

Fields survey of freshwater fishes in Upper Moei River, Salween Basin, frontier of Thailand and Myanmar

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ABSTRACT

The present paper reports on a field survey in Upper Moei River, at Phop Phra District, Tak Province, Northwest Thailand, carried out in January and June 2010. Specimens encountered belong to 5 orders, 8 families and 20 species of freshwater fishes. In particular, *Schistura waltoni*, *S. vinciguerrae*, *Lepidocephalichthys micropogon*, *Neonoemacheilus labeosus* and *Gagata dolichonema* are new records for Moei River; two species remain not fully identified and, at the moment are reported as *Devario* sp. and *Channa* cf. *gachua*. The Thai local names and distribution data of freshwater fishes are provided.

KEY WORDS

freshwater fishes; Moei River; Salween Basin; Thailand.

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INTRODUCTION

Salween River System originates at the Himalaya mountain range and flows from the Tibetan Plateau into the Andaman Sea. It drains a narrow and mountainous watershed of 324,000 square kilometres that extends into the countries of China, Burma and Thailand.

In Thailand, Salween Basin has three large tributaries namely Pai River, Suriya - Maekasat River and Moei River (Vidthayanon et al., 1997). Moei River, at the frontier between Thailand and Myanmar, Tak Province, is characterized by its own ecological features which differentiate it from the other river systems of the Indo-Burmese Province. Although it is certainly of interest, nevertheless is poorly investigated and little is known about freshwater fishes occurring in this area. For this reason, a survey project

on freshwater fishes of the Upper Moei River at Phop Phra District, Tak Province, Northwest Thailand (Fig. 3) was carried out in January and June 2010. We separated this area into 3 regions in accordance to the ecosystems; namely:

1) Pool of the headwater stream. The average width of the pool is about 5-10 m, average depth less than 1 m, the bottom is a combination of clay and sand, the stream is transparent and running slowly.

2) Small tributary streams, in the foothill. Average width is about 5 m or less, depth is less than 1 m, the bottom is sandy, the stream is turbid and running fast.

3) Main stream of Upper Moei River, at the frontier of Thailand and Myanmar. Average width is about 100 m, average depth is about 1-2 m, the bottom is sandy with clay, the stream is turbid and running fast.

RESULTS

Order CYPRINIFORMES Bleeker, 1859
Family CYPRINIDAE Cuvier, 1817

Devario sp.

DISTRIBUTION. This species (Fig. 3) is known exclusively from Upper Moei River, Tak Province, Thailand.

HABITAT. *Devario* sp. was found in the pool of the headwater stream.

REMARKS. Body side and all fins of specimens observed in this study are dark red, which in our opinion, could be referred to mature males. In Thailand, many species of cyprinid fish of the genus *Devario* still have unclear identifications. Although further studies are certainly needed, nevertheless we believe this taxon to be different from other *Devario* species of Thailand.

THAI LOCAL NAME. Pla seel bai pai.

Barilius infrafasciatus Fowler, 1934

DISTRIBUTION. This species (Fig. 4) is known from Chao Phraya River and Mekong basins, Thailand.

HABITAT. *B. infrafasciatus* was found in the small tributary streams.

REMARKS. While alive, the specimens show many clearly blue upright strips along the body.

THAI LOCAL NAME. Pla num murk.

Mystacoleucus argenteus (Day, 1888)

DISTRIBUTION. This species (Fig. 5) is known only from Salween Basin, frontier of Thailand and Myanmar; Tenasserim Basin in Myanmar.

HABITAT. *M. argenteus* was found in headwater of the main stream.

THAI LOCAL NAME. Pla kee yok or Pla num lung.

Pethia stoltzkaenus (Day, 1869)

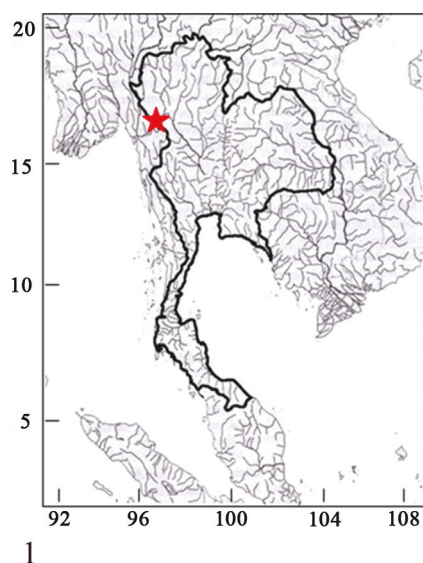
DISTRIBUTION. This species (Fig. 6) is known from Meklong River and Chao Phraya River, Thailand; Mekong Basin, Thailand and Laos; Salween Basin, Thailand and Myanmar; Irrawaddy Basin in Myanmar; Bengal, India.

HABITAT. *P. stoltzkaenus* was found in the headwater of the main stream.

THAI LOCAL NAME. Pla ma phai.

Systomus orphoides (Valenciennes, 1842)

DISTRIBUTION. This species (Fig. 7) is native



Figures 1, 2. Study area: Upper Moei River, Salween Basin, frontier of Thailand and Myanmar.

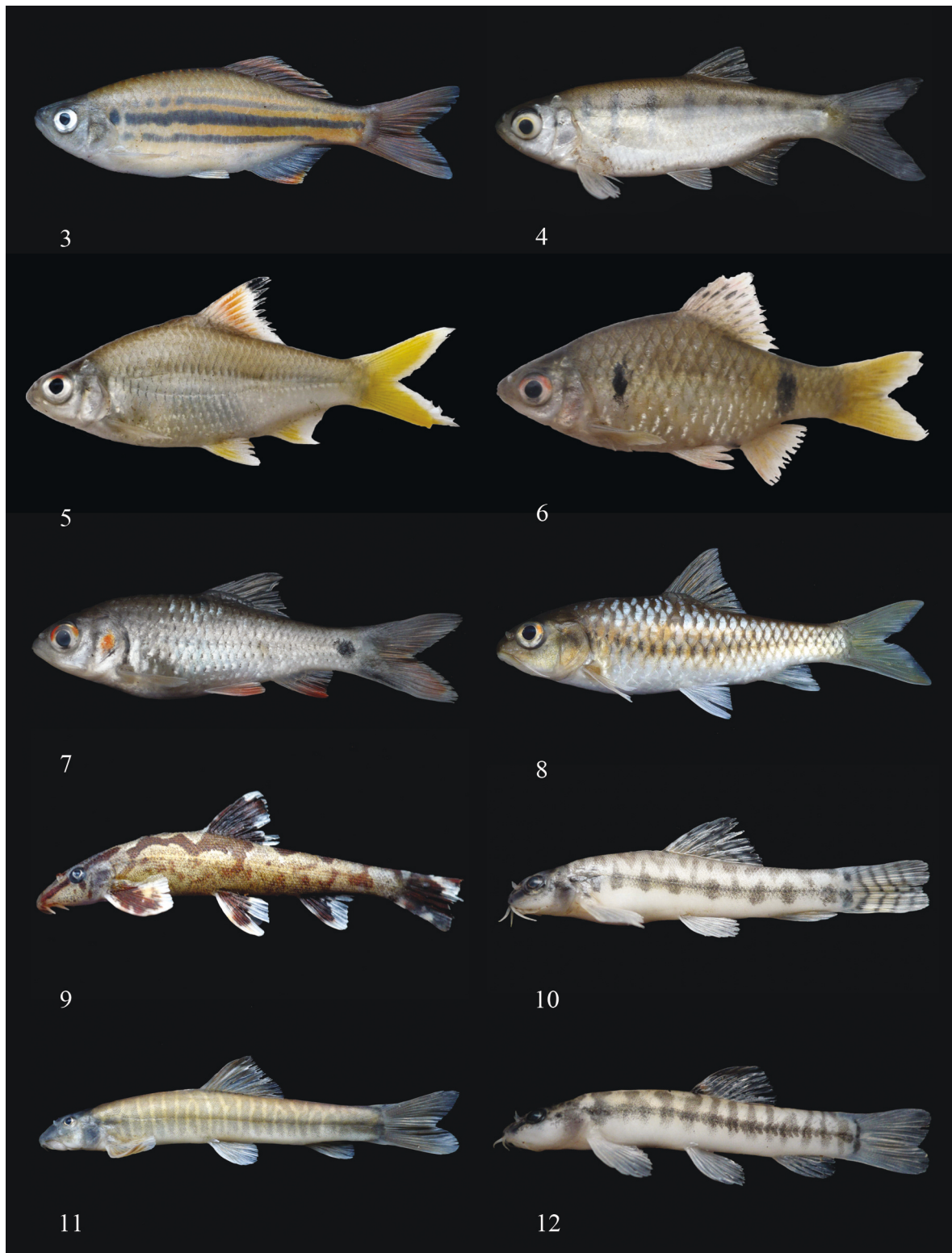


Figure 3. *Devario* sp., 55 mmSL. Figure 4. *Barilius infrafasciatus*, 38 mmSL. Figure 5. *Mystacoleucus argenteus*, 52 mmSL. Figure 6. *Pethia stoliczkana*, 35 mmSL. Figure 7. *Systomus orphoides*, 48 mmSL. Figure 8. *Neolissochilus stracheyi*, 92 mmSL. Figure 9. *Homaloptera bilineata*, 43 mmSL. Figure 10. *Acanthocobitis zonalternans*, 29 mmSL. Figure 11. *Neo-noemacheilus labeosus*, 66 mmSL. Figure 12. *Schistura waltoni*, 27 mmSL.

species from Myanmar, Thailand, Laos, Cambodia, Viet Nam, Malaysia and Indonesia; introduced in Europe and India.

REMARKS. In this study, only one specimen was found in the pool of the headwater stream.

THAI LOCAL NAME. Pla gam chum.

***Neolissochilus stracheyi* (Day, 1871)**

DISTRIBUTION. This species (Fig. 8) is known from Meklong River, Chao Phraya River, Southeast Basin and Peninsular Thailand; Mekong Basin in Thailand, Laos, Cambodia and Viet Nam; Salween Basin, Thailand and Myanmar.

HABITAT. *N. stracheyi* was found in the pool of the headwater stream.

REMARKS. Juveniles show a clearly black blot on the caudal peduncle which was never observed in the adults.

THAI LOCAL NAME. Pla plong.

Family BALITORIDAE Swainson, 1839

***Homaloptera bilineata* Blyth, 1860**

DISTRIBUTION. *H. bilineata* (Fig. 9) is known from Himalayan waters, Nepal; India; Tenasserim Basin, Myanmar; Salween Basin, Thailand and Myanmar.

HABITAT. In this study, only one specimen of *H. bilineata* was found in small tributary stream.

THAI LOCAL NAME. Pla jing jok.

***Acanthocobitis zonalternans* (Blyth, 1860)**

DISTRIBUTION. *A. zonalternans* (Fig. 10) is known from Manipur, India; Irrawaddy Basin, Chindwin Basin, Tenasserim Basin, Myanmar; Salween Basin, Thailand and Myanmar; Mekong Basin and Peninsular Thailand; Peninsular Malaysia.

HABITAT. This species was found in the headwater of the main stream.

THAI LOCAL NAME. Pla kor ta narm.

***Neonoemacheilus labeosus* (Kottelat, 1982)**

DISTRIBUTION. In Thailand, *N. labeosus* (Fig.

11) is recorded only in Salween River at Mae Sahm Leap, Mae Hong Son Province, Thailand. New record for Moei River.

HABITAT. In this study, only one specimen was found in the main stream.

REMARKS. In the genus *Neonoemacheilus* external characters are similar to those of many loach-like fishes, i.e. *Nemacheilus* and *Schistura*. But this genus is distinguished from the other ones by the combination of the following characters: the upper lip of the mouth is thick and fringed, adult males show a suborbital flap (Kottelat, 1990).

THAI LOCAL NAME. Pla kor.

***Schistura waltoni* (Fowler, 1937)**

DISTRIBUTION. *S. waltoni* (Fig. 12) is known from the Upper Chao Phraya River system. New record for Moei River.

HABITAT. This species was found in the pool of the headwater stream.

THAI LOCAL NAME. Pla kor.

***Schistura vinciguerrae* (Hora, 1935)**

DISTRIBUTION. *S. vinciguerrae* (Fig. 13) is known from India; Irrawaddy and Salween basins in Myanmar and China. In Thailand, this species was known only in Salween Basin. New record for Moei River.

HABITAT. This species was found in the pool of the headwater stream.

THAI LOCAL NAME. Pla kor.

Family COBITIDAE Swainson, 1839

***Acanthopsoides delphax* Siebert, 1991**

DISTRIBUTION. This species (Fig. 14) is known from Mekong, Salween and Chao Phraya basins, Thailand.

HABITAT. *A. delphax* was found in the main stream.

REMARKS. *A. delphax* is distinguished from *A. gracilentus* by the combination of the following characters: eye almost wholly in posterior half of the head (in *A. gracilentus* eye almost wholly in

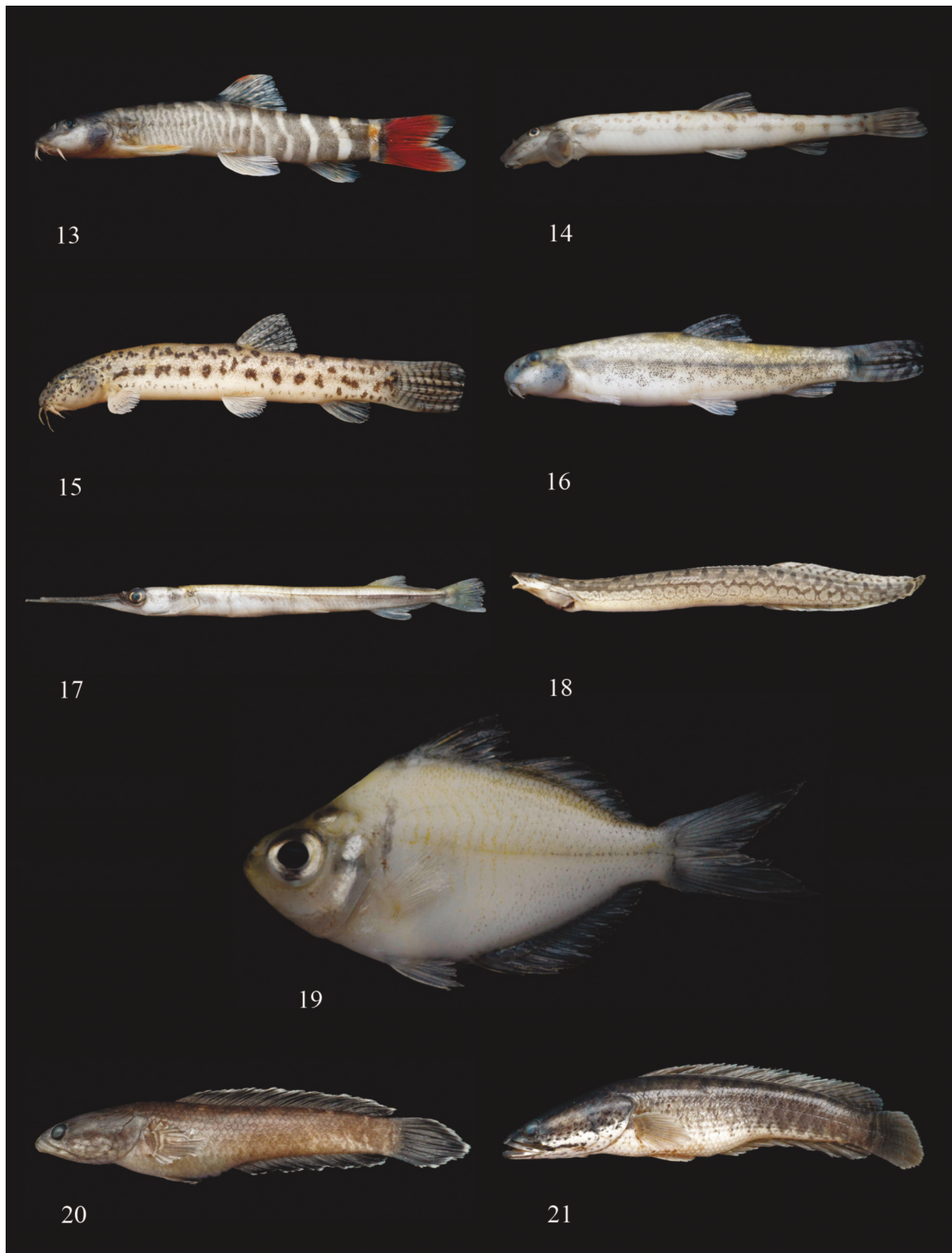


Figure 13. *Schistura vinciguerrae*, 58 mmSL. Figure 14. *Acanthopsooides delphax*, 40 mmSL. Figure 15. *Lepidocephalichthys berdmorei*, 71 mmSL. Figure 16. *Lepidocephalichthys micropogon*, 68 mmSL. Figure 17. *Xenentodon cancila*, 117 mmSL. Figure 18. *Mastacembelus armatus*, 142 mmSL. Figure 19. *Parambasis vollmeri*, 34 mmSL. Figure 20. *Channa cf. gachua*, 136 mmSL. Figure 21. *Channa striata*, 129 mmSL.

anterior half of the head), snout long 2 times or less than head length (in *A. gracilentus* is short), vertebral number is 37 or more (in *A. gracilentus* is usually less than 37) (Siebert, 1991).

THAI LOCAL NAME. Pla rak kluy kae.

***Lepidocephalichthys berdmorei* (Blyth, 1860)**

DISTRIBUTION. *L. berdmorei* (Fig. 15) is known from India; Bangladesh; Myanmar; China; Thailand; Laos; Peninsular Malaysia.

HABITAT. This species was found in the pool of the headwater stream.

REMARKS. Two species of this genus, were found in the study area. *L. berdmorei* in the headwater stream and *L. micropogon* (Fig. 16) in the main stream. Although the two species are very similar, *L. berdmorei* is distinguished from *L. micropogon* by the combination of the following characters: caudal fin is truncate (in *L. micropogon* is strongly forked), dorsal-fin origin usually posterior to pelvic-fin origin (Vidthayanon et al., 2005).

THAI LOCAL NAME. Pla eed.

***Lepidocephalichthys micropogon* (Blyth, 1860)**

DISTRIBUTION. It is known from India, Bangladesh and Myanmar; It is a new record for Moei River.

HABITAT. *L. micropogon* was found in the main stream.

THAI LOCAL NAME. Pla eed.

Order SILURIFORMES Cuvier, 1817
Family SISORIDAE Bleeker, 1858

***Gagata dolichonema* He, 1996**

DISTRIBUTION. This species is known from Chindwin Basin, Manipur, India; Irrawaddy Basin, Tenasserim Basin, Salween Basin in Myanmar; in Thailand, this species was known only in Salween Basin and is a new record for Moei River.

HABITAT. *G. dolichonema* was found in the main stream.

THAI LOCAL NAME. Pla ya kui.

Order BELONIFORMES Berg, 1940
Family BELONIDAE Bonaparte, 1832

***Xenentodon cancila* (F. Hamilton, 1822)**

DISTRIBUTION. *X. cancila* (Fig. 17) is known from India Sub-continent to Southeast Asia. Introduced in America.

HABITAT. This species was found in a small tributary of the main stream.

THAI LOCAL NAME. Pla kra tung hav.

Order SYNBRANCHIFORMES Bonaparte, 1838
Family MASTACEMBELIDAE Bleeker, 1870

***Mastacembelus armatus* (Lacepède, 1800)**

DISTRIBUTION. *M. armatus* (Fig. 18) is known from India Sub-continent to Southeast Asia.

HABITAT. This species was found in the headwater of the main stream

THAI LOCAL NAME. Pla kra ting.

Order PERCIFORMES Bleeker, 1859
Family AMBASSIDAE Bonaparte, 1832

***Parambassis vollmeri* Roberts, 1994**

DISTRIBUTION. This species (Fig. 19) is known from Salween Basin, Thailand and Myanmar.

HABITAT. *P. vollmeri* was found in a small tributary of the main stream.

THAI LOCAL NAME. Pla pan ghav.

Family CHANNIDAE Berg, 1940

***Channa* cf. *gachua* (Hamilton, 1822)**

DISTRIBUTION. *C. cf. gachua* (Fig. 20) is known from India Sub-continent to Southeast Asia.

HABITAT. This species was found in the main stream.

REMARKS. In Thailand, the taxonomic status of this taxon is still unclear, being reported from time to time as *C. gachua* or *C. limbata*.

THAI LOCAL NAME. Pla gung.

Channa striata (Bloch, 1793)

DISTRIBUTION. *C. striata* (Fig. 21) is known from Pakistan, India Sub-continent to Southeast Asia and China; introduced in Europe, Africa, America, Philippines, Papua New Guinea and Korea.

HABITAT. This species was found in the main stream.

THAI LOCAL NAME. Pla chon.

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REFERENCES

- Kottelat M., 1990. Indochinese nemacheilines. A revision of nemacheiline loaches (Pisces: Cypriniformes) of Thailand, Burma, Laos, Cambodia and southern Viet Nam. Verlag Dr. Friedrich Pfeil, München, 262 pp.
- Siebert D.J., 1991. Revision of *Acanthopsoides* Fowler, 1934 (Cypriniformes: Cobitidae), with the description of new species. Japanese Journal of Ichthyology, 38: 97-114.
- Vidthayanon C., Karnasuta J. & Nabhitabhata J., 1997. Diversity of freshwater fishes in Thailand. Office of Environmental and Planning, Bangkok, 120 pp.
- Vidthayanon C., Termvidchakorn A. & Pe M., 2005. Inland fishes of Myanmar. Southeast Asian fisheries development center, 160 pp.