

FISH FAUNA OF WAY SEKAMPUNG WATERSHED WITH SOME NOTES ON NEW RECORDS FOR SUMATRA

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Ichthyofauna survey was done by using cashnet of 1.5 cm mesh size, push net of 3 mm mesh size, Bamboo. V-trap and bamboo basket trap at Way Sekampung watershed Lampung, Sumatra Island from the river mouth from June to November 1975. Way Sekampung is one of the five major rivers in Lampung province running from Bukit Barisan high land end in Java sea about 220 km on the east coast of Sumatra. The specimens were firstly preserved in 57% paraformaldehyde before to be transferred into 70% ethanol for permanent preservation in scientific collection – Museum Zoologicum Bogoriense (Division of Zoology, The Research and Development Centre for Biology, LIPI). Identification was based on Weber and Beaufort (1911-1940), Beaufort and Chapman (1951), Kouman (1953). Baeufort and Briggs (1962) and Kottelat *et al.* (1993).

The survey area was divided into three different stations (biotops) :

- Station I : The estuarine area and the mangrove forest at the surrounding of the river mouth ;
- Station II : The lower course of the river where the bottom of river is muddy but slightly sandy;
- Station III : The middle course of the river, where the bottom of river is sandy but slightly muddy and some parts are gravelly.

Table 1 shows the results of the survey, but limited to those which have been completely identified.

A total of 158 species belonging to 50 families were recorded including 80 species of the marine and estuarine origin. However, 23 species were still not completely identified and need further clarification. This report only deals with those which have been completely identified (135 species). The remaining will be reported separately. The number of species and the species composition were different between stations (Table 1). Station I has the highest number of species (82), followed respectively by 15 species limited from Station II and 29 species from Station III. Some other species were found to be overlapped between two or the three stations. However, according to local fisherman *Clarias batrachus* seems to be the one that was likely found from St.I up to St.III and the upper biotop. The absence of this species from St. II was likely just a matter of sampling failure.

The highest number of species from St.I was due to the many species of estuarine origin or resident species in the estuary plus some species of marine origin which entered the estuarine during the high tide and the freshwater species which entered the estuarine area during the low tide. The marine species are commonly entering the mangrove area especially for feeding, because most specimens caught at St I during the falling tides were found with full or relatively full stomach. These facts indicate that the mangrove forest or estuarine ecosystem is very important for fisheries and biodiversity conservation. Some species such as *Rasbora lateristriata*, *Puntius binotatus*, *Crossocheilus oblongus.*, *Tor spp.*, *Acrochordonichthys rugosus* and *Glyptothorax spp* were found at gravelly, sandy and torrential habitat which were also found at station III. So, their distribution at Sekampung watershed may possibly until its upper course of the river.

Among the existing species, *Lebistes reticulatus*, *Trichogaster pectoralis* and *Oreochromis mossambicus* were the introduced ones from other countries many years ago. *O. mossambicus* was originally from Africa, *T. pectoralis* from Thailand *L. reticulatus* from Venezuela.

At family level Cyprinidae has the biggest members of species in the area (27 sp.) and found in each Station, followed by Gobiidae and Eleotrididae, Belontiidae and Leiolethichthidae.

During the study, *Scleropages formosus* was still relatively easy to be caught because this species had not been protected and most fisheries activities by local fishermen were not destructive. At present this species has become very rare due to illegal caught after its protected status was declared. It becomes expensive ornamental fish for export, but limited only those resulted from captive breeding because it has been listed on Appendix I of CITES.

It is possible that the total number of species can be higher than 158, if the survey can be continued to the upper reach of the river. Several species on Table 1 are considered economically important by local people or fishermen. (see numbers in bracket).

Table 1. List of fish species of Way, Sekampung watershed, recorded from three Stations.

No	Family and Species	St. I	St. II	St. III
Cyprinidae				
1	<i>Parachela oxygastroides</i> (Blkr)	+	+	
2	<i>P. hypophthalmus</i> (Blkr)			+
3	<i>Oxygaster anomalura</i> (C.&V.)	+		
4	<i>Cyclocheilichthys apogon</i> (C.&V.)		+	+
5	<i>C. heteronema</i> (Blkr)		+	
(6)*	<i>Osteochilus hasselti</i> (Val.)		+	+
7	<i>O. melanopleurus</i> (Blkr.)	+		
8	<i>O. brachynotopterus</i> (Blkr.)		+	+
9	<i>Rasbora einthoveni</i> (Blkr.)		+	
10	<i>R. tornieri</i> (Blkr.)		+	
11	<i>R. argyrotaenia</i> (Blkr.)	+	+	
12	<i>R. jacobsoni</i> W&B	+		
13	<i>R. cephalotaenia</i> (Blkr.)	+	+	
14*	<i>R. lateristriata</i> v. Hass.			+
15	<i>R. elegans</i> (Volz)			+
16	<i>Hampala macrolepidota</i> (C.&V.)	+	+	
17	<i>Dangila sumatrana</i> Blkr.	+	+	+

18	<i>Puntius binotatus</i> (C.&V.)		+
19	<i>P. bramoides</i> (C.&V.)		+
20*	<i>P. lateristriga</i> (C.&V.)		+
21	<i>P. tetrazona</i> (Fowler)		+
22	<i>Crossocheilus oblongus</i> Kuhl & v. Hass		+
23	<i>Mystacoleucus marginatus</i> (Val.)		+
(24)	<i>Tor tambra</i> (C.&V.)		+
(25)	<i>Tor douronensis</i> (C.&V.)		+
26	<i>Lobocheilos falcifer</i> (C.&V.)		+
27	<i>L. schwanefeldi</i> (Blkr.)		+

Clariidae

(28)	<i>Clarias batrachus</i> (L)	+	+
29	<i>C. nieuhoi</i> (L)	+	

Bagridae

(30)	<i>Mystus gulio</i> H.B.	+	
(31)*	<i>M. nigriceps</i> (C.&V.)		+
32	<i>M. wolffi</i> (Blkr.)	+	
(33)*	<i>M. sengaringan</i> (Val.)		+
(34)	<i>Hemibagrus nemurus</i> (Val.)		+
(35)*	<i>H. planiceps</i> (C.&V.)	+	

Ariidae

(36)	<i>Arius maculatus</i> (Thumb.)	+	
(37)	<i>A. caelatus</i> C.&V.	+	
38	<i>A. truncatus</i>	+	
39	<i>A. microcephalus</i> (Blkr.)	+	
40	<i>Osteogeneiosus militaris</i> (L)		+

Siluridae

41	<i>Ompok bimaculatus</i> Blkr.		+
42	<i>Kryptopterus</i>		+

Sisoridae

43	<i>Glyptothorax major</i> (Blgr)		+
44	<i>Glyptothorax platypogonoides</i>		+

Akysidae

45	<i>Acrochordonichthys rugosus</i> (Blkr.)		+
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Plotosidae

46	<i>Plotosus canius</i> (Ham.&Buch.)		+
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Polynemidae

- 47 *Eleuteronema tetradactylum* (Shaw)
- 48 *E. tridactylum* (Blkr.)
- 49 *Polydactylus plebejus* Brauss.

Gobiidae

- 50 *Hypogymnogobius xanthosona* (Blkr.)
- 51 *Periophthalmus chrysospilos* Blkr.
- 52 *P. schlosseri* (Pall.)
- 53 *Glossogobius giurus* (Ham.&Buch.)
- 54 *Acentrogobius cyanomos* (Blkr.)
- 55 *Oxyurichthys microlepis* (Blkr.)
- 56** *Parapocryptes macrolepis* (Blkr.)
- 57** *Pseudapocryptes lanceolatus* (Bl.&Schn)

Gobioididae

- 58 *Taenioides cirratus* Blith.
- 59 *Brachyamblyopus brachysoma* (Blkr.)

Eleotrididae

- 60 *Butis butis* (Ham.&Buch.)
- 61 *B. humeralis* (Blkr.)
- 62 *Butis amboinensis* (Blkr.)
- 63 *Ophiocara porocephala* (C.&V.)
- 64 *Oxyeleotris urophthalmus* (Blkr.)
- 65 *Eleotris melanosoma* Blkr.

Cynoglossidae

- 66 *Cynoglossus cynoglossus* (Ham.&Buch.)
- 67 *C. puncticeps* (Rich.)

Soleidae

- 68 *Achiroides leucorhynchus* (W.&B.)
- 69 *A. melanorhynchus* (Blkr.)

Belontiidae

- (70)* *Trichogaster trichopterus* (Pall.)
- 71 *T. pectoralis*
- 72 *Trichopsis vittata* (C.&V.)
- 73 *Betta picta* (C.&V.)
- 74** *B. unimaculata* (Popta)
- 75 *Belontia hasselti* (Cuvier.)

Aplocheilidae

- 76 *Aplocheilus panchax* (Ham.)

	Mugillidae		
(77)	<i>Mugil dussumieri</i> C.&V.	+	
78	<i>M. engeli</i> Blkr.	+	
	Megalopidae		
79	<i>Megalops cyprinoides</i> (Brouss.)	+	
	Hemiramphidae		
80	<i>Dermogenys pussila</i> v.Hass.	+	+
81	<i>D. sumatrana</i> (Blkr.)		+
82	<i>Hemiramphus melanurus</i> C.&V.	+	
83	<i>Hemirhamphodon pogonochnathus</i> (Blkr.)		+
	Sciaenidae		
84	<i>Johnius trachicephalus</i> Blkr.	+	
85	<i>J. belengerii</i> (C.&V.)	+	
86	<i>Nibea soldado</i> (Lac.)	+	
	Balitoridae		
87	<i>Homaloptera wassinki</i> Blkr.		+
88	<i>H. ocellata</i> (C.&V.)		+
	Centropomidae		
89	<i>Lates calcarifer</i> (Bloch)	+	+
	Chandidae		
90	<i>Ambassis commersoni</i> C.&V.	+	
91	<i>A. gymnocephalus</i> (Lac.)	+	
	Tetraodontidae		
92	<i>Tetraodont nigroviridis</i> (Ham.)	+	
93	<i>Arothron reticularis</i> (Bl.&Schn.)	+	
94	<i>Takifugu oblongus</i> (Bl.)	+	
95	<i>Chelonodon patoca</i> Ham & Buch.	+	
	Scatophagidae		
96	<i>Scatophagus argus</i> (Bl.)	+	
	Ophichthidae		
97	<i>Pisodonophis boro</i> (Ham.)	+	
98	<i>Muraenichthys gymnopterus</i> (Blkr.)	+	
	Leiognathidae		
99	<i>Leiognathus dussumieri</i> (C.&V.)	+	
100*	<i>L. equulus</i> (Forsk.)	+	

101**	<i>L. blochi</i> (C.&V.)		+	
102**	<i>L. elongatus</i> Gthr.		+	
103**	<i>Secutor insidiator</i> (Bl.)		+	
Anguillidae				
104	<i>Anguilla bicolor</i> Gthr.		+	
Cobitidae				
105	<i>Lepidocephalichthys hasselti</i> (Val.)	+	+	
106	<i>Acantopsis choirrhynchus</i> (Blkr.)		+	+
107	<i>Nemacheilus fasciatus</i> (C.&V.)			+
Synbranchidae				
108	<i>Monopterus albus</i> Zuiew.		+	
Haemulidae				
109	<i>Pomadasys argenteus</i> (Bl.)		+	
Neenchelidae				
110**	<i>Neenchelys buitendijki</i> (W.&B.)		+	
Apogonidae				
111	<i>Apogon hyalosoma</i> Blkr.		+	
Clupeidae				
112**	<i>Clupeoides lile</i> (C.&V.)		+	
Engraulidae				
(113)	<i>Stolephorus commersoni</i> Lac		+	
114	<i>S. tri</i> (Blkr.)		+	
115	<i>Thryssa kamalensis</i> (Blkr.)		+	
Syngnathidae				
116	<i>Microphis brachiurus</i> (Blkr.)		+	
117	<i>Doryichthys boaja</i> (Blkr.)		+	
Helostomatidae				
(118)*	<i>Helostoma temminckii</i> Cuvier.		+	
Osteoglossidae				
(119)	<i>Scleropages formosus</i> (Mull & Schleg.)		+	
Nandidae				
120	<i>Nandus nebulosus</i> (Gray)			+

	Channidae +	
(121)	<i>Channa striata</i> (Bl.)	+
(122)	<i>C. lucius</i> (Kuhl & v. Hass.)	+
	Anabantidae	
(123)*	<i>Anabas testudineus</i> (Bl.)	+
	Poeciliidae	
124	<i>Lebistes reticulatus</i> Peters.	+
	Cichlidae	
(125)	<i>Oreochromis mossambicus</i> (Peters)	+
	Mastecembelidae	
126	<i>Macrogathus maculatus</i> Cuvier.	+
127	<i>Mastacembelus erythrotaenia</i> Blkr.	+
128	<i>M. unicolor</i> (C.&V.)	+
	Batrachididae	
129	<i>Batrachthys grunniens</i> Day.	+
	Lutjanidae	
130	<i>Lutjanus argentimaculatus</i> (Forsk.)	+
131	<i>L. ehrenbergi</i> (Peters)	+
	Osphronemidae	
(132)	<i>Osphronemus gorami</i> Lac.	+
	Notopteridae	
133	<i>Chitala lopsis</i> (Ham.)	+
	Carangidae	
134	<i>Caranx sexfasciatus</i> Q.G.	+
	Sphyraenidae	
135*	<i>Sphyraena obtusata</i> C.&V.	+

Notes : * + indicating the species has ever been recorded from Lampung.
 ** indicating new record species for Sumatra.
 () economically important species.

From the above species list only 12 species (less than 10%) have ever been recorded from Lampung. Eight species are new records for Sumatra as seen below:

- ❖ *Parapocryptes macrolepis* (Blkr.). Earlier report it was recorded from P. Weh, Singapore, Java, Borneo, Ceylon, Canton and Andaman (Koumans, 1953).
- ❖ *Pseudapocryptes lanceolatus* Bl. & Schn. Earlier records of this species was found along the mudflat from east coast of India to Vietnam, Java and Borneo. (Koumans, 1953; Kottelat *et al.*, 1993).
- ❖ *Betta unimaculata* Popta. Earlier records of this species were only from Borneo (W. & B. 1922, Inger & Chin 1962, Kottelat *et al.*, 1993).
- ❖ *Leiognathus blochii*. (C. & V). This new record is really not so surprise because this estuarine and marine species had been recorded from India, Philippines and Borneo (W. & B. 1931, Jones 1985, Kottelat *et al.*, 1993).
- ❖ *Leiognathus elongatus* Gthr. Earlier record was only from Nias island (W & B. 1931).
- ❖ *Secutor insidiator* (Bl). The earlier records of this species were reported from Java, South Africa, India and Australia (W. & B. 1931, Kottelat *et al.*, 1993).
- ❖ *Neenchelys buitendijki* W & B. The earlier report was only based on one specimen from Ambon and one specimen from Jakarta bay in 1915 (W. & B. 1916). This is a rare species of the single genus of this family, Neenchelidae.
- ❖ *Clupeoides lile* (C. & V.). The earlier records were from Pinang, Singapore and Bangkok (W. & B. 1913).

The recent name of some species:

Some of the above listed species as seen below are the recent or valid name used in Kottelat *et al* (1993) and Kottelat and Whitten (1996):

- ❖ *Parachela oxygastroides* (Blkr) for *Chela oxygastroides* (Blkr).
- ❖ *Parachela hypophthalmus* (Blkr) for *Chela hypophthalmus* (Blkr).
- ❖ *Oxygaster anomalura* v. Hass for *Chela oxygaster* (C.&V.)
- ❖ *Rasbora argyrotaenia* (Blkr.) for *R. vaillanti* Popta.
- ❖ *Crossocheilus oblongus* Kuhl & v. Hass. for *Epalzeorhynchus siamensis* H.M.Smith.
- ❖ *Mystus nigriceps* Val. for *Mystus micracanthus* (Blkr).
- ❖ *Mystus sengaringan* (C.&V.) for *Mystus nigriceps* (C.&V.).
- ❖ *Hemibagrurus nemurus* (Val.) for *Mystus nemurus* (C.&V.).
- ❖ *Hemibagrurus planiceps* (C.&V.) for *Mystus planiceps* (C.&V.).
- ❖ *Polydactylus plebejus* (Brauss.) for *Polynemus plebejus* (Brauss.)
- ❖ *Hypogymnogobius xanthozona* (Blkr) for *Brachygobius xanthozona* (Blkr.).
- ❖ *Parapocryptes macrolepis* (Blkr.) for *Pseudapocryptes macrolepis* (Blkr.).
- ❖ *Butis humeralis* (Blkr) for *Butis melanostigma* (Blkr.).
- ❖ *Trichopsis vittata* (C.&V.) for *Trichogaster vittatus* (C. & V.)
- ❖ *Belontia hasselti* (C.& V.) for *Polyacanthus hasselti* (C.&V.).
- ❖ *Nibeia soldado* (Lac.) for *Pseudoscidena soldado* (Lac.)
- ❖ *Homaloptera ocellata* (C.V.) for *Homaloptera erythrorhina* (C.&V.).
- ❖ *Tetraodont nigroviridis* (Ham.) for *Tetraodont fluviatilis* (Ham.)
- ❖ *Arothron reticularis* (Bl. & Schn.) for *Tetraodont reticularis* (Bl.&Schn.).
- ❖ *Takifugu oblongus* (Bl.) for *Sphaeroides oblongus* (Bl.)
- ❖ *Secutor insidiator* (Bl.) for *Leiognathus insidiator* (Bl.)
- ❖ *Anguilla bicolor* Gthr. for *Angilla aurtralis* Rich and *A.spengeli* v. Hass.
- ❖ *Lepidocephalichthys hasselti* (C.&V.) for *Lepidocephalus hasselti* (C.&V.).
- ❖ *Pomadasys argenteus* (Bl.) for *Pomadasys hasta* (Bl.).
- ❖ *Doryichthys boaja* (Blkr.) for *Microphis boaja* (Blkr.).
- ❖ *Botrichthys grunniens* (Day) for *Halophryne gangene* (Ham.).