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Tanintharyi Conservation Programme

Fish Species Observed in Lenya River Drainage, Tanintharyi Region, in November 2014

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The Tanintharyi Conservation Programme is an initiative of Fauna and Flora International (FFI) Myanmar Programme, implemented in collaboration with the Myanmar Forest Department, Department of Fisheries and a number of local, national and international collaborators and stakeholders. FFI Myanmar operates the programme under a MoU with the Forest Department and a LoA with the Department of Fisheries specifically for marine and terrestrial conservation activities in Tanintharyi Region.

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Author details

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Cover image

Mystacoleucus argenteus a fish species collected in 2014 survey.

Fish species observed in Lenya River drainage, Tanintharyi Region, in November 2014

by

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Summary

The fishes of the basin of Lenya River were surveyed for the first time. A survey in November 2014 observed 54 fish species. Among, them a single species is apparently endemic and 5 potentially new to science and unnamed. Local conditions restricted the work to the lowermost part of the drainage. Extensive sampling upstream is needed because of the potential for the discovery of endemic species with specialised habitats. More sampling still remain needed in the lower part of the drainage. Special attention should be given to rapids and karstic habitats.

The fish fauna of the Lenya drainage is made mainly of 'Sundaic' elements, continuing the fauna of the Malay Peninsula, Peninsular Thailand and Sunda islands. A number of 'Indo-Burmese' elements are also present and continue the fauna of Central Myanmar. The Lenya drainage has more Sundaic than Indo-Burmese elements, while the Tanintharyi drainage, adjacent to the North, has more Indo-Burmese than Sundaic elements. 6 species are new records for Myanmar. The new records are all known from the western slope of the Malay Peninsula in Thailand between Ranong and Phuket.

Introduction

There is very little published on the fishes of Tanintharyi Region. Although 'Tenasserim' was often mentioned in the Indian ichthyological literature in the 19th century, this in fact does not concern Tanintharyi Region (Kottelat, 2015). In April-May 2014, FFI conducted a survey of Tanintharyi River drainage. In November 2014, FFI in collaboration with the Forest Department undertook survey work in the Lenya River drainage, the next river to the South.

The sensitive local situation greatly limited the areas that could be accessed to the area of Lenya town and the lowermost part of Lenya River. We could only sample in the stretch of the river with permanent freshwater but under tidal influence, roughly upstream of Lenya town. Additional samples were obtained in tributaries, above tidal influence but still in the lowland. The tributaries inland and at higher altitude were out of lits and a variety of habitats were missing in the sampling area, especially rapids and headwater that are usually inhabited by species with small distribution ranges or endemics, and also are most likely to yield species new to science.

Although far from complete the survey provides the first known information on the fish fauna of Lenya River.

Material and methods

Fish were obtained by seine, pushnet, ichthyocides and with an electric fish-shocker. The catches of fishermen were inspected. Cordinates were obtained with a Garmin 76CSx GPS. This report is based

on material obtained in November 2014 in the lower Lenya River, near Lenya village. In January 2015, an additional site in the same area was sampled by Saw Soe Aung and Nyein Chan (FFI); this material is included here, with identifications based on photographs; this explains why some species could not be identified with accuracy.

Nomenclature follows Kottelat (2013). The abbreviation *cf.* (from Latin *confer*, compare) between the genus name and the species names means that the examined individuals are identified as this species but the identification is tentative because of small differences. For example, *Oryzias* cf. *dancena* means that the examined material has similarities with *O. dancena* but that there are small differences and a more detailed analysis is needed. The abbreviation *aff.* (from Latn *affinis*, related to) indicates that the species is related to but not identical to the named species. For example, *Dermogenys* aff. *collettei* means that the species is apparently unnamed and has similarities with *D. collettei* but is different. The abbreviation *sp.* means species and indicates that identification to the species level is not possible or that the species has no name.

Abbreviations. FFI, Fauna & Flora International; masl, meters above sea level; SL, standard length (without caudal fin).

Tidal variations. The sampled area in the Lenya River mainstream is under tidal influence. As used here, the upper limit of tidal influence is the lowest point where water is not backed up by incoming tide (flow is continuously downwards). Downstream of that point, at high tide, the flow is reduced and the water level increases. Further downstream, the flow is reversed at high tide. The upper limit of salt water penetration is determined by the presence of nipa palms (*Nypa fruticans*) along the shores. Nipa lives only in brackish water environment and needs salt water at least occasionally. Upstream of the upper limit of nipa, water is considered to be permanently fresh.

Nipa present along the visited stretch of Lenya River upstream until at least the confluence with its tributary Yae Nauk Chaung, about 58 river-km from the sea). Lenya village is about 53 river-km from the sea.

Results

Fish were observed and sampled at 9 sites in the Lenya drainage between 13 and 19 November 2014. We observed 54 fish species, of which 51 are figured in Appendix.

14-076 Ywar Thar Yar Chaung (stream) at Ywar Thar Yar (village), about 21 miles south of Chaung La Mu (village), about 15 miles north of Lenya (mile-stone 91.5); 17 masl; 11°41'12"N 99°03'56"E; 13 Nov 2014.

Small foothill stream in cultivated area; shade under shore vegetation, sand to mud bottom, with fallen trees and bamboos.

Aplocheilidae	*Aplocheilus panchax*
Badidae	*Badis siamensis*
Bagridae	*Batasio fluviatilis*
Balitoridae	*Homalopteroides modestus*
Channidae	*Channa gachua*
Channidae	*Channa lucius*
Cobitidae	*Lepidocephalichthys berdmorei*
Cobitidae	*Pangio* aff. *pangia*
Cyprinidae	*Brachydanio* aff. *kerri*
Cyprinidae	*Devario suvatti*
Cyprinidae	*Microrasbora kubotai*
Cyprinidae	*Osteochilus* cf. *scapularis*
Cyprinidae	*Osteochilus vittatus*
Cyprinidae	*Pethia stoliczkana*
Cyprinidae	*Rasbora paviana*
Gobiidae	*Pseudogobiopsis oligactis*
Mastacembelidae	*Mastacembelus tinwini*
Nemacheilidae	*Acanthocobitis zonalternans*
Siluridae	*Ompok siluroides*
Sisoridae	*Glyptothorax* cf. *callopterus*
Sisoridae	*Hara filamentosa*
Synbranchidae	*Monopterus javanensis*

14-077 Daw Latt Chaung (stream) in Pyi Gyi Man Dai (township), about 40 miles south of Chaung La Mu (village), 4 miles north of Lenya (mile-stone 110.5); 28 masl; 11°41'12"N 99°03'56"E; 14 Nov 2014.

Small stream in cultivated area, anout 1-2 m wide, 20-100 cm deep, bottom muddy to pebbles, water clear, at places with dense submersed vegetation, current slow.

Bagridae	*Batasio fluviatilis*
Balitoridae	*Homalopteroides modestus*
Channidae	*Channa gachua*
Channidae	*Channa lucius*
Cobitidae	*Lepidocephalichthys berdmorei*
Cyprinidae	*Barbodes* cf. *rhombeus*
Cyprinidae	*Brachydanio* aff. *kerri*
Cyprinidae	*Devario suvatti*
Cyprinidae	*Pethia stoliczkana*
Cyprinidae	*Rasbora paviana*
Mastacembelidae	*Mastacembelus tinwini*
Nemacheilidae	*Acanthocobitis zonalternans*
Siluridae	*Ompok siluroides*
Siluridae	*Pterocryptis berdmorei*
Synbranchidae	*Monopterus javanensis*

Fish Survey Locations - Lenya Drainage

Legend

- Fish Survey Location
- River
- Prop. National Park
- District Boundary
- Township capital
- Sub-township capital
- Village Tract Main Village
- Other village
- Main road
- Other road

Landcover

- Forest
- Mangrove
- Scrub, Shifting cultivation, upland agriculture
- Plantation
- Paddy fields, annual crops, bare soil
- Waterbody

Data sources:
Fish Survey locations, Mangroves from FFI, Landcover (Draft dataset) from Ecodev, Rivers from 1:50.000 Topographic Maps (Survey Department, MoAI), Admin. Boundaries, Settlements from Kinter, Hillshade derived from SRTM 1arc, NASA

Map Id: Lenya_FSL_v3

Map Scale: 1:250.000 (if printed on A4)

Grid and Projection: Geographic Coordinate System, WGS84 UTM47N

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14-078 Lan Phon Kan Chaung (stream) at Lan Phon Kan Chaung (village), about 31 miles south of Chaung La Mu (village), 25 miles north of Lenya (mile-stone 101); 11°34'46"N 99°03'11"E; 15 Nov 2014.

Medium-size stream in cultivated areas, with large trees along shore (and shade). 10-15 m wide. 30-150 cm deep. Water clear. Bottom sand to stones. Current moderate.

Aplocheilidae	*Aplocheilus panchax*
Bagridae	*Batasio fluviatilis*
Channidae	*Channa gachua*
Channidae	*Channa striata*
Cobitidae	*Lepidocephalichthys berdmorei*
Cyprinidae	*Barbodes* cf. *rhombeus*
Cyprinidae	*Laubuka siamensis*
Cyprinidae	*Osteochilus* cf. *scapularis*
Cyprinidae	*Osteochilus vittatus*
Cyprinidae	*Pethia stoliczkana*
Cyprinidae	*Rasbora paviana*
Eleotrididae	*Butis gymnopomus*
Gobiidae	*Eugnathogobius siamensis*
Gobiidae	*Pseudogobiopsis oligactis*
Nemacheilidae	*Acanthocobitis zonalternans*
Soleidae	*Brachirus orientalis*
Zenarchopteridae	*Dermogenys* aff. *collettei*

14-079 Yone Daung Chaung (stream) at Ywar Thit (village), tributary of Yae Nauk Chaung, itself tributary of Lenya River; 16 masl; 11°23'28"N 99°00'00"E; 16 Nov 2014.

Stream under tidal influence, under dense shore vegetation. Muddy bottom, water turbid.

Adrianichthyidae	*Oryzias* cf. *dancena*
Ambassidae	*Parambassis ranga*
Aplocheilidae	*Aplocheilus panchax*
Balitoridae	*Homalopteroides modestus*
Clupeidae	*Corica soborna*
Cyprinidae	*Labiobarbus leptocheila*
Cyprinidae	*Laubuka siamensis*
Cyprinidae	*Osteochilus vittatus*
Cyprinidae	*Rasbora paviana*
Cyprinidae	*Rasbora rasbora*
Eleotrididae	*Butis gymnopomus*
Gobiidae	*Eugnathogobius siamensis*
Gobiidae	*Gobiopterus chuno*
Gobiidae	*Pseudogobiopsis oligactis*
Gobiidae	*Redigobius bikolanus*
Tetraodontidae	*Dichotomyctere nigroviridis*
Zenarchopteridae	*Dermogenys* aff. *collettei*

14-080 Htin Mal Chaung (2) at foot of Htin Mal waterfall; 35 masl; 11°31'14"N 99°03'46"E; 17 Nov 2014.

Note: there are two Htin Mal Chaung in that area. Below the waterfall. Among rocks and boulders. Water clear and cool. No submersed vegetation. Area of boulders very extensive, about 50 m wide and more than 100 m long.

Balitoridae	*Homalopteroides modestus*
Channidae	*Channa gachua*
Cobitidae	*Lepidocephalichthys berdmorei*
Cyprinidae	*Barbodes* cf. *rhombeus*
Cyprinidae	*Devario suvatti*

Cyprinidae	*Osteochilus vittatus*
Cyprinidae	*Rasbora paviana*
Gobiidae	*Pseudogobiopsis oligactis*
Siluridae	*Ompok siluroides*

14-081 Htin Mal Chaung (2) at top of Htin Mal waterfall; 45 masl; 11°31'14"N 99°03'46"E; 17 Nov 2014.

Note: there are two Htin Mal Chaung in that area. At top of waterfall.

Cyprinidae	*Brachydanio* aff. *kerri*
Cyprinidae	*Neolissochilus* cf. *soroides*

14-082 Htin Mal Chaung (2) 300 m downstream of Htin Mal waterfall, upstream of Htin Mal (village); 18 masl; 11°31'08"N 99°03'44"E; 17 Nov 2014.

Note: there are two Htin Mal Chaung in that area. Stream in cultivated area, under trees. About 5 m wide, depth up to 1 m. Water clear, gravel to stone bottom, riffles, moderate current.

Bagridae	*Batasio fluviatilis*
Bagridae	*Mystus rufescens*
Channidae	*Channa gachua*
Cobitidae	*Lepidocephalichthys berdmorei*
Cyprinidae	*Barbodes* cf. *rhombeus*
Cyprinidae	*Devario suvatti*
Cyprinidae	*Osteochilus vittatus*
Cyprinidae	*Pethia stoliczkana*
Cyprinidae	*Rasbora paviana*
Mastacembelidae	*Mastacembelus tinwini*
Siluridae	*Ompok siluroides*
Siluridae	*Pterocryptis berdmorei*

14-083 Chaung Cartoon, tributary of Yae Nauk Chaung, itself tributary of Lenya River; 15 masl; 11°22'52"N 99°03'18"E; 18 Nov 2014.

Stream in forest, sampling area about 200-400 m from confluence with Yae Nauk Chaung, at and above approximative end of tidal influence. Substrate sand to stones, some accumulation of leave litter, at places with small riffles, current moderate. Width 3-5 m, depth 40 to 120 cm. Water clear.

Aplocheilidae	*Aplocheilus panchax*
Bagridae	*Batasio fluviatilis*
Balitoridae	*Homalopteroides modestus*
Channidae	*Channa gachua*
Channidae	*Channa lucius*
Cobitidae	*Pangio elongata*
Cobitidae	*Pangio* aff. *pangia*
Cyprinidae	*Barbodes* cf. *rhombeus*
Cyprinidae	*Cyclocheilichthys apogon*
Cyprinidae	*Devario suvatti*
Cyprinidae	*Garra* sp.
Cyprinidae	*Hampala macrolepidota*
Cyprinidae	*Labiobarbus leptocheila*
Cyprinidae	*Laubuka siamensis*
Cyprinidae	*Microrasbora kubotai*
Cyprinidae	*Mystacoleucus argenteus*
Cyprinidae	*Opsarius bernatziki*
Cyprinidae	*Osteochilus* cf. *scapularis*
Cyprinidae	*Osteochilus vittatus*
Cyprinidae	*Pethia stoliczkana*

Cyprinidae	*Poropuntius* sp. Lenya
Cyprinidae	*Rasbora paviana*
Cyprinidae	*Rasbora rasbora*
Eleotrididae	*Butis gymnopomus*
Gobiidae	*Glossogobius giuris*
Gobiidae	*Pseudogobiopsis oligactis*
Mastacembelidae	*Mastacembelus tinwini*
Nemacheilidae	*Acanthocobitis zonalternans*
Nemacheilidae	*Schistura udomritthiruji*
Siluridae	*Ompok siluroides*
Sisoridae	*Hara filamentosa*
Sisoridae	*Hara mesembrina*
Tetraodontidae	*Leiodon cutcutia*
Zenarchopteridae	*Dermogenys* aff. *collettei*

14-084 Chaung Maw (stream), about 6 miles southwest of Lenya village (about mile-stone 111); 19 masl; 11°25'17"N 98°03'18"E; 19 Nov 2014.

Stream or canal in oil palm plantation; more than 2 m, about 5 m wide, with dense submersed vegetation. Very few fish.

Badidae	*Badis siamensis*
Cyprinidae	*Pethia stoliczkana*
Cyprinidae	*Rasbora paviana*
Cyprinidae	*Rasbora rasbora*

NC 15-008 Number 8 Chaung near Yuzana oil palm plantation, near Lenya village; 11°27'39"N 98°55'26"E.

Badidae	*Badis siamensis*
Bagridae	*Olyra* sp.
Balitoridae	*Homalopteroides modestus*
Channidae	*Channa gachua*
Clariidae	*Clarias* sp.
Cobitidae	*Lepidocephalichthys* sp.
Cyprinidae	*Barbodes lateristriga*
	Barbodes cf. *rhombeus*
	Cyclocheilichthys apogon
	Devario suvatti
	Hampala macrolepidota
	Mystacoleucus argenteus
	Osteochilus cf. *scapularis*
	Osteochilus vittatus
	Pethia stoliczkana
	Poropuntius sp. Lenya
	Rasbora sp.
Gobiidae	*Pseudogobiopsis oligactis*
Mastacembelidae	*Mastacembelus tinwini*
Nemacheilidae	*Schistura* sp.
Sisoridae	*Hara filamentosa*
Synbranchidae	*Monopterus javanensis*

Observations

Species numbers. The survey observed 54 fish species in Lenya River drainage (Table 1). This is, however, far from the total fish fauna of the drainage. Sampling was only possible in the lower part of the drainage, in an area where the Lenya is still under tidal influence. Most of the sampling was in tributaries above tidal influence that could be reached by road. Travel to the upstream and inland areas was not possible because of the local conditions. Therefore a number of habitats could not be reached like headwaters, rapids and large waterfalls. Although we travelled on the main river until 16 km upstream of Lenya town (site 14-083) it was not possible to take samples in the main river itself. The boat operators always had 'good' excuses for not stopping at convenient sites (the water was always either too shallow or too deep, either too slow or too fast, the tide was either incoming or outgoing, etc.). Some of these 'excuses' possibly hid security issues.

As a result, only two small tributaries of the Yae Nauk Chaung (a tributary of Lenya) could be reached by boat (sites 14-079, 083). Chaung Cartoon (site 14-083) is the inland-most site that we could sample. The lower part of the stream is still under tidal influence but about 300 m from the mouth, we reached small riffles. This point, on 18 November 2014, was above tidal influence. From this point, the fish community changed almost instantly from the floodplain-coastal to the foothill communities. This is also the site with the richest diversity, with 34 species (63 % of all species observed during the survey). This is also the site where we observed the only apparently new and potentially endemic species, *Poropuntius* sp Lenya. As known from throughout Southeast Asia, the area of greatest diversity is in the foothill streams, and the greatest ratio of endemism (% drainage endemics at a given site) is near rapids and hill stream. It is only at site 14-083 that we reached close to that kind of habitats.

These travel and sampling limitations explain that species reaching large sizes or inhabiting deep water are under-represented in our sampling. Also, it was not possible to sample at night, and this is probably the explanation of the presence of only a few species of catfishes. By analogy with the much larger Tanintharyi drainage (itself undersampled too), the total fauna of the Lenya River is probably over 100 species permanently resident in the river, to which should be added a number of species occasionaly or accidentaly penetrating the lower course of the river from the sea.

New discoveries. Out of the 54 species recorded in Lenya drainage, 6 species (11 %) are here recorded for the first time from Myanmar. Most of these species were earlier known from Thailand, especially from streams and rivers draining to the Andaman Sea between Ranong and Trang.

The survey also obtained 5 species new or potentially new to science. One species is a new discovery made by the survey (*Poropuntius* sp. Lenya), one had just been discovered a few months earlier by the 2014 Tanintharyi survey (*Dermogenys* aff. *collettei*), and threee were already known but are not yet named, all also already collected by the Tanintharyi survey (*Brachydanio* aff. *kerri*, *Pangio* aff. *pangia*, *Garra* sp.).

A single of the 54 species is known only from the Lenya drainage (*Poropuntius* sp. Lenya). It is premature to say that it is endemic to the drainage, since not enough information is available for the adjacent drainages.

Zoogeography. From the zoogeography point of view, the Lenya drainage, similarly to the Tanintharyi drainage, is interesting because it has a mixed fauna. Central and northern Myanmar have a fauna made of genera and species largely shared with India and which has been called 'Indo-Burmese' fauna. This 'Indo-Burmese' fauna extends eastwards to the Salween River drainage. Further east, the rivers are inhabited by a very different fish fauna that has been called 'Indochinese' fauna. It includes the Mekong and Chao Phraya drainages. Most of the southern Malay Peninsula, Sumatra, Java and Borneo is inhabited by a 'Sundaic' fauna.

In the central Malay Peninsula, especially on the west slope (Andaman Sea side), the number of Sundaic species diminishes when going northwards and the number of Indo-Burmese species diminishes when going southwards. Among the fish species known from Lenya drainage 16 (30 %) clearly belong to the Indo-Burmese fauna and for 6 (11 %) the Lenya River is the southern limit of their distribution range (*Parambassis ranga*, *Mystus rufescens*, *Pangio elongata*, *Mystacoleucus argenteus*, *Rasbora rasbora*, *Hara filamentosa*). On the other hand, 25 (46 %) species belong to the

Sundaic fauna, and for 3 (6%) the Lenya River is the northern limit of their distribution range (*Neolissochilus* cf. *soroides*, *Glyptothorax* cf. *callopterus*, *Hara mesembrina*). The remaining species are widely distributed in both Indo-Burmese and Sundaic faunae, or are costal or estuarine species entering and follow a different zoogeographic pattern.

For comparison, the proportion of Indo-Burmese elements is lower in the Lenya than in the Tanintharyi (30 % vs. 41) and the proportion of Sundaic elements is higher (46 % vs. 33).

Areas of conservation importance. As discussed above, only one species potentially endemic to the Lenya has been observed, at the inland-most site that could be collected. In terms of endemic species or species with restricted distribution or restricted habitats, the upper and middle parts of the Lenya drainage are expected to have a greater importance than the lower part. A parallel can be done with the recent survey of Tanintharyi River drainage (Kottelat, 2015), where most of the new discoveries were from rapids and other habitats with fast waters. Throughout Southeast Asia, the fish species from rapids and headwaters tend to have relatively small ranges and therefore are more likely to be endemic to a single drainage or part of drainage.

Future surveys should target the upper and middle stretches of Lenya main river, its foothill tributaries and their headwaters. Since there are simply no data from this area, all habitats still need sampling, but rapids and small to medium streams in forest should be given particular attention as they are likely to be the habitat of most endemics and species awaiting discovery. Even the lower part of the Lenya still requires extensive sampling. The eastern part of the Lenya drainage is in a karstic landscape and deserves a special attention, with the possible presence of cave species.

Table 1. Fish species recorded in Lenya River drainage. **I-B:** part of 'Indo-Burmese' fauna; **Sunda:** part of Sundaic fauna; **estu:** species typically known from estuaries, tidal areas, mangroves, etc.; **n.rec.:** new records for Myanmar; **n.sp.:** potential 'new species' (without formal name); **end:** apparently endemic to Lenya drainage.

Notes. Placement in **I-B** or **Sunda** categories refers to distribution of the species, not of the genus or the family; species widely distributed in **I-B** *and* **Sunda** areas are not attributed to a category. Endemic species are placed in a category depending of the area where their most closely related species occur. New records (for Myanmar) do not includes species previously known under a different name (misidentified). Category **n.sp.** includes species discovered by the survey as well as unnamed species already known from outside Lenya drainage (mainly Thailand).

	I-B	Sunda	estu	n.rec.	n.sp.	end
Adrianichthyidae						
Oryzias cf. *dancena*	+					
Ambassidae						
Parambassis ranga	+					
Aplocheilidae						
Aplocheilus panchax						
Badidae						
Badis siamensis		+				
Bagridae						
Batasio fluviatilis		+				
Mystus rufescens	+					
Olyra sp.	+					
Balitoridae						
Homalopteroides modestus	+					
Channidae						
Channa gachua						
Channa lucius		+				
Channa striata		+				
Clariidae						
Clarias sp.						
Clupeidae						
Corica soborna			+			
Cobitidae						
Lepidocephalichthys berdmorei	+					
Pangio aff. *pangia*		+			+	
Pangio elongata	+					

Table 1. (continued)

	I-B	Sunda	estu	n.rec.	n.sp.	end
Cyprinidae						
Barbodes lateristriga		+		+		
Barbodes cf. *rhombeus*		+				
Brachydanio aff. *kerri*		+			+	
Cyclocheilichthys apogon		+				
Devario suvatti		+				
Garra sp.		+			+	
Hampala macrolepidota		+			+	
Labiobarbus leptocheila		+				
Laubuka siamensis		+				
Microrasbora kubotai	+			+		
Mystacoleucus argenteus	+					
Neolissochilus cf. *soroides*		+		+		
Opsarius bernatziki		+				
Osteochilus cf. *scapularis*		+				
Osteochilus vittatus		+				
Pethia stoliczkana	+					
Poropuntius sp. Lenya	+			+	+	+
Rasbora paviana		+				
Rasbora rasbora	+					
Eleotrididae						
Butis gymnopomus			+			
Gobiidae						
Eugnathogobius siamensis		+				
Glossogobius giuris			+			
Gobiopterus chuno			+			
Pseudogobiopsis oligactis		+				
Redigobius bikolanus			+			
Mastacembelidae						
Mastacembelus tinwini	+					
Nemacheilidae						
Acanthocobitis zonalternans	+					
Schistura udomritthiruji		+				
Siluridae						
Ompok siluroides		+				
Pterocryptis berdmorei	+					

Table 1. (continued)

		I-B	Sunda	estu	n.rec.	n.sp.	end
Sisoridae							
Glyptothorax cf. *callopterus*			+		+		
Hara filamentosa		+					
Hara mesembrina			+		+		
Soleidae							
Brachirus orientalis				+			
Synbranchidae							
Monopterus javanensis							
Tetraodontidae							
Dichotomyctere nigroviridis				+			
Leiodon cutcutia		+					
Zenarchopteridae							
Dermogenys aff. *collettei*			+			+	
Total	**54**	**17**	**26**	**7**	**6**	**5**	**1**

Comments on selected species

Family Badidae

Badis siamensis
Was recorded for the first time for Myanmar by the 2014 Tenassserim survey. Known from Thailand, in streams draining to the Andaman Sea between Ranong and Phangnga.

Family Cobitidae

Pangio* aff. *pangia
An unnamed species already known since a few years from Thailand and already obtained for the first time in Myanmar by the Tanintharyi survey of May 2014. Presently studied by another researcher. Known from Thailand, in streams draining to the Andaman Sea between Ranong and Phangnga.

Family Cyprinidae

Barbodes lateristriga
Widely distributed in Southeast Asia. Apparently first record for Myanmar.

Barbodes* cf. *rhombeus
Widely distributed in Mekong, Chao Phraya and Mae Khlong drainages and in northern Malay Peninsula. Several species might be confused under this name. Was recorded for the first time for Myanmar by the 2014 Tenassserim survey.

Brachydanio* aff. *kerri
An unnamed species already known since a few years through the aquarium-fish trade. Presently studied by another researcher.

***Garra* sp.**
Juvenile, apparently same species as obtained by the 2014 Tanintharyi survey. An unnamed species already known from Thailand, in streams draining to the Andaman Sea between Ranong and Phangnga. Was recorded for the first time for Myanmar by the 2014 Tenassserim survey.

Laubuka siamensis
Was recorded for the first time for Myanmar by the 2014 Tenassserim survey. Widely distributed in Mekong and Chao Phraya drainages, and in Malay Peninsula southwards at least until Tapi drainage and Trang.

Microrasbora kubotai
Apparently first report for Myanmar, but the species was already known to occur in Myanmar through exports from Ataran drainage for the aquarium-fish trade through Thailand (pers. obs.). The species is known from Thailand, in streams draining to the Andaman Sea between Ranong and Phangnga. There is also an introduced population in upper Mae Khlong, that originated by accidental or intentional release of fishes of the Ataran population.

Neolissochilus* cf. *soroides
Apparently first report for Myanmar. The species is known from the Malay Peninsula in Thailand and Malaysia. The taxonomy of the genus *Neolissohilus* is still very confused and a better identification is not possible at the moment.

Opsarius bernatziki
Was recorded for the first time for Myanmar by the 2014 Tenassserim survey. Known from Thailand, in streams draining to the Andaman Sea between Ranong and Phangnga.

Osteochilus* cf. *specularis
Was recorded for the first time for Myanmar by the 2014 Tenassserim survey. The species was originally described from Trang, Thailand. It is known from the Malay Peninsula, Sumatra and Borneo.

***Poropuntius* sp. Lenya**
Apparently a new species discovered by the 2014 survey.

Rasbora paviana
Was recorded for the first time for Myanmar by the 2014 Tenassserim survey. Widely distributed and common in Chao Phraya and Mekong drainages and in the Malay Peninsula, southwards to Kelantan (Malaysia) on the eastern slope and to Perlis (Malaysia) on the western slope (Kottelat, 2005).

Family Gobiidae

Eugnathogobius siamensis
Was recorded for the first time for Myanmar by the 2014 Tenassserim survey.

Pseudogobiopsis oligactis
Was recorded for the first time for Myanmar by the 2014 Tenassserim survey.

Family Nemacheilidae

Acanthocobitis zonalternans
Morphological variation suggests that more than one species are confused under this name (Kottelat, 1990, 2012, pers. obs.). It is recorded from Manipur (India) southwards to Trang (Thailand) and Langkawi Islands (Malaysia).

Schistura udomritthiruji
Was recorded for the first time for Myanmar by the 2014 Tenassserim survey. Known from Thailand, in streams draining to the Andaman Sea between Ranong and Phangnga.

Family Sisoridae

Glyptothorax* cf. *callopterus
Apparently first record for Myanmar. It is known from the whole Malay Peninsula, southeastern Thailand and Sumatra. The species has been known as *G. major* (an erroneous identification). While most species of *Glyptothorax* live on a stone or rock bottom in fast flowing rivers, *G. callopterus* is known from forest streams with sand, gravel and leave-litter bottom where it is usually found in flooded trees and vegetation.

Hara mesembrina
First record for Myanmar. *Hara filamentosa* was obtained at same locality. Known from Thailand, in streams draining to the Andaman Sea between Ranong and Phangnga.

Family Synbranchidae

Monopterus javanensis
Earlier called *M. albus*, but differences in genetics and in mode of reproduction show that several species were confused under this name (Matsumoto et al., 2010). The earliest name for the Southeast Asian populations is *M. javanensis* (Kottelat, 2013; but here too, several species might be involved). *Monopterus albus* is restricted to northeasten Asia. More work is needed to clear the identity of the Myanmar populations. The total absence of scales excludes an identification as *M. cuchia*, another species reported from Myanmar.

Family Zenarchopteridae

Dermogenys* aff. *collettei
Apparently an unnamed species first discovered by the Taninthary survey of May 2014 (Kottelat, 2015).

Acknowledgements

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Matsumoto, S., T. Kon, M. Yamaguchi, H. Takeshima, Y. Yamazaki, T. Mukai, K. Kuriiwa, M. Kohda & M. Nishida. 2010. Cryptic diversification of the sweamp eel *Monopterus albus* in East and Southeast Asia, with special reference to Ryukyuan populations. *Ichthyological Research*, 57 (1): 71–77.

Fishes observed in Lenya River in November 2014

For several species, only juveniles were observed and could not be photographed. For completeness, photographs of individuals of these species from Tanintharyi drainage are included.

Clupeidae

Corica soborna (a specimen from Tanintharyi drainage)

Cyprinidae

Barbodes cf. *rhombeus*

Brachydanio aff. *kerri*

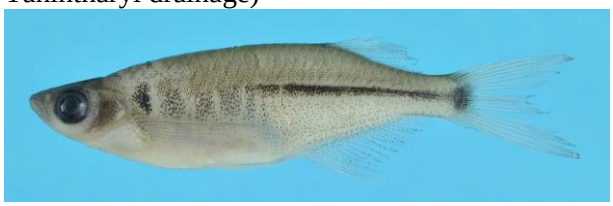
Cyclocheilichthys apogon (a specimen from Tanintharyi drainage)

Devario suvatti

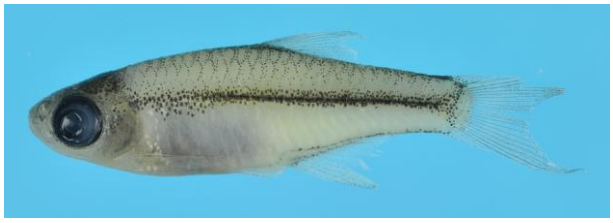
Garra sp. n. Tanintharyi

Hampala macrolepidota (a specimen from Tanintharyi drainage)

Labiobarbus leptocheila (a specimen from Tanintharyi drainage)



Laubuka siamensis



Microrasbora kubotai

Mystacoleucus argenteus

Neolissochilus cf. *soroides*

Opsarius bernatziki

Osteochilus vittatus

Osteochilus cf. *scapularis*

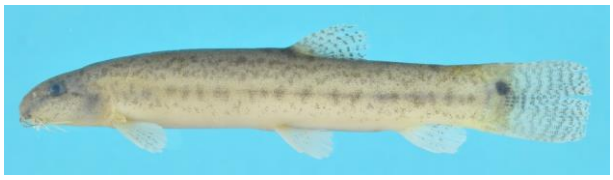
Pethia stoliczkana

Poropuntius sp. Lenya

Rasbora paviana

Rasbora rasbora

Cobitidae



Lepidocephalichthys berdmorei

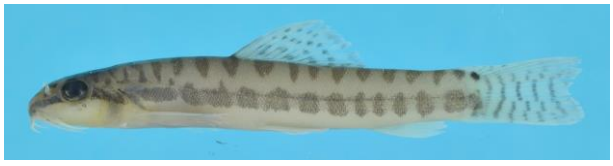
Pangio elongata

Pangio aff. *pangia*

Balitoridae

Homalopteroides modestus

Nemacheilidae



Acanthocobitis zonalternans

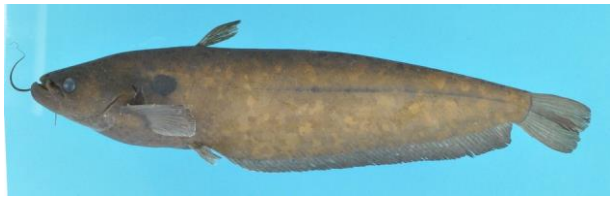
Schistura udomritthiruji

Bagridae

Batasio fluviatilis

Mystus rufescens

Siluridae



Ompok siluroides

Pterocryptis berdmorei

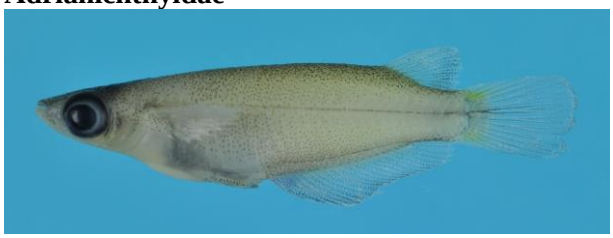
Sisoridae

Glyptothorax cf. *callopterus*

Hara filamentosa

Hara mesembrina

Adrianichthyidae



Oryzias cf. *dancena* (a specimen from Tanintharyi drainage)

Aplocheilidae

Aplocheilus panchax

Zenarchopteridae

Dermogenys aff. *collettei*

Synbranchidae

Monopterus javanensis (a specimen from Tanintharyi drainage)

Mastacembelidae

Mastacembelus tinwini (a specimen from Tanintharyi drainage)

Ambassidae

Parambassis ranga (a specimen from Tanintharyi drainage)

Badidae

Badis siamensis

Eleotrididae

Butis gymnopomus

Gobiidae

Eugnathogobius siamensis (a specimen from Tanintharyi drainage)

Glossogobius giuris (a specimen from Tanintharyi drainage)

Gobiopterus chuno

Pseudogobiopsis oligactis

Redigobius bikolanus

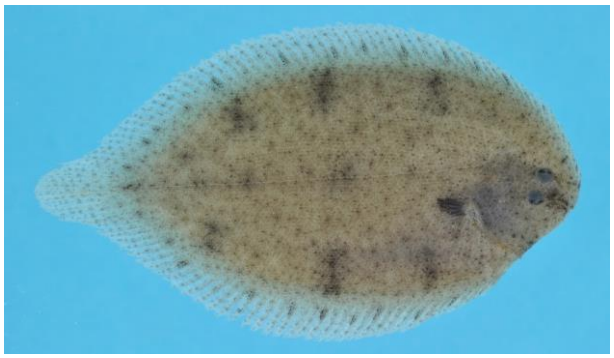
Channidae

Channa gachua

Channa lucius

Channa striata (a specimen from Tanintharyi drainage)

Soleidae



Brachirus siamensis (a specimen from Tanintharyi drainage)

Tetraodontidae

Dichotomyctere nigroviridis

Leiodon cutcutia (specimens from Tanintharyi drainage)