteropneustes fossilis</i>	(<i>Saccobranchus batrachus</i>) (<i>Oryzias uwai</i>)
Adrianichthyidae	<i>Oryzias</i> sp.	
Belontiidae	<i>Xenotodon cancella</i>	(<i>Doryichthys dunckeri</i>)
Syngnathidae	<i>Microphis dunckeri</i>	
Indostomidae	<i>Indostomus paradoxus</i>	
Synbranchidae	<i>Monopterusuchia</i>	(<i>Amphipnousuchia</i> , ? <i>Monopterus albus</i>)
Chaudhuriidae	<i>Chaudhuri</i> cf. <i>caudata</i> *	
Mastacembelidae	<i>Macrognaathus</i> cf. <i>morehensis</i> <i>Mastacembelus pantherinus</i>	
Ambassidae	<i>Parambassis ranga</i> <i>Parambassis robertsi</i>	(<i>Mastacembelus armatus</i>) (<i>Ambassis ranga</i> , <i>Chanda ranga</i>)
Badidae	<i>Badis corycaeus</i> <i>Dario hyginon</i>	(<i>Ambassis baculis</i>) (<i>Badis badis</i>) (<i>Badis dario</i>)
Anabantidae	<i>Anabas testudineus</i>	
Osphronemidae	<i>Parasphaerichthys ocellatus</i>	
Channidae	<i>Trichogaster labiosa</i> <i>Channa gachua</i> <i>Channa marulius</i> <i>Channa striata</i>	(<i>Colisa fasciata</i>) (<i>Ophicephalus gachua</i>) (<i>Ophicephalus marulius</i> , <i>Channa aurolineata</i>) (<i>Ophicephalus striatus</i>)
Tetraodontidae	<i>Leiodon cutcutia</i>	(<i>Tetraodon cutcutia</i> , <i>Monotrete cutcutia</i>)

Table 2. Fish species recorded in literature or earlier surveys as present in Lake Indawgyi nasin but not observed during the 2013 survey. This assumes that identifications were correct.

family	species	names used in earlier lists and publications (misspellings not included)
Cyprinidae	<i>Chagunius nicholsi</i>	(<i>Barbus chagunio</i>)
	<i>Cirrhinus cirrhosus</i>	(<i>Cirrhina mrigala</i>)
	<i>Labeo angra</i>	
	<i>Labeo gonius</i>	
	<i>Neolissochilus hexastichus</i> ?	(<i>Barbus hexastichus</i>)
	<i>Osteobrama feae</i>	(<i>Rohtee feae</i>)
	<i>Pethia thelys</i>	(<i>Puntius thelys</i>)
	<i>Puntius pugio</i>	
	<i>Puntius sophore</i>	(<i>Barbus sophore</i>)
	<i>Raiamas guttatus</i>	(<i>Bariius guttatus</i>)
	<i>Salmostoma sardinella</i>	(? <i>Chela sladeni</i>)
	<i>Batasio dayi</i>	(<i>Aoria dayi</i>)
	<i>Olyra horae</i>	(<i>Amblyceps horae</i>)
	<i>Ompok pabo</i>	(<i>Callichrous pabo</i>)
	<i>Europiichthys burmannicus</i>	(<i>Eutropiichthys vacha</i>)
	<i>Proeutropiichthys macrophthalmos</i>	(<i>Pseudeutropius taakree</i>)
	<i>Akysis prashadi</i>	(<i>Akysis variegatus</i>)
<i>Bagarius bagarius</i>		
<i>Macrogathus aureus</i>		
<i>Trichopodus trichopterus</i>	(<i>Trichogaster trichopterus</i>)	
<i>Channa panaw</i> ?	(<i>Ophicephalus punctatus</i>)	
Bagridae		
Siluridae		
Schilbeidae		
Akysidae		
Sisoridae		
Mastacembelidae		
Osphronemidae		
Channidae		

Family Notopteridae*Notopterus notopterus***Family Clupeidae***Gudusia variegata***Family Cyprinidae***Amblypharyngodon atkinsonii**Bangana devdevi**Brachydanio albolineatus**Brachydanio cf. kyathit**Celestichthys choprae**Cyclocheilichthys sp.**Devario sp.**Esomus caudocellatus**Esomus danrica**Gibelion catla**Hypsibarbus myitkyinae*



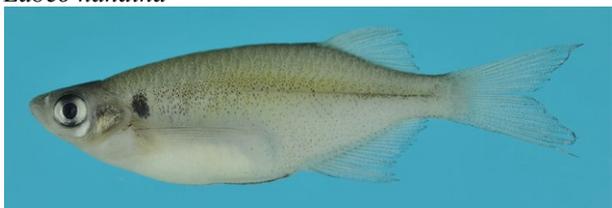
Labeo boga



Labeo dyocheilus



Labeo nandina



Laubuka fulvescens



Morulius calbasu



Opsarius barnoides



Oreichthys sp.



Osteobrama belangeri



Osteobrama cunma



Osteochilus rostellatus



Pethia didi



Pethia erythromycter



Puntius chola



Rasbora daniconius



Rasbora rasbora



Rohita rohita

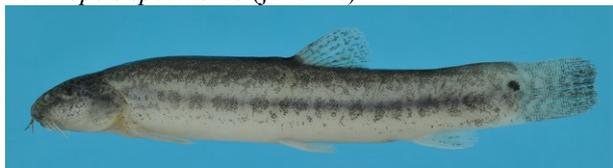


Systemus sewelli

Family Cobitidae



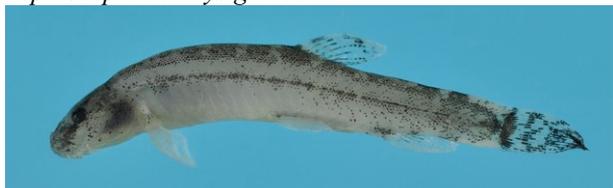
Acantopsis spectabilis (juvenile)



Lepidocephalichthys berdmorei



Lepidocephalichthys guntea



Lepidocephalichthys sp. Indawgyi



Pangio pangia

Family Nemacheilidae



Acanthocobitis sp. Indawgyi



Physoschistura sp. Indawgyi

Family Balitoridae



Homalopteroides rupicola

Family Bagridae



Mystus cineraceus



Mystus leucophasis



Sperata acicularis

Family Siluridae*Ompok pabda**Pterocryptis berdmorei**Wallago attu***Family Sisoridae***Pseudolaguvia tuberculata***Family Erethistidae***Hara filamentosa***Family Clariidae***Clarias cf. batrachus**Heteropneustes fossilis***Family Adrianichthyidae***Oryzias sp.***Family Belontiidae***Xenentodon cancila* (beak is broken)**Family Syngnathidae***Microphis dunckeri***Family Indostomidae***Indostomus paradoxus***Family Synbranchidae***Monopterus albus***Family Chaudhuriidae***Chaudhuria cf. caudata***Family Mastacembelidae***Macrognathus cf. morehensis**Mastacembelus pantherinus*

Family Ambassidae*Parambassis ranga**Parambassis robertsi***Family Badidae***Badis corycaeus**Dario hyssinon***Family Osphronemidae***Parasphaerichthys ocellatus**Trichogaster labiosa***Family Channidae***Channa gachua**Channa marulius**Channa striata***Family Anabantidae***Anabas testudineus***Family Tetraodontidae***Leiodon cutcutia*