

**Taxonomic Study on
Nemacheiline Loaches
of North East India**

DIMOS KHYNRIAM and NIBEDITA SEN





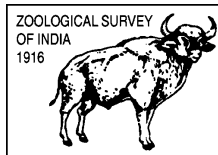
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**TAXONOMIC STUDY ON NEMACHEILINE
LOACHES OF NORTH EAST INDIA**

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358

2014

Page 1-37

CONTENTS

1. INTRODUCTION	1
2. KEY TO GENERA	3
3. SYSTEMATIC LIST	3
4. SUMMARY	30
5. ACKNOWLEDGEMENTS	31
6. REFERENCES	31
7. PLATES	35-37

INTRODUCTION

Nemacheiline loaches are small size benthic freshwater fishes inhabiting swift, clear and well oxygenated water bodies and belongs to the family *Nemacheilidae*. The classification and inter-relationships of loaches in the family's *Cobitidae* and *Balitoridae* has been a subject of debate by many workers. Regan (1911) was the first investigator to treat these fishes as a separate group and established the family *Cobitidae* comprising of two subfamilies—*Cobitinae* and *Nemacheilinae* on the basis of osteology. Berg (1940) divided Regan's subfamily *Cobitinae* into *Cobitinae* and *Botiinae*. Nalbant (1963) proposed that the family *Cobitidae* is composed of three subfamilies—*Nemacheilinae*, *Cobitinae* and *Botiinae*. Sawada (1982) adopted the family name *Homalopteridae* and combined Hora's *Homalopteridae* and *Gastromyzonidae* into the rank of subfamily *Homalopterinae*. He further considered *Nemacheilinae* to be phylogenetically closer to *Homalopteridae* than to *Cobitidae* and accordingly transferred *Nemacheilinae* to *Homalopteridae*. This opinion has been supported by Menon (1987) and adopted this system of classification in his studies of the mountain loaches of India and its adjacent countries. Kottelat (1988) showed that the correct name for the family *Homalopteridae* is *Balitoridae*, a change that has been widely accepted. Kottelat (2012) reviewed the taxonomy and nomenclature of the fishes of the superfamily *Cobitoidea* and raised the rank of *Nemacheilinae* to the family-level *Nemacheilidae* and separated it from *Balitoridae*. The family *Nemacheilidae* is comprised of 46 genera and the family *Balitoridae* is comprised of 14 genera.

Much of our knowledge on the species of *Nemacheilines* were contributed by the pioneering work of Hamilton (1822); McClelland (1838); Gunther (1868); Day (1878); Chaudhuri (1910); Annandale (1919); Hora (1935); Ramaswamy (1953); Banarescu and Nalbant (1968) and Menon (1987). The morphological classification of Nemacheiline loaches by Prokofiev (2009; 2010) and its recent revision by Kottelat (1990; 2012), further enriched our understanding of the group *Nemacheilidae*.

The checklist of Indian native freshwater fishes by Rema Devi and Indra (2009) listed 667 species grouped under 12 orders, 35 families and 149 genera, including 91 species under 11 genera of the subfamily *Nemacheilinae*. As per current online <http://www.fishbase.org>, version (04/2013), the Indian *Nemacheilidae* is comprised of 96 species under 12 genera: *Aborichthys* (5 spp.), *Acanthocobitis* (4 spp.), *Idoreonectes* (1 sp.), *Longischistura* (1 sp.), *Mesonoemacheilus* (3 spp.), *Nemacheilus* (28 spp.), *Nemachilichthys* (1 sp.), *Neonoemacheilus*

(4 spp.), *Paraschistura* (2 spp.), *Physoschistura* (3 spp.), *Schistura* (34 spp.) and *Triplophysa* (10 spp.). Recent publications have added one more species of *Aborichthys* (*Aborichthys waikhomi* Kosygin, 2012), three more species of *Physoschistura* (*Physoschistura chindwinensis* Lokeshwor and Vishwanath, 2012a, *Physoschistura dikrongensis* Lokeshwor and Vishwanath, 2012b and *Physoschistura tigrinum* Lokeshwor and Vishwanath, 2012c) and four more species of *Schistura* (*Schistura aizawlensis* Lalramliana, 2012, *Schistura obliquofascia* Lokeshwor *et al.*, 2012a, *Schistura koladynensis* Lokeshwor and Vishwanath, 2012d and *Schistura porocephala* Lokeshwor and Vishwanath, 2013) to the Indian *Nemacheilidae*.

Information on the distribution of *Nemacheiline* species in different states of North east India were contributed by Arunkumar (2000); Barman (1984; 2002); Bora and Bordoloi (2001); Karmakar and Das (2006; 2007); Kottelat *et al.*, (2007); Kottelat (2012); Lalramliana (2012); Lokeshwor and Vishwanath (2011; 2012a; 2012b; 2012c; 2012d; 2013); Lokeshwor *et al.*, (2012b); Sen (1995; 2003; 2009); Sen and Mathew (2008); Kosygin (2012); Tilak and Hussain (1990); Vishwanath and Laishram (2001); Vishwanath and Nebeshwar (2004; 2005); Vishwanath and Shanta (2004); Vishwanath and Shantakumar (2005). In North east India, *Nemacheilidae* is represented by 48 species under 6 genera : *Aborichthys* (5 spp.), *Acanthocobitis* (3 spp.), *Nemacheilus* (1 sp.), *Neonoemacheilus* (4 spp.), *Physoschistura* (5 sp.) and *Schistura* (30 spp.). However, this number keeps on increasing as new ones are continually being described and re-described by different authors.

The present study was undertaken with an aim to clear the backlog collections of unidentified *Nemacheilines* present in the holdings of North Eastern Regional Centre, Zoological Survey of India (NERC/ZSI), Shillong. During the course of this study, 400 specimens were examined and identified as 19 species under 6 genera. However, for better information on the *Nemacheiline* species reported so far from North East India, a total of 48 species has been included in the report along with their status (Fig. 1) and endemism (Fig. 2). Of the total species reported from the region, 31 species are present in the holdings of NERC/ZSI, Shillong. The nomenclature of the species under the family *Nemacheilidae* was followed as per Kottelat (2012).

Members of the family *Nemacheilidae* are characterized by an elongated and somewhat depressed body with distinctive colour patterns of bars, stripes and blotches. Head depressed and ventral side of the body flattened. Anterior nostrils simple or tubular; mouth small and inferior; lips thick, fleshy and papillose; lower lip interrupted in the middle; barbels 3 pairs; no spines before or under the eye; eyes small, usually not visible from the underside of the head; gills openings either placed above the base of pectoral fins or sometimes extending to ventral surface for a short distance. Scales minute and lateral line may be complete or incomplete. Ventral and pectoral fins not inserted horizontally; dorsal fin with 7-18 rays without spines.

Air bladder reduced to two connected lateral parts and a small posterior part. A dermal crest or adipose fin may be present. Caudal fin truncate, rounded or slightly forked.

Key to the genera of Nemacheilidae occurring in North East India

- 1a. Lips papillated; 9-18 branched dorsal rays *Acanthocobitis* 3
 1b. Lips different; 7-12 branched dorsal rays 2
 2a. Vent situated far forward of anal fin; Pelvic fin extend considerably beyond anal opening *Aborichthys*
 2b. Vent situated nearer anal fin; Pelvic fin do not extend beyond anal opening 3
 3a. Lips thick; hypertrophied and forming a preoral cavity *Neonoemacheilus*
 3b. Lips normal; not hypertrophied 4
 4a. Body with lateral transverse bands; lower lip continuous; spot at middle of caudal base *Nemacheilus*
 4b. Body colour pattern diverse; lower lip with median interruption; a black bar at caudal base 5
 5a. Mouth strongly arched; lower lip forming broad lateral triangular pads *Physoschistura*
 5b. Mouth moderately arched; lower lip not forming lateral triangular pads *Schistura*

SYSTEMATIC LIST

Phylum CHORDATA

Class ACTINOPTERYGII

Order CYPRINIFORMES

Family NEMACHEILIDAE

1. *Aborichthys elongatus* Hora, 1921
2. *Aborichthys garoensis* Hora, 1925
3. *Aborichthys kempfi* Chaudhuri, 1913
4. *Aborichthys tikaderi* Barman, 1985*
5. *Aborichthys waikhomi* Kosygin, 2012*
6. *Acanthocobitis botia* (Hamilton, 1822)
7. *Acanthocobitis pavonacea* (McClelland, 1839)
8. *Acanthocobitis zonalternans* (Blyth, 1860)

9. *Nemacheilus corica* (Hamilton, 1822)
10. *Neonoemacheilus assamensis* (Menon, 1987)*
11. *Neonoemacheilus labeosus* (Kottelat, 1982)
12. *Neonoemacheilus morehensis* Arunkumar, 2000*
13. *Neonoemacheilus peguensis* (Hora, 1929)*
14. *Physoschistura chindwinensis* Lokeshwor and Vishwanath, 2012a*
15. *Physoschistura elongata* Sen and Nalbant, 1981
16. *Physoschistura tuivaiensis* Lokeshwor, Vishwanath and Shanta, 2012b*
17. *Physoschistura dikrongensis* Lokeshwor and Vishwanath, 2012b*
18. *Physoschistura tigrinum* Lokeshwor and Vishwanath, 2012c*
19. *Schistura aizawlensis* Lalramliana, 2012*
20. *Schistura beavani* (Gunther, 1868)
21. *Schistura carletoni* (Fowler, 1924)*
22. *Schistura chindwinica* (Tilak and Husain, 1990)*
23. *Schistura cincticauda* (Blyth, 1860)
24. *Schistura devdevi* (Hora, 1935)
25. *Schistura fasciata* Lokeshwor and Vishwanath, 2011*
26. *Schistura kangjupkhulensis* (Hora, 1921)
27. *Schistura khugae* Vishwanath and Shanta, 2004
28. *Schistura koladynensis* Lokeshwor and Vishwanath, 2012d*
29. *Schistura manipurensis* (Chaudhuri, 1912)
30. *Schistura minuta* Vishwanath and Shantakumar, 2005
31. *Schistura montana* McClelland, 1838
32. *Schistura multifasciata* (Day, 1878)
33. *Schistura nagaensis* (Menon, 1987)
34. *Schistura papulifera* Kottelat, Harries & Proudlove, 2007
35. *Schistura prashadi* (Hora, 1921)
36. *Schistura reticulata* Vishwanath and Nebeshwar, 2004*
37. *Schistura reticulofasciata* (Singh and Banarescu, 1981)
38. *Schistura rosammai* (Sen, 2009)

39. *Schistura rupecula* McClelland, 1838
 40. *Schistura savona* (Hamilton, 1822)
 41. *Schistura scaturigina* McClelland, 1839
 42. *Schistura sijuensis* (Menon, 1987)
 43. *Schistura sikmaiensis* (Hora, 1921)
 44. *Schistura singhi* (Menon, 1987)
 45. *Schistura tigrina* Vishwanath & Nebeshwar Sharma, 2005*
 46. *Schistura tirapensis* Kottelat, 1990
 47. *Schistura vinciguerrae* (Hora, 1935)
 48. *Schistura porocephala* Lokeshwor and Vishwanath, 2013*
- * *Species not in NERC/ZSI, holdings.*

1. *Aborichthys elongatus* Hora, 1921

1921. *Aborichthys elongata* Hora, *Rec. Indian Mus.*, **22**(5) : 735, figs. 1-1b, pl. 1 (Type locality : Reang River, base of Darjeeling Himalaya).

Material Examined : 1 example : Arunachal Pradesh, Subansiri district, Paka River, 05-vi-2007, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2478, alt. 256 m, N : 27°57'24.8", E : 94°18'47.2"); 4 examples : Arunachal Pradesh, West Siang district, Sibe River, 06-i-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2580); 5 examples : Arunachal Pradesh, West Siang district, Gensi, Sibe River, 06-i-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2596); 1 example : Arunachal Pradesh, East Siang district, Sibo Korong Stream, 04-iii-2007, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/3113, alt. 180 m, N : 28°04'37.1", E : 95°19'09.3").

Diagnostic Characters : A species of *Aborichthys* with the combination of following characters : Lateral line complete; vent situated distinctly nearer to base of caudal fin than to snout tip; anterior part of body dusky, posterior part marked with several broad black rings, alternating with narrow bands of yellowish orange, a prominent black ocellus at upper corner of caudal fin base; dorsal fin streaked with black along rays; caudal fin dusky with whitish margin and two short whitish bands in the middle.

Distribution : India : Meghalaya, Assam, Arunachal Pradesh.

IUCN Status : Least Concern.

Remarks : Endemic to India.

2. *Aborichthys garoensis* Hora, 1925

(Plate-I-A)

1925. *Aborichthys garoensis* Hora, *Rec. Indian Mus.*, **27**(3) : 233, figs. 1-1b (Type locality : Tura, Garo Hills, Meghalaya).

Material Examined : 1 example : Meghalaya, East Garo Hills district, Didari Chiring, Nokrek Biosphere Reserve, 30-iv-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2705, alt. 1055 m, N : 25°29'80.1", E : 90°18'55.1"); 2 examples : Arunachal Pradesh, East Siang district, Sibbo Korong stream, 04-iii-2007, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/3112, alt. 180 m, N : 28°04'37.1", E : 95°19'09.3").

Diagnostic Characters : A species of *Aborichthys* with the combination of following characters : Lateral line incomplete, terminating slightly behind tip of pectoral fin; vent almost equidistant between snout tip and base of caudal fin; body marked with 30-35 black forked-shaped bands, inclined backwards, narrower than interspaces, a black spot at upper end of base of caudal fin; dorsal fin banded with two or three rows of black spots; caudal fin dull grey with dark black margin.

Distribution : India : Arunachal Pradesh, Meghalaya.

Elsewhere : Myanmar.

IUCN Status : Vulnerable.

Remarks : Endemic to North East India.

3. *Aborichthys kempi* Chaudhuri, 1913

(Plate-I-B)

1913. *Aborichthys kempi* Chaudhuri, *Rec. Indian Mus.*, **8**(3) : 245, figs. 1-1b, pl. 7 (Type locality : Abor Hills, Meghalaya).

Material Examined : 13 examples : Arunachal Pradesh, Subansiri district, Sippi River, 05-vi-2007, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2492, alt. 251 m, N : 28°04'80.9", E : 94°09'50.4"); 20 examples : Arunachal Pradesh, Lower Subansiri district, Sibbey village, 03-vi-2007, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2519); 1 example : Arunachal Pradesh, Lower Dibang Valley district, Roing, Sri Lake, 06-iii-2007, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2556, alt. 475 m, N : 28°10'02.8", E : 95°50'16.8"); 1 example : Arunachal Pradesh, West Siang district, Sibe River, 06-i-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2579); 14 examples : Arunachal Pradesh, West Siang district, Gensi, Sibe River, 06-i-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2593); 3 examples : Meghalaya, East Garo Hills district, Ganol River, Nokrek Biosphere Reserve, 13-ii-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2609, alt. 964 m, N : 25°30'19.6", E : 90°18'20.7"); 1 example : Meghalaya, East Garo Hills district, Simsang River, Nokrek Biosphere

Reserve, 12-ii-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2612, alt. 813 m, N : 25°29'28.5", E : 90°19'55.5"); 1 example : Meghalaya, East Garo Hills district, Didari River, Nokrek Biosphere Reserve, 11-ii-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2616, alt. 1054 m, N : 25°29'00.9", E : 90°18'55.2"); 4 examples : Meghalaya, West Garo Hills district, Sasatgre Chiring, Nokrek Biosphere Reserve, 17-i-2008, Coll. D. Khyntiam and Party (Reg. No. V/F/ERS/ZSI/2643, alt. 341 m, N : 25°28'09.3", E : 90°15'39.7"); 1 example : Meghalaya, West Garo Hills district, Misimagre, Didami Chiring, Nokrek Biosphere Reserve, 18-i-2008, Coll. D. Khyntiam and Party (Reg. No. V/F/ERS/ZSI/2660, alt. 581 m, N : 25°32'57.2", E : 90°17'12.5"); 3 examples : Meghalaya, East Garo Hills district, Rongram Chiring, Nokrek Biosphere Reserve, 28-iv-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2689, alt. 437 m, N : 25°34'21.1", E : 90°17'57.1"); 2 examples : Meghalaya, East Garo Hills district, Manchuri Chiring, Nokrek Biosphere Reserve, 28-iv-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2707, alt. 623 m, N : 25°33'25.9", E : 90°18'44.3"); 2 examples : Meghalaya, East Garo Hills district, Daribokgre, Simsang River, Nokrek Biosphere Reserve, 01-v-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2730, alt. 872 m, N : 25°29'27.7", E : 90°19'55.3"); 1 example : Meghalaya, East Garo Hills district, Didari Chiring, Nokrek Biosphere Reserve, 25-vi-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2757, alt. 1045 m, N : 25°29'08.6", E : 90°18'55.6"); 4 examples : Meghalaya, East Garo Hills district, Daribokgre, Simsang River, Nokrek Biosphere Reserve, 22-ii-2009, Coll. D. Khyntiam and Party (Reg. No. V/F/ERS/ZSI/2842, alt. 851 m, N : 25°29'28.8", E : 90°19'57.8"); 1 example : Meghalaya, West Garo Hills district, Rengsangre, Rongram River, Nokrek Biosphere Reserve, 19-vi-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2879, alt. 522 m, N : 25°34'21.2", E : 90°17'50.8"); 1 example : Meghalaya, East Garo Hills district, Simsang River, Nokrek Biosphere Reserve, 26-vi-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2880).

Diagnostic Characters : A species of *Aborichthys* with the combination of following characters : Lateral line incomplete, terminating before dorsal fin; vent situated distinctly nearer to base of caudal fin than to snout tip; body striped, with 18-21 dark brown transverse bands, inclined backwards, on a yellowish white background, an irregular blotch on upper surface of base of caudal fin; dorsal fin banded with dark brown spots; caudal fin banded with two broad black concentric curves, one above middle and the second curve bordering the margin leaving a narrow white fringe.

Distribution : India : Arunachal Pradesh, Meghalaya.

Elsewhere : Myanmar.

IUCN Status : Near Threatened.

4. *Aborichthys tikaderi* Barman, 1985*

1985. *Aborichthys tikaderi* Barman, *J. Bombay nat. Hist. Soc.*, **81**(3) : 680, fig. 1 (type locality : Namdapha wildlife Sanctuary, Arunachal Pradesh, India).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Aborichthys* with the combination of following characters : Lateral line incomplete terminating anterior to pelvic fins; body marked with 15-20 black vertical bands, a black spot at upper end of base of caudal fin; dorsal fin with 7 branched rays with two or three rows of spots; anal and paired fins dull white; caudal fin with a dusky margin.

Distribution : India : Arunachal Pradesh.

IUCN Status : Vulnerable.

Remarks : Endemic to North East India.

5. *Aborichthys waikhomi* Kosygin, 2012*

2012. *Aborichthys waikhomi* Kosygin, *Rec. zool. Surv. India*, **112** (Part-1) : 49, figs. 3-4 (type locality : Bulbulia stream near Bulbulia, a tributary of Noa-Dihing River, Namdapha, Arunachal Pradesh).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Aborichthys* with the combination of following characters : Lateral line incomplete terminating before pelvic fins; body marked with 12-16 oblique black bands, narrower than interspaces at caudal peduncle; a distinct black blotch on upper angle of caudal fin base; dorsal fin with 7 branched rays; caudal fin more or less truncated with 15-16 branched rays.

Distribution : India : Arunachal Pradesh.

IUCN Status : Not Assessed.

Remarks : Endemic to North East India.

6. *Acanthocobitis botia* (Hamilton, 1822)

(Plate-I-C)

1822. *Cobitis botia* Hamilton, *Fishes of Ganges*, 350 : 394 (Type locality : Rivers of north eastern Bengal).

Material Examined : 2 examples : Arunachal Pradesh, East Siang district, Pasighat area, 03-iii-2007, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2526, alt. 148 m, N : 28°04'4.8", E : 95°20'31.3"); 1 example : Arunachal Pradesh, Lohit district, Panbari village, 12-iii-2007, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2538, alt. 204 m, N: 27°54'56.7", E : 96°11'07.8"); 25 examples : Arunachal Pradesh, West Siang district, Sigen River, 05-i-2008,

Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2563); 2 examples : Assam, Dhemaji district, Gerukamukh Dam site, 03-i-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2587); 1 example : Meghalaya, West Garo Hills district, Bandari-Nongkari River, Nokrek Biosphere Reserve, 10-ii-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2635, alt. 82 m, N : 25°23'19.0", E : 90°19'56.9"); 1 example : Meghalaya, South Garo Hills district, Digangiri River, Nokrek Biosphere Reserve, 21-ii-2009, Coll. D. Khyndriam and Party (Reg. No. V/F/ERS/ZSI/2833, alt. 50 m, N : 25°22'03.7", E : 90°20'33.7"); 2 examples : Manipur, Bishnupur district, Nachou Mamang, 13-vii-2009, Coll. A.B. Meetei and Party (Reg. No. V/F/ERS/ZSI/2938, alt. 770 m, N : 24°35'48.1", E : 93°46'14.4"); 4 examples : Meghalaya, East Khasi Hills district, Majai, 29-viii-2009, Coll. A. Rana and Party (Reg. No. V/F/ERS/ZSI/2972, alt. 105 m, N : 21°06'16.6", E : 91°43'08.0"); 2 examples : Arunachal Pradesh, West Siang district, Pasighat, upper Baskota, 03-iii-2007, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/3137, alt. 148 m, N : 28°03'30.8", E : 95°20'22.7"). 1 example : Meghalaya, Wah Umngi, West Khasi Hills district, 04-viii-2011, Coll. J. Lyngdoh and Party (Reg. No. V/F/ERS/ZSI/3168, N : 25°23'59.0", E : 91°33'22.4").

Diagnostic Characters : A species of *Acanthocobitis* with the combination of following characters : Lateral line usually complete; body with 12-16 elongate vertical blotches broken up into patches and scattered irregularly on flanks; dorsal fins with 5 or 6 oblique zig-zag narrow bands; caudal fin slightly emarginated with 5-7 posteriorly directed V-shaped bands.

Distribution : Throughout India except Malabar Coast and south of River Krishna.

Elsewhere : Bangladesh; Bhutan; China; Myanmar; Nepal; Pakistan; Sri Lanka; Thailand; Yunnan.

IUCN Status : Least Concern.

7. *Acanthocobitis pavonacea* (McClelland, 1839)

1839. *Cobitis pavonacea* McClelland, *Asiat. Res.*, **19** (2) : 305, 437, fig. 1, pl. 52 (type locality : Assam).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Acanthocobitis* with the combination of following characters : Lateral line incomplete; dorsal and caudal fins barred; dorsal fin with 14-18 branched rays, inserted nearer tip of snout than to caudal fin base; caudal fin slightly emarginated, with rounded lobes.

Distribution : India : Arunachal Pradesh, Assam.

IUCN Status : Vulnerable.

Remarks : Endemic to India.

8. *Acanthocobitis zonalternans* (Blyth, 1860)

1860. *Cobitis zonalternans* Blyth, *J. Asiat. Soc. Beng.*, **29** : 172 (type locality : Tenasserim Provinces, Burma).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Acanthocobitis* with the combination of following characters : Lateral line incomplete, ending below dorsal fin base; dorsal fin with 9-11 branched rays; caudal fin slightly emarginated or truncated.

Distribution : India : Arunachal Pradesh, Manipur, Nagaland.

Elsewhere : Bangladesh; Malaya; Myanmar; Thailand.

IUCN Status : Least Concern.

9. *Nemacheilus corica* (Hamilton, 1822)

1822. *Cobitis corica* Hamilton, *Fishes of Ganges* : 359 : 395 (type locality : Kosi River).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Nemacheilus* with the combination of following characters : Lateral line complete; body with a row of oval spots along lateral line, a similar row along the back and a silvery band generally along middle of flank; scales small; dorsal fin with 8 branched rays, inserted nearer to snout tip than base of caudal fin; pectoral fins longer than head; caudal fin forked.

Distribution : India : Arunachal Pradesh, Assam, Meghalaya, Mizoram, Sikkim, Sub Himalayan range, from Darjeeling through Kumaon to Himachal Pradesh and Punjab (Sutlej basin).

Elsewhere : Bangladesh; Nepal; Pakistan.

IUCN Status : Least Concern.

10. *Neonoemacheilus assamensis* (Menon, 1987)*

1987. *Noemacheilus assamensis* Menon, *Zool. Surv. India. Pisces, Vol. IV* : 179 (type locality : Pagladia River Assam, India).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Neonoemacheilus* with the combination of following characters : Lateral line complete; body with 20-21 light vertical bars; dorsal fin with 3 unbranched and 8 branched rays, inserted equidistant between tip of snout and caudal fin base; caudal fin forked.

Distribution : India : Assam.

IUCN Status : Near Threatened.

Remarks : Endemic to North East India.

11. *Neonoemacheilus labeosus* (Kottelat, 1982)

1982. *Neonoemacheilus labeosus* Kottelat, *Jap. J. Ichthyol.*, **29** (2) : 169, fig. 1 (type locality : Salween at Mae Sahn Leap, Mae Hong Son Province, Thailand).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Neonoemacheilus* with the combination of following characters : Lateral line complete; body light brown with 18-19 indistinct narrow vertical black bands descending from back to ventral side; dorsal fin with 4 unbranched and 8 branched rays, inserted equidistant between tip of snout and caudal fin base; caudal fin emarginated.

Distribution : India : Assam.

Elsewhere : Myanmar; Thailand.

IUCN Status : Least Concern.

12. *Neonoemacheilus morehensis* Arunkumar, 2000*

2000. *Neonoemacheilus morehensis* Arunkumar, *Ind. J. Fish.*, **47**(1) : 44, fig. 1 (type locality : Lokchao River at Moreh, Manipur, India).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Neonoemacheilus* with the combination of following characters : Lateral line complete; body with 14-18 dorso-lateral vertical bars with a distinct dark patch at the base of caudal fin; dorsal fin with 8 branched rays; caudal fin forked.

Distribution : India : Manipur.

IUCN Status : Data Deficient.

Remarks : Endemic to North East India.

13. *Neonoemacheilus peguensis* (Hora, 1929)*

1929. *Nemachilus peguensis* Hora, *Rec. Indian Mus.*, **31** : 320, figs. 1-2, pl. 14 (type locality : Pegu Yoma Hills, Burma).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Neonoemacheilus* with the combination of following characters : Lateral line complete; body with 18-20 vertical black bars descending from back

to ventral surface of body; scales minute; dorsal fin with 3 unbranched and 9 branched rays, inserted equidistant between snout tip and base of caudal fin; caudal fin forked.

Distribution : India : Manipur.

Elsewhere : Myanmar.

IUCN Status : Data Deficient.

14. *Physoschistura chindwinensis* Lokeshwor and Vishwanath, 2012a*

2012a. *Physoschistura chindwinensis* Lokeshwor and Vishwanath, *Ichthyol. Res.*, **59**(3) : 231, fig. 1 (type locality : Lokchao River at Moreh, Chindwin basin, Chandel district, Manipur).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Physoschistura* with the combination of following characters : Lateral line complete; body with 13-17 dark-brown bars on flank, 11-16 dark-brown saddles on back; dorsal fin with 8½ branched rays; caudal fin with 8 + 8 branched rays.

Distribution : India : Manipur.

IUCN Status : Not Assessed.

Remarks : Endemic to North East India.

15. *Physoschistura elongata* Sen & Nalbant, 1981

1981. *Physoschistura elongata* Sen & Nalbant, *Trav. Mus. Hist. nat. Grigore Antipa*, **23** : 210, figs. 17-21 (type locality : Barapani, Shillong, Meghalaya).

Material Examined : 2 examples : Meghalaya, Jaintia Hills district, Kotsati cave, Lumshnong village, 15-vi-2007, Coll. I.J. Kharkongor and Party (Reg. No. V/F/ERS/ZSI/2747, alt. 559 m, N : 25°10'43.8", E : 92°22'37.0").

Diagnostic Characters : A species of *Physoschistura* with the combination of following characters : Lateral line incomplete, ending below dorsal fin; body with 9-14 well marked, almost vertical brown crossbars of variable shape, often interrupted on back, bars generally divided into an upper and a lower fragment; scales small; dorsal fin with 8 branched rays, inserted slightly nearer to snout tip than to base of caudal fin; caudal fin forked.

Distribution : India : Meghalaya.

IUCN Status : Vulnerable.

Remarks : Endemic to North East India.

16. *Physoschistura tuivaiensis* Lokeshwor, Vishwanath and Shanta, 2012b*

2012b. *Physoschistura tuivaiensis* Lokeshwor, Vishwanath and Shanta, *Taprobanica*, **4** : 6, fig. 1 (type locality : Tuivai River at Likhailok, Brahmaputra basin, Churchandpur district, Manipur).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Physoschistura* with the combination of following characters : Lateral line complete; body with 12-14 dark olivaceous blotches on flank, 15-17 dark olivaceous saddles on back; dorsal fin with 8½ branched rays; caudal fin with 8 + 7 branched rays.

Distribution : India : Manipur.

IUCN Status : Not Assessed.

Remarks : Endemic to North East India.

17. *Physoschistura dikrongensis* Lokeshwor and Vishwanath, 2012b*

2012b. *Physoschistura dikrongensis* Lokeshwor and Vishwanath, *Zootaxa*, 3586 : 250, fig. 1 (type locality : Dikrong River at Doimukh, Brahmaputra basin, Arunachal Pradesh).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Physoschistura* with the combination of following characters : Lateral line incomplete; body with 11-15 irregular bars, dark brown mottled markings on the head, two V-shaped dark brown bars across the caudal fin towards the distal end; dorsal fin with 8½ branched rays; caudal fin forked with 8 + 7 branched rays.

Distribution : India : Manipur.

IUCN Status : Not Assessed.

Remarks : Endemic to North East India.

18. *Physoschistura tigrinum* Lokeshwor and Vishwanath, 2012c*

2012c. *Physoschistura tigrinum* Lokeshwor and Vishwanath, *Zootaxa*, 3586 : 97, fig. 1 (type locality : Phungrei, Changa River, Chindwin drainage, Ukhrul district, Manipur).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Physoschistura* with the combination of following characters : Lateral line complete; body with 12-14 irregularly arranged light reddish brown bars on the side, some of which are broken into blotches and short bars, 5-6 irregular saddles on back; dorsal fin with 9½ branched rays; caudal fin forked with 9 + 8 branched rays.

Distribution : India : Manipur.

IUCN Status : Not Assessed.

Remarks : Endemic to North East India.

19. *Schistura aizawlensis* Lalramliana, 2012*

2012. *Schistura aizawlensis* Lalramliana, *Ichthyol. Explor. Freshwaters*, **23**(2) : 98, figs. 1-2 (type locality : Muthi River, a tributary of Tuirial River, Barak River drainage, in vicinity of Zemabawk, Aizawl, Mizoram).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line complete or terminating just before black basal caudal bar; body with 5-7 regular broad bars reaching beyond lateral line ventrally in adult; dorsal fin with 7-7½ branched rays; caudal fin deeply emarginated with 9 + 8 branched rays.

Distribution : India : Mizoram.

IUCN Status : Not Assessed.

Remarks : Endemic to North East India.

20. *Schistura beavani* (Gunther, 1868)

(Plate-III-A)

1868. *Nemachilus beavani* Gunther, *Cat. Fishes Br. Mus.*, **7** : 350 (type locality : Kossye River, Uttar Pradesh).

Material Examined : 1 example : Meghalaya, South Garo Hills district, Mitapgre village, Nokrek Biosphere Reserve, 21-vi-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2886, alt. 62 m, N : 25°23'51.3", E : 90°16'27.5"); 1 example : Meghalaya, West Khasi Hills district, Wahblei, 22-vi-2010, Coll. I.J. Kharkongor and Party (Reg. No. V/F/ERS/ZSI/3017, alt. 884 m, N : 25°39'42.6", E : 91°05'06.0").

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line complete; body with 6-9 vertical bands, wider than interspaces; scales minute; dorsal fin with 8 branched rays marked with a row of dark spots; caudal fin forked with two ' < ' shaped bands.

Distribution : India : Arunachal Pradesh, Assam, Meghalaya, Sikkim, North Bengal, Uttar Pradesh.

Elsewhere : Bangladesh; Nepal.

IUCN Status : Least Concern.

21. *Schistura carletoni* (Fowler, 1924)*

1924. *Nemacheilus carletoni* Fowler, *Proc. Acad. Nat. Sci. Philad.*, **76** : 68, fig. 2 (type locality : Kulu Valley, Himachal Pradesh).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line almost complete; body with 16-18 transverse brownish bands broader than interspaces, a dusky blotch at origin of dorsal fin; dorsal fin with 8 branched rays, inserted nearer base of caudal fin than to snout tip; caudal fin slightly emarginated.

Distribution : India : Assam, Sikkim, Himachal Pradesh.

IUCN Status : Not Assessed.

Remarks : Endemic to India.

22. *Schistura chindwinica* (Tilak and Husain, 1990)*

1990. *Nemacheilus chindwinicus* Tilak and Husain, *Mitteilungen aus dem Zoologischen Mus. In Berlin*, **66**(1) : 51, figs. 1-5 (type locality : Tributary of Chindwin River, Manipur, India).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line complete; body yellowish brown with 8-11 bars; dorsal fin with 8 branched rays and originate slightly in advance of pelvic fin origin, equidistant between tip of snout and caudal base; caudal fin deeply emarginated.

Distribution : India : Manipur.

IUCN Status : Vulnerable.

Remarks : Endemic to North East India.

23. *Schistura cincticauda* (Blyth, 1860)

1860. *Cobitis cincticauda* Blyth, *J. Asiat. Soc. Beng.*, **29** : 172 (type locality : Pegu, Burma).

Material Examined : 1 example : Meghalaya, Umlieh stream, Shohphria village, West Khasi Hills district, 02-viii-2011, Coll. J. Lyngdoh and Party (Reg. No. V/F/ERS/ZSI/3203, N : 25°32'19.2", E : 91°22'21.7").

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line incomplete, ending at base of pelvic fin; body marked with 8 broad grey bands in young which fade away in adults and are characterized by 3 or 4 narrow, vertical brown bars in middle of body; scales minute; dorsal fin with 7 branched rays, inserted slightly nearer to base of caudal fin than snout tip; caudal fin slightly emarginated.

Distribution : India : Arunachal Pradesh; Meghalaya.

Elsewhere : Myanmar; Thailand.

IUCN Status : Data Deficient.

24. *Schistura devdevi* (Hora,1935)

(Plate-II-A)

1935. *Nemachilus devdevi* Hora, *Rec. Indian Mus.*, **37**(1) : 54, figs. 5-6, pl. 3 (type locality : small streams below Darjeeling and in Sikkim, Eastern Himalaya).

Material Examined : 5 examples : Arunachal Pradesh, Subansiri district, Sippi River, 05-vi-2007, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2495, alt. 251 m, N : 28°04'80.9", E : 94°09'50.4"); 4 examples : Arunachal Pradesh, Lohit district, Panbari village, 12-iii-2007, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2537, alt. 204 m, N : 27°54'56.7", E : 96°11'07.8"); 2 examples : Meghalaya, West Garo Hills district, Kalupara Chiring, Nokrek Biosphere Reserve, 25-iv-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/3032, alt. 87 m, N : 25°24'14.8", E : 90°16'04.0").

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line incomplete, terminating above pelvic fin; body with 4-6 broad saddle-shaped bands extending from back to sides of body; a black spot at base of caudal fin; dorsal fin with 8 branched rays, two rows of black spots across dorsal rays; caudal fin lunate.

Distribution : India : Arunachal Pradesh; Meghalaya; Sikkim.

IUCN Status : Near Threatened.

Remarks : Endemic to India.

25. *Schistura fasciata* Lokeshwor and Vishwanath, 2011*

2011. *Schistura fasciata* Lokeshwor and Vishwanath, *J. Threat. Taxa*, **3**(2) : 1515, fig. 1 (type locality : Barak River at western side of Maram Hill, Senapati district, Manipur).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line incomplete; body with 11-13 dark brown transverse bars, often fused on mid-dorsal line; dorsal fin with 8 ½ branched rays having three prominent dark spots at the base; moderately high adipose crest on dorsal and ventral side of caudal peduncle.

Distribution : India : Manipur.

IUCN Status : Not Assessed.

Remarks : Endemic to North East India.

26. *Schistura kangjupkhulensis* (Hora, 1921)

1921. *Nemachilus kangjupkhulensis* Hora, *Rec. Indian Mus.*, **22** (3) : 202, figs. 4 & 4a, pl. 10 (type locality : Yaribuk, Manipur Valley).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line incomplete, ending before origin of dorsal fin; body marked with 7-11 broad black bands which often coalesces at the anterior region to form a uniform dusky colour; dorsal fin with 7 branched rays, first three rays with a black spot at their base; caudal fin truncate or slightly emarginated.

Distribution : India : Arunachal Pradesh, Assam, Manipur, Mizoram, Nagaland, Sikkim.

Elsewhere : Myanmar.

IUCN Status : Endangered.

27. *Schistura khugae* Vishwanath and Shanta, 2004

2004. *Schistura khugae* Vishwanath and Shanta, *Ichthyol. Explor. Freshwaters*, **15**(4) : 330 (type locality : Khuga River, Churachandpur district, Manipur, India).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line incomplete, reaching at least to anal fin base; body with 15-16 faintly marked regular dark bars, bars in front of dorsal fin conspicuously thinner than those behind; snout rounded and blunt; dorsal fin with 8 branched rays; dorsal adipose crest extends from posterior extremity of dorsal fin base to caudal fin origin; caudal fin emarginated.

Distribution : India : Manipur, Nagaland.

IUCN Status : Vulnerable.

Remarks : Endemic to North East India.

28. *Schistura koladynensis* Lokeshwor and Vishwanath, 2012d*

2012d. *Schistura koladynensis* Lokeshwor and Vishwanath, *Ichthyol. Explor. Freshwaters*, **23**(2) : 140, fig. 1 (type locality : Koladyne River at Kolchaw, Lawntlai district, Mizoram).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line complete; body with 10-11 brown bars, the black bar on the caudal fin base not extending its full height; dorsal fin with 8½ branched rays; caudal fin deeply forked with 9 + 8 branched rays, specific arrangement of vertical rows of coloured spots on the caudal fin.

Distribution : India : Mizoram.

IUCN Status : Not Assessed.

Remarks : Endemic to North East India.

29. *Schistura manipurensis* (Chaudhuri, 1912)

1912. *Nemachilus manipurensis* Chaudhuri, *Rec. Indian Mus.*, **7** : 443, figs. 4-4b, pl. 40 and figs. 1-1b, pl. 41 (type locality : Manipur).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line incomplete ending above end of pelvic fins; body marked with 14-21 brown vertical stripes; dorsal fin with 7 branched rays; caudal fin truncate or lunate.

Distribution : India : Arunachal Pradesh, Assam, Manipur, Mizoram, Nagaland.

Elsewhere : Myanmar.

IUCN Status : Near Threatened.

Remarks : Endemic to India.

30. *Schistura minuta* Vishwanath and Shantakumar, 2005

2005. *Schistura minutus* Vishwanath and Shantakumar, *J. Bombay Nat. Hist. Soc.*, **102**(2) : 211, fig. 1 (type locality : Iyei River, Manipur).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line incomplete extending up to the region between the pelvic and anal fin origin; body light brown with 14-18 bars wider than interspaces; dorsal fin with 8 branched rays; small dorsal and ventral adipose crests on caudal peduncle; caudal fin emarginated.

Distribution : India : Manipur, Nagaland.

IUCN Status : Endangered.

Remarks : Endemic to North East India.

31. *Schistura montana* McClelland, 1838

1838. *Schistura montana* McClelland, *J. Asiat. Soc. Beng.*, **7** : 947, fig. 1, pl. 55 (type locality : Simla).

Material Examined : 3 examples : Meghalaya, East Garo Hills district, Chinapat, Nokrek Biosphere Reserve, 14-ii-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/3246).

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line complete; body with 10-12 black vertical bands, broader than interspaces and encircling the body, bands anterior to dorsal fin break up into numerous narrow bands with growth; scales minute; dorsal fin with 7 branched rays; caudal fin emarginated with a bar across each lobe.

Distribution : India : Assam, Meghalaya, Himachal Pradesh.

IUCN Status : Not Assessed.

Remarks : Endemic to India.

32. *Schistura multifasciata* (Day, 1878)

1878. *Nemachilus multifasciatus* Day, *Fishes of India* : 617, fig. 7, pl. 153 (type locality : Darjeeling and Assam).

Material Examined : 2 examples : Meghalaya, East Garo Hills district, Simsang River, Daribokgre, Nokrek Biosphere Reserve, 01-v-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/3244); 2 examples : Meghalaya, East Garo Hills district, Chinapat, Nokrek Biosphere Reserve, 27-iv-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/3245, alt. 438 m, N : 25°33'07.6", E : 90°22'41.8").

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line complete; body rather robust and slender, marked with 14-16 vertical bands which often split up particularly in front of dorsal fin into several narrower bands; dorsal fin with 8 branched rays; caudal fin truncate or slightly emarginated.

Distribution : India : Throughout North Eastern States and Eastern Himalayas.

Elsewhere : Myanmar; Nepal; Thailand.

IUCN Status : Least Concern.

33. *Schistura nagaensis* (Menon, 1987)

1987. *Noemacheilus nagaensis* Menon, *Fauna of India, Pisces*, 4 : 117 (type locality : Naga Hills, Nagaland).

Material Examined : 3 examples : Arunachal Pradesh, Subansiri district, Sippi River, 05-vi-2007, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2494, alt. 251 m, N : 28°04'80.9", E : 94°09'50.4").

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line incomplete, ending before origin of dorsal fin; body marked with 7-11 broad

black bands which often coalesce at the anterior region to form a uniform dusky surface; dorsal fin with 8 branched rays; caudal fin slightly emarginated, often truncated.

Distribution : India : Arunachal Pradesh, Nagaland.

IUCN Status : Vulnerable.

Remarks : Endemic to North East India.

34. *Schistura papulifera* Kottelat, Harries & Proudlove, 2007
(Plate-III-C)

2007. *Schistura papulifera*, Kottelat, Harries and Proudlove *Zootaxa*, 1393 : 36, fig. 1 (type locality : Krem Umsngat entrance to Synrang Pamiang cave system, Jaintia Hills, Meghalaya).

Material Examined : 1 example, donated by the Meghalaya Adventurers Association, Meghalaya (Reg. No. V/F/ERS/ZSI/3032).

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line incomplete; eyes vestigial, subcutaneous and externally appearing as a small diffuse blackish spot; dorsal fin with 8 branched rays, inserted almost midway between snout tip and caudal fin base; ventral and dorsal adipose crest on caudal peduncle; caudal fin deeply emarginated.

Distribution : India : Meghalaya.

IUCN Status : Critically Endangered.

Remarks : Endemic to North East India.

35. *Schistura prashadi* (Hora, 1921)

1921. *Nimachilus prashadi* Hora, *Rec. Indian Mus.*, 22(3) : 203, figs. 2-2a, pl. 10 (type locality : Thonagpal Tank, 5 miles from Yaribuk, Manipur).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line incomplete extending up to anal fin; body marked with 12-14 short black vertical bands across lateral line forming a characteristic reticulum; dorsal fin with 8 branched rays; caudal fin deeply forked.

Distribution : India : Arunachal Pradesh, Manipur, Meghalaya, Nagaland.

IUCN Status : Vulnerable.

Remarks : Endemic to India.

36. *Schistura reticulata* Vishwanath and Nebeshwar, 2004*

2004. *Schistura reticulata* Vishwanath and Nebeshwar, *Ichthyol. Explor. Freshwaters*, **15**(4) : 324, fig. 1 (type locality : Maklang River, Ukhrul district, Manipur, India).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line complete; body with 17-29 dark brown bars which split into two or more in front of dorsal fin; dorsal fin with 8 branched rays; caudal fin forked with 2-3 rows of V-shaped band.

Distribution : India : Manipur.

IUCN Status : Endangered.

Remarks : Endemic to North East India.

37. *Schistura reticulofasciata* (Singh and Banarescu, 1981)

(Plate-II-C)

1981. *Mesonoemacheilus reticulofasciatus* Singh, Sen, Banarescu and Nalbant, *Trav. Mus. Hist. nat. Grigore Antipa*, **23** : 206, Figs. 12-16 (Type locality : Barapani near Shillong, Meghalaya).

Material Examined : 1 example : Meghalaya, East Garo Hills district, Didari River, Nokrek Biosphere Reserve, 22-xi-2007, Coll. I.J. Kharkongor and Party (Reg. No. V/F/ERS/ZSI/2605, alt. 976 m, N : 25°29'48.9", E : 90°19'22.0"); 3 examples : Meghalaya, East Garo Hills district, Simsang River, Nokrek Biosphere Reserve, 12-ii-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2614, alt. 813 m, N : 25°29'28.5", E : 90°19'55.5"); 1 example : Meghalaya, East Garo Hills district, Shrut Majang Hill, Nokrek Biosphere Reserve, 14-ii-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2621); 2 examples : Meghalaya, East Garo Hills district, Didari River, Nokrek Biosphere Reserve, 13-ii-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2622, alt. 906 m, N : 25°30'41.6", E : 90°19'29.9"); 1 examples : Meghalaya, East Garo Hills district, Rongram River, Nokrek Biosphere Reserve, 14-ii-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2623); 5 examples : Meghalaya, West Garo Hills district, Achingre, Nokrek Biosphere Reserve, 10-ii-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2629, alt. 336 m, N : 25°25'45.8", E : 90°10'00.0"); 1 example : Meghalaya, East Garo Hills district, Chinapat, Nokrek Biosphere Reserve, 14-ii-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2640); 2 examples : Meghalaya, West Garo Hills district, Simsang River, Chinapat, Nokrek Biosphere Reserve, 19-i-2008, Coll. D. Khyntiam and Party (Reg. No. V/F/ERS/ZSI/2656, alt. 443 m, N : 25°33'08.2", E : 90°22'39.0"); 1 example : Meghalaya, West Garo Hills district, Selbalgre Chiring, Nokrek Biosphere Reserve, 20-i-2008, Coll. D. Khyntiam and Party (Reg. No. V/F/ERS/ZSI/2661, alt. 476 m, N :

25°34'39.1", E : 90°17'21.7"); 1 example : Meghalaya, East Garo Hills district, Simsang River, Bonsangre, Nokrek Biosphere Reserve, 22-i-2008, Coll. D. Khyntiam and Party (Reg. No. V/F/ERS/ZSI/2676, alt. 318 m, N : 25°34'13.6", E : 90°27'37.9"); 8 examples : Meghalaya, East Garo Hills district, Didari River, Daribokgre, Nokrek Biosphere Reserve, 25-vi-2009, Coll. J. Lyngdoh and Party (Reg. No. V/F/ERS/ZSI/2811, alt. 1105 m, N : 25°29'48.3", E : 90°19'22.5"); 3 examples : Meghalaya, West Garo Hills district, Sinisuri Chiring, Chinapat, Nokrek Biosphere Reserve, 24-vi-2009, Coll. J. Lyngdoh and Party (Reg. No. V/F/ERS/ZSI/2815, alt. 470 m, N : 25°33'11.7", E : 90°22'38.6"); 21 examples : Meghalaya, South Garo Hills district, Norang Chiring, Anchigre, Nokrek Biosphere Reserve, 23-vi-2009, Coll. J. Lyngdoh and Party (Reg. No. V/F/ERS/ZSI/2820, alt. 347 m, N : 25°25'49.0", E : 90°19'04.6"); 1 example : Meghalaya, East Garo Hills district, Didari River, Daribokgre, Nokrek Biosphere Reserve, 22-ii-2009, Coll. D. Khyntiam and Party (Reg. No. V/F/ERS/ZSI/2826, alt. 1105 m, N : 25°29'48.3", E : 90°19'22.5"); 1 example : Meghalaya, East Garo Hills district, Didari River, Daribokgre, Nokrek Biosphere Reserve, 22-ii-2009, Coll. D. Khyntiam and Party (Reg. No. V/F/ERS/ZSI/2828, alt. 1105 m, N : 25°29'48.3", E : 90°19'22.5"); 2 examples : Meghalaya, South Garo Hills district, Digangiri River, Nokrek Biosphere Reserve, 21-ii-2009, Coll. D. Khyntiam and Party (Reg. No. V/F/ERS/ZSI/2834, alt. 50 m, N : 25°22'03.7", E : 90°20'33.7"); 9 examples : Meghalaya, East Garo Hills district, Simsang River, Daribokgre, Nokrek Biosphere Reserve, 22-ii-2009, Coll. D. Khyntiam and Party (Reg. No. V/F/ERS/ZSI/2841, alt. 851 m, N : 25°29'28.8", E : 90°19'57.8"); 9 examples : Meghalaya, East Garo Hills district, Simsang River, Daribokgre, Nokrek Biosphere Reserve, 22-ii-2009, Coll. D. Khyntiam and Party (Reg. No. V/F/ERS/ZSI/2845, alt. 851 m, N : 25°29'28.8", E : 90°19'57.8"); 7 examples : Meghalaya, South Garo Hills district, Sangkini River, Dobagre, Nokrek Biosphere Reserve, 21-ii-2009, Coll. D. Khyntiam and Party (Reg. No. V/F/ERS/ZSI/2853, alt. 52 m, N : 25°21'27.9", E : 90°20'13.9"); 7 examples : Meghalaya, West Garo Hills district, Tosekgre Chiring, Nokrek Biosphere Reserve, 26-iv-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2871, alt. 564 m, N : 25°32'25.3", E : 90°17'18.1"); 22 examples : Meghalaya, East Garo Hills district, Simsang River, Daribokgre, Nokrek Biosphere Reserve, 01-v-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2872); 22 examples : Meghalaya, East Garo Hills district, Chinapat, Nokrek Biosphere Reserve, 27-iv-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2875, alt. 438 m, N : 25°33'07.6", E : 90°22'41.8"); 5 examples : Meghalaya, West Garo Hills district, Rongram River, Rengsangre, Nokrek Biosphere Reserve, 19-vi-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2877, alt. 522 m, N : 25°34'21.2", E : 90°17'05.8"); 7 examples : Meghalaya, East Garo Hills district, Manchuri Chiring, Nokrek Biosphere Reserve, 28-iv-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2882, alt. 623 m, N : 25°33'25.9", E : 90°18'44.3"); 6 examples : Meghalaya, West

Garro Hills district, Rongram River, Rengsangre, Nokrek Biosphere Reserve, 22-vi-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2883, alt. 632 m, N : 25°36'50.0", E : 90°18'47.1"); 2 examples : Meghalaya, West Garo Hills district, Rongram River, Rengsangre, Nokrek Biosphere Reserve, 18-vi-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2885, alt. 766 m, N : 25°34'55.5", E : 90°17'07.2"); 1 example : Meghalaya, East Garo Hills district, Simsang River, Nokrek Biosphere Reserve, 26-vi-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2889); 1 example : Meghalaya, East Garo Hills district, Chisobibra, Nokrek Biosphere Reserve, 27-vi-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2890); 4 examples : Meghalaya, West Garo Hills district, Rongram River, Rengsangre, Nokrek Biosphere Reserve, 28-ix-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2893, alt. 475 m); 6 examples : Meghalaya, West Garo Hills district, Rongram River, Selbalgre, Nokrek Biosphere Reserve, 25-ix-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2908, alt. 488 m, N : 25°34'40.2", E : 90°17'27.7"); 3 examples : Meghalaya, West Garo Hills district, Selbalgre, Nokrek Biosphere Reserve, 25-ix-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2911, alt. 509 m, N : 25°34'30.7", E : 90°17'20.0"); 1 example : Meghalaya, East Khasi Hills district, Mustoh village, 31-viii-2009, Coll. A. Rana and Party (Reg. No. V/F/ERS/ZSI/2976, alt. 400 m, N : 25°12'01.9", E : 91°38'36.5"); 1 example : Arunachal Pradesh, East Siang district, Sibokrong Stream, 4-iii-2007, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/3114, alt. 180 m, N : 28°04'37.1", E : 95°19'09.3"); 2 examples : Meghalaya, East Garo Hills district, Chisobibra, Nokrek Biosphere Reserve, 27-vi-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/3037); 6 examples : Meghalaya, West Garo Hills district, Kalupara Chiring, Nokrek Biosphere Reserve, 25-iv-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/3033, alt. 87 m, N : 25°24'14.8", E : 90°16'04.0"); 11 examples : Meghalaya, East Garo Hills district, Simsang River, Nokrek Biosphere Reserve, 12-ii-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/3038, alt. 813 m, N : 25°29'28.5", E : 90°19'55.5"); 2 examples : Meghalaya, East Garo Hills district, Rongram River, Nokrek Biosphere Reserve, 14-ii-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/3039); 12 examples : Meghalaya, East Garo Hills district, Chinapat, Nokrek Biosphere Reserve, 27-iv-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/3040, alt. 138 m, N : 25°33'07.6", E : 90°22'41.8"); 18 examples : Meghalaya, West Garo Hills district, Manchuri Chiring, Nokrek Biosphere Reserve, 23-vi-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/3247, alt. 650 m, N : 25°33'26.3", E : 90°18'43.6").

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line short, ending below anterior part of dorsal fin or slightly in front of it; body with a network of irregular crossbars, the anterior bars reticulated; dorsal fin with 8 branched rays; caudal fin forked.

Distribution : India : Assam, Meghalaya.

IUCN Status : Vulnerable.

Remarks : Endemic to North East India.

38. *Schistura rosammai* (Sen, 2009)

2009. *Aborichthys rosammai* Sen, *Rec. zool. Surv. India*, **109**(2) : 15, fig. 1, pls. 1-2 (Type locality : Pabomukh, Subansiri River, Dhemaji district, Assam, India).

Material Examined : 5 examples : Arunachal Pradesh, Subansiri district, Sippi River, 05-vi-2007, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2497, alt. 251 m, N : 28°04'80.9", E : 94°09'50.4"); 4 examples : Arunachal Pradesh, Subansiri district, Poyin River, 04-vi-2007, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2512, alt. 567 m, N : 27°42'55.3", E : 93°57'04.7").

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line complete; body with 10-11 bands which coalesced at caudal peduncle region; dorsal surface of head grayish, fins dull white; dorsal fin with 7½ branched rays; caudal fin more or less truncate with a black band at base.

Distribution : India : Arunachal Pradesh; Assam.

IUCN Status : Not Assessed.

Remarks : Endemic to North East India.

Although, Kottelat (2012) placed *Aborichthys rosammai* Sen, 2009 under the genus *Schistura*, the authors are of the opinion that the species should remain under the genus *Aborichthys* due to the position of the vent, which is nearer to pelvic fin.

39. *Schistura rupecula* McClelland, 1838

1838. *Schistura rupecula* McClelland, *J. Asiat. Soc. Beng.*, **7** : 948, fig. 3, pl. 55 (Type locality : Simla).

Material Examined : 1 example : Meghalaya, Simsang River, Nokrek Biosphere Reserve, 21-xi-2007, Coll. I.J. Kharkongor and Party (Reg. No. V/F/ERS/ZSI/2604, alt. 905 m, N : 25°29'23.6", E : 90°19'45.9"); 2 examples : Meghalaya, East Garo Hills district, Ganol River, Nokrek Biosphere Reserve, 13-ii-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2610, alt. 964 m, N : 25°30'19.6", E : 90°18'20.7"); 4 examples : Meghalaya, West Garo Hills district, Achingre, Nokrek Biosphere Reserve, 10-ii-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2630, alt. 336 m, N : 25°25'45.8", E : 90°10'00.05"); 1 example : Meghalaya, South Garo Hills district, Norang Chiring, Nokrek Biosphere Reserve, 23-vi-2009, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2821, alt. 347 m, N : 25°25'49.0", E : 90°19'04.6");

1 example : Meghalaya, West Garo Hills district, Rongram River, Selbalgre, Nokrek Biosphere Reserve, 25-ix-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2909, alt. 488 m, N : 25°34'40.2", E : 90°17'27.7"); 1 example : Meghalaya, West Garo Hills district, Manchuri Chiring, Nokrek Biosphere Reserve, 23-vi-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/3041, alt. 650 m, N : 25°33'26.3", E : 90°18'43.6").

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line complete; body marked with 9-12 vertical bands broader than interspaces in adult specimens; dorsal fin with 8 branched rays; caudal fin truncate or slightly emarginated.

Distribution : India : Arunachal Pradesh, Manipur, Meghalaya, Nagaland, Simla, Kashmir, Doon Valley, Poonch Valley, Western Himalaya, Kumaon Garhwal Himalaya, Yamuna, Sutlej drainages in Himachal Pradesh.

Elsewhere : Nepal.

IUCN Status : Least Concern.

40. *Schistura savona* (Hamilton, 1822)

1822. *Cobitis savona* Hamilton, *Fishes of Ganges* : 357, 394 (type locality : Kosi River at Nathpur, Uttar Pradesh).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line complete; body marked with 9-10 narrow, yellowish bands; dorsal fin with 9 branched rays; caudal fin deeply emarginated, often with 1 or 2 V-shaped bands.

Distribution : India : Arunachal Pradesh, Assam, Meghalaya, Mizoram, Nagaland, Tripura. Widely distributed in Eastern sub-Himalayan region, North Bengal, Uttar Pradesh.

Elsewhere : Bangladesh; Nepal.

IUCN Status : Least Concern.

41. *Schistura scaturigina* McClelland, 1839

(Plate-II-B)

1839. *Schistura scaturigina* McClelland, *Asiat. Res.*, **19** : 308, 443, fig. 6, pl. 53 (Type locality : Assam).

Material Examined : 1 example : Arunachal Pradesh, Subansiri district, Sippi River, 05-vi-2007, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2496, alt. 251 m, N : 28°04'80.9", E : 94°09'50.4"); 4 examples : Meghalaya, Jaintia Hills district, Synrang Thloo, Lumshnong village, 15-vi-2005, Coll. I.J. Kharkongor and Party (Reg. No. V/F/ERS/ZSI/2521, alt. 572 m, N : 25°11'10.8", E : 92°22'21.5"); 9 examples : Meghalaya, Jaintia Hills district, Lumshnong

village, 16-vi-2005, Coll. J. Lyngdoh and Party (Reg. No. V/F/ERS/ZSI/3031, alt. 428 m, N : 25°10'35.3", E : 92°23'12.8"); 3 examples : Meghalaya, West Garo Hills district, Achingre, Nokrek Biosphere Reserve, 10-ii-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/3035, alt. 336 m, N : 25°25'45.8", E : 90°10'00.5"); 1 example : Meghalaya, West Garo Hills district, Rongram River, Nokrek Biosphere Reserve, 22-vi-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/3036, alt. 632 m, N : 25°36'50.0", E : 90°18'47.1"); 8 examples : Meghalaya, West Garo Hills district, Manchuri Chiring, Nokrek Biosphere Reserve, 23-vi-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/3042, alt. 650 m, N : 25°33'26.3", E : 90°18'43.6"); 8 examples : Meghalaya, Jaintia Hills district, Umsahi, Lumshnong village, 16-vi-2007, Coll. J. Lyngdoh and Party (Reg. No. V/F/ERS/ZSI/3144, alt. 476 m, N : 25°10'04.5", E : 92°22'41.3"); 3 examples : Arunachal Pradesh, Anzaw district, Demwe stream, 11-iii-2007, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/3153, alt. 553 m, N : 27°55'38.0", E : 98°19'10.4").

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line complete; body with 10-12 bands across lateral line interspaced with narrow short bands from above; dorsal fin with 8 branched rays; caudal fin forked.

Distribution : India : Arunachal Pradesh, Assam, Meghalaya, Mizoram, Nagaland, Tripura, Sikkim, Eastern Himalayas, Darjeeling, Uttar Pradesh.

Elsewhere : Bangladesh; Bhutan; Nepal.

IUCN Status : Least Concern.

42. *Schistura sijuensis* (Menon, 1987)

1987. *Noemacheilus sijuensis* Menon, *Fauna of India, Pisces*, 4 : 175, fig. 2, pl. 6 (type locality : Siju cave, Garo Hills, Meghalaya).

Material Examined : 5 examples : Meghalaya, Pathar Syllang Stream, Mawsyiar village, West Khasi Hills district, 02-viii-2011, Coll. J. Lyngdoh and Party (Reg. No. V/F/ERS/ZSI/3186, N : 25°33'44.2", E : 91°17'42.3").

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line complete; body marked with 8-10 short light grey bands across back which break up into secondary bands below lateral line; dorsal fin with 8 branched rays; caudal fin forked with two V-shaped bands.

Distribution : India : Meghalaya.

IUCN Status : Endangered.

Remarks : Endemic to North East India.

43. *Schistura sikmaiensis* (Hora, 1921)

(Plate-III-B)

1921. *Nemachilus sikmaiensis* Hora, *Rec. Indian Mus.*, **22** (3) : 201, fig. 4, pl. 9 and figs. 1-1a, pl. 10 (Type locality : Sikmai stream near Patel, Manipur).

Material Examined : 1 example : Arunachal Pradesh, Lohit district, Panbari village, 12-iii-2007, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2539, alt. 204 m, N : 27°54'56.7", E : 96°11'07.8"); 4 examples : Meghalaya, East Garo Hills district, Didari River, Daribokgre, Nokrek Biosphere Reserve, 22-ii-2009, Coll. D. Khyntiam and Party (Reg. No. V/F/ERS/ZSI/2827, alt. 1105 m, N : 25°29'48.3", E : 90°19'22.5"); 3 examples : Meghalaya, West Garo Hills district, Ganol River, Badadangre, Nokrek Biosphere Reserve, 23-ii-2009, Coll. D. Khyntiam and Party (Reg. No. V/F/ERS/ZSI/2831, alt. 965 m, N : 25°30'18.7", E : 90°18'19.9"); 4 examples : Meghalaya, East Garo Hills district, Simsang River, Daribokgre, Nokrek Biosphere Reserve, 22-ii-2009, Coll. D. Khyntiam and Party (Reg. No. V/F/ERS/ZSI/2843, alt. 851 m, N : 25°29'28.8", E : 90°19'57.8"); 2 examples : Meghalaya, West Garo Hills district, Ganol River, Bibragre, Nokrek Biosphere Reserve, 18-i-2008, Coll. D. Khyntiam and Party (Reg. No. V/F/ERS/ZSI/2867, alt. 567 m, N : 25°32'27.6", E : 90°17'19.0"); 1 example : Meghalaya, East Garo Hills district, Simsang River, Bonsangre, Nokrek Biosphere Reserve, 22-i-2008, Coll. D. Khyntiam and Party (Reg. No. V/F/ERS/ZSI/2868, alt. 318 m, N : 25°34'13.6", E : 90°27'37.9"); 1 example : Meghalaya, West Garo Hills district, Simsang River, Chinapat, Nokrek Biosphere Reserve, 19-i-2008, Coll. D. Khyntiam and Party (Reg. No. V/F/ERS/ZSI/2869, alt. 443 m, N : 25°33'08.2", E : 90°22'39.0"); 1 example : Meghalaya, East Garo Hills district, Didami Chiring, Nokrek Biosphere Reserve, 29-iv-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2870, alt. 500 m, N : 25°32'28.1", E : 90°17'22.7"); 8 examples : Meghalaya, East Garo Hills district, Simsang River, Daribokgre, Nokrek Biosphere Reserve, 01-v-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2873); 1 examples : Meghalaya, East Garo Hills district, Chinapat, Nokrek Biosphere Reserve, 14-ii-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2874); 5 examples : Meghalaya, West Garo Hills district, Rongram River, Rengsangre, Nokrek Biosphere Reserve, 19-vi-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2878, alt. 522 m, N : 25°34'21.2", E : 90°17'50.8"); 2 examples : Meghalaya, East Garo Hills district, Simsang River, Nokrek Biosphere Reserve, 21-xi-2007, Coll. I.J. Kharkongor and Party (Reg. No. V/F/ERS/ZSI/2880, alt. 905 m, N : 25°29'23.6", E : 90°19'45.9"); 1 example : Meghalaya, East Garo Hills district, Manchuri Chiring, Nokrek Biosphere Reserve, 28-iv-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2881, alt. 623 m, N : 25°33'25.9", E : 90°18'44.3"); 5 examples : Meghalaya, East Garo Hills district,

Simsang River, Nokrek Biosphere Reserve, 12-ii-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2884, alt. 813 m, N : 25°29'28.5", E : 90°19'55.5"); 2 examples : Meghalaya, West Garo Hills district, Rongram River, Rengsangre, Nokrek Biosphere Reserve, 25-ix-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2894, alt. 475 m); 1 example : Meghalaya, West Khasi Hills district, Wahblei, 22-vi-2010, Coll. I.J. Kharkongor and Party (Reg. No. V/F/ERS/ZSI/3016, alt. 884 m, N : 25°39'42.6", E : 91°05'06.0"); 1 example : Meghalaya, East Khasi Hills district, Tyrna village, 27-x-2010, Coll. A. Rana and Party (Reg. No. V/F/ERS/ZSI/3115, alt. 536 m, N : 25°14'51.8", E : 91°41'04.3"); 1 example : Meghalaya, Ischamati, East Khasi Hills district, 07-ix-2011, Coll. A. Rana and Party (Reg. No. V/F/ERS/ZSI/3216, N : 25°09'20.3", E : 91°41'26.9"); 6 examples : Meghalaya, Lyngkyrdem village, East Khasi Hills district, 09-ix-2011, Coll. A. Rana and Party (Reg. No. V/F/ERS/ZSI/3218, N : 25°25'36.2", E : 91°51'44.7").

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line complete; body with 17-20 transverse bars, interspaced by narrower white ones, bars often split up into several narrow stripes or coalesced anteriorly; dorsal fin with 8 branched rays; caudal fin forked.

Distribution : India : Throughout North Eastern States.

Elsewhere : Myanmar; Yunnan in China; Bangladesh.

IUCN Status : Least Concern.

44. *Schistura singhi* (Menon, 1987)

1987. *Noemacheilus singhi* Menon, *Fauna of India*, Pisces, 4 : 119, fig. 1, pl. 16 (type locality : Kiphire, Nagaland).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line incomplete, ending below origin of dorsal fin; body marked with 7-11 irregular vertical bars descending from back to sides below lateral line, not extending to ventral surface; dorsal fin with 7 branched rays; caudal fin truncate or slightly emarginated.

Distribution : India : Nagaland.

IUCN Status : Vulnerable.

Remarks : Endemic to India.

45. *Schistura tigrina* Vishwanath & Nebeshwar Sharma, 2005*

2005. *Schistura tigrinum* Vishwanath & Nebeshwar Sharma, *J. Bombay nat. Hist. Soc.*, **102**(1) : 79, fig. 1 (type locality : Barak River at Khunphung, Tami subdivision, Tamenglong district, Manipur, India).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line incomplete extending up to level of vent or up to anal fin origin; body with 18-30 dark brown transverse bars, irregularly arranged and often fused at different points; dorsal fin with 8 branched rays, inserted slightly nearer caudal fin base than snout tip; moderately high adipose crest on dorsal aspect of caudal peduncle; caudal fin deeply emarginated.

Distribution : India : Manipur.

IUCN Status : Endangered.

Remarks : Endemic to North East India.

46. *Schistura tirapensis* Kottelat, 1990

1990. *Schistura tirapensis* Kottelat, *Verlag. Dr. Friedrich Pfeil*, Munchen : 118. (replacement name for *Noemacheilus arunachalensis* Menon, 1987 : 129, fig. 10, pl. 16, type locality : Riwa River at Nampong, Tirap district, Arunachal Pradesh).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line incomplete, ending at base of pelvic fin; body with 10-11 regular bands; dorsal fin with 8 branched rays; caudal fin forked.

Distribution : India : Arunachal Pradesh, Assam, Mizoram, Nagaland.

IUCN Status : Least Concern.

Remarks : Endemic to North East India.

47. *Schistura vinciguerrae* (Hora, 1935)

1935. *Nemachilus vinciguerrae* Hora, *Rec. Indian Mus.*, **37** (1) : 62, fig.12, pl. 3 (Type locality : Meekalan, Burma; Thailand).

Material Examined : 7 examples : Meghalaya, East Garo Hills district, Rongram Chiring, Nokrek Biosphere Reserve, 28-iv-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2691, alt. 437 m, N : 25°34'21.1", E : 90°17'57.1"); 1 example : Meghalaya, West Garo Hills district, Selbalgre, Nokrek Biosphere Reserve, 26-iv-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/2695, alt. 488 m, N : 25°34'40.2", E : 90°17'27.7"); 1 example : Meghalaya,

West Garo Hills district, Kalupara Chiring, Nokrek Biosphere Reserve, 25-iv-2008, Coll. R. Mathew and Party (Reg. No. V/F/ERS/ZSI/3034, alt. 87 m, N : 25°24'14.8", E : 90°16'04.0").

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line complete; body with 10-16 dark bars, wider than interspaces, bars in front of dorsal fin are conspicuously thinner than those behind; dorsal fin with 8 branched rays having 1 or 2 rows of spots; caudal fin forked with 2-3 V-shaped bands.

Distribution : India : Assam, Manipur, Mizoram, Tripura.

Elsewhere : Myanmar.

IUCN Status : Least Concern.

48. *Schistura porocephala* Lokeshwor and Vishwanath, 2013*

2013. *Schistura porocephala* Lokeshwor and Vishwanath, *Ichthyol. Res.*, **60**(2) : 160, fig. 1 (type locality : Stream which drains into the Mat River, Koladyne basin, at Thualthu, Mizoram).

Material Examined : No specimens examine.

Diagnostic Characters : A species of *Schistura* with the combination of following characters : Lateral line incomplete; body with 20-23 thin dark olivaceous bars which often bifurcated from the dorso-lateral region; dorsal fin with 7½ branched rays and two rows of black spots on fin; caudal fin slightly emarginated with 9 + 8 branched rays.

Distribution : India : Mizoram.

IUCN Status : Not Assessed.

Remarks : Endemic to North East India.

SUMMARY

The present study was undertaken with an aim to clear the backlog collections of unidentified Nemacheilines present in the holdings of North Eastern Regional Centre, Zoological Survey of India (NERC/ZSI), Shillong. 400 specimens of Nemacheiline loaches were examined and identified as 19 species under 6 genera. In North east India, *Nemacheilidae* is represented by 48 species under 6 genera : *Aborichthys* (5 spp.), *Acanthocobitis* (3 spp.), *Nemacheilus* (1 sp.), *Neonoemacheilus* (4 spp.), *Physoschistura* (5 spp.) and *Schistura* (30 spp). Of the 48 species, 25 species are endemic to North East India and 8 species are endemic to India. As per the IUCN status, 1 species is Critically Endangered, 5 species are Endangered, 4 species are Near Threatened and 9 species are Vulnerable. Of the total species reported from North East India, 31 species are present in the holdings of NERC/ZSI, Shillong.

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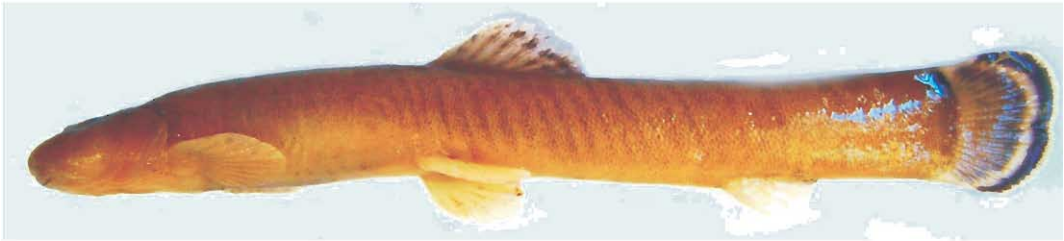
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PLATE-I



A. Aborichthys garoensis



B. Aborichthys kempfi



C. Acanthocobitis botia

PLATE- II



A. Schistura devdevi



B. Schistura scaturigina



C. Schistura reticulofasciata

PLATE- III



A. Schistura beavani



B. Schistura sikmaiensis



C. Schistura papulifera

