ความหลากหลายของชนิดปลาน้ำจืดในแม่น้ำมูล ในเขตจังหวัดนครราชสีมาและบุรีรัมย์

Species Diversity of Freshwater Fish in Mun River, Nakhon Ratchasima and Buriram Provinces

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บทคัดย่อ

จากการศึกษาความหลากหลายของชนิดและการแพร่กระจายของปลาน้ำจืดในแม่น้ำมูล ในเขตจังหวัดนครราชสีมาและบุรีรัมย์ ในระหว่างเดือนตุลาคม พ.ศ. 2554 ถึงเดือนกันยายน 2555 พบปลาน้ำจืด จำนวน 24 วงศ์ 64 สกุล 107 ชนิด คือ *Chitala ornata*, *Notopterus notopterus, Clupeichthys aesapnensis, Paralaubuca typus, P. riveroi, Oxygaster pointoni, Parachela oxygastroides, P. siamensis, P. maculicauda, Esomus metallicus, Rasbora borapetensis, R. myersi, R. tornieri, R. spilocerca, R. trilineata, Thynnichthys thynnoides, Cycloeheilichthys enoplos, C. furcatus, C. apogon, C. lagleri, C. repasson, Mystacoleucus argenteus, M. ectypus, Puntioplites falcifer, P. proctozysron, Barbodes altus, B. gonionotus, B. schwanenfeldi, Hypsibarbus lagleri, H. wetmorei, Discherodontus ashmeadi, Puntius brevis, Systomus orphoides, S. partipentazona, Osteochilus hasselti, O. melanopleura, O. microcephalus, O. waandersi, Crossocheilus reticulatus, C. siamensis, Epalzeorhynchos frenatum, Labeo rohita, Morulius chrysophekadian, Hampala dispar, H. macrolepidota, Henicorhynchus ornatipinnis, H. lobatus, H. siamensis, Labiobarbus siamensis, Acanthopsis thiemmethdi, Yasuhikotakia modesta, Y. morleti, Syncrossus helodes, Lepidocephalichthys hasselti, Pangio anguillaris, Pseudomystus siamensis, Heterobagrus bocourti, Mystus singaringan, M. mysticetus, M. atrifasciatus, Hemibagrus filamentus, H. wickioides, Belodontichthys dinema, Kryptopterus cheveyi, K. geminus, Micronema apogon, M. bleekeri, Ompok krattensis, Wallago attu, Laides longibarbis, Pangasianodon gigas, Pangasius conchophilus, P. hypophthalmus, P. larnaudi, P. macronema, P.*

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pleurotaenia, Helicophagus leptorhynchus, Bagarius yarrelli, Glyptothorax lampris, Akysis varius, Clarias batrachus, C. macrocephalus, Xenantodon cancila, Dermogynys siamensis, Monopterus albus, Macrognathus siamensis, M. semiocellatus, Mastacembelus armatus, Parambassis siamensis, Pristolepis fasciatus, Nandus oxyrhynchus, Oreochromis niloticus, Oxyeleotris marmoratus, Anabas testudineus, Trichopsis pumila, T. vittatus, Trichogaster trichopterus, T. pectoralis, Betta smaragdina, Channa gachua, C. lucius, C. micropeltes, C. striata, Euryglossa harmandi, Monotreta leiurus, M. suvatti และ *M. fangi* ปลาส่วนใหญ่มีการแพร่กระจายอย่างกว้างขวาง ปลาบางชนิดพบในบางบริเวณ ในขณะที่ปลาบางชนิดพบน้อยมาก เช่น *Puntioplites falcifer, Barbodes schwanenfeldi, Hypsibarbus wetmorei, Discherodontus ashmeadi, Crossocheilus reticulates, Epalzeorhynchos frenatum* และ *Belodontichthys dinema*

คำสำคัญ: ความหลากหลายของชนิด ปลาน้ำจืด แม่น้ำมูล

Abstract

Species diversity and distribution of freshwater fish were studied in Mun River, Nakhon Ratchasima and Buriram Provinces, Northeast Thailand, during October 2011 to September 2012. Freshwater fish were found 107 species 64 genera in 24 families as *Chitala ornata*, *Notopterus notopterus, Clupeichthys aesapnensis, Paralaubuca typus, P. riveroi, Oxygaster pointoni, Parachela oxygastroides, P. siamensis, P. maculicauda, Esomus metallicus, Rasbora borapetensis, R. myersi, R. tornieri, R. spilocerca, R. trilineata, Thynnichthys thynnoides, Cycloeheilichthys enoplos, C. furcatus, C. apogon, C. lagleri, C. repasson, Mystacoleucus argenteus, M. ectypus, Puntioplites falcifer, P. proctozysron, Barbodes altus, B. gonionotus, B. schwanenfeldi, Hypsibarbus lagleri, H. wetmorei, Discherodontus ashmeadi, Puntius brevis, Systomus orphoides, S. partipentazona, Osteochilus hasselti, O. melanopleura, O. microcephalus, O. waandersi, Crossocheilus reticulatus, C. siamensis, Epalzeorhynchos frenatum, Labeo rohita, Morulius chrysophekadian, Hampala dispar, H. macrolepidota, Henicorhynchus ornatipinnis, H. lobatus, H. siamensis, Labiobarbus siamensis, Acanthopsis thiemmethdi, Yasuhikotakia modesta, Y. morleti, Syncrossus helodes, Lepidocephalichthys hasselti, Pangio anguillaris, Pseudomystus siamensis, Heterobagrus bocourti, Mystus singaringan, M. mysticetus, M. atrifasciatus, Hemibagrus filamentus, H. wickioides, Belodontichthys dinema, Kryptopterus cheveyi, K. geminus, Micronema apogon, M. bleekeri, Ompok krattensis, Wallago attu, Laides longibarbis, Pangasianodon gigas, Pangasius conchophilus, P. hypophthalmus, P. larnaudi, P. macronema, P. pleurotaenia, Helicophagus leptorhynchus, Bagarius yarrelli, Glyptothorax lampris, Akysis varius, Clarias batrachus, C. macrocephalus, Xenantodon cancila, Dermogynys siamensis, Monopterus albus, Macrognathus siamensis, M. semiocellatus, Mastacembelus armatus, Parambassis siamensis, Pristolepis fasciatus, Nandus oxyrhynchus, Oreochromis niloticus, Oxyeleotris marmoratus, Anabas testudineus, Trichopsis pumila, T. vittatus, Trichogaster trichopterus, T. pectoralis, Betta smaragdina, Channa gachua, C. lucius, C. micropeltes,*

C. striata, Euryglossa harmandi, Monotreta leiurus, M. suvatti and *M. fangi*. The most species of fish were abundant and widely distributed in Mun River. Some species were found in some areas. Whereas, *Puntioplites falcifer, Barbodes schwanenfeldi, Hypsibarbus wetmorei, Discherodontus ashmeadi, Crossocheilus reticulates, Epalzeorhynchos frenatum,* and *Belodontichthys dinema* were rarely found.

Keyword: species diversity, freshwater fish, Mun River

Introduction

Mun River is the important river in Northeast Thailand and rises in Khao Yai National Park. It is 630 km long, and flows through Nakhon Ratchasima, Buriram, Surin, Srisaket until joins to Mekong River in Ubon Ratchathani Province. Freshwater fish are important protein sources for food of people in Northeast Thailand.

Smith[1] reported 555 species in 51 families of freshwater fish in Thailand.

National Inland Fisheries Institute[2] reported data in 1955, 108 species of fish in Mun River, Ubon Ratchathani Province.

Vidthayanon[3] revised Taxonomy of catfish (Family Pangasiidae), and reported 21 species of catfish.

Champasri[4] reported 144 species in 28 families of fish in Yom River, Northern Thailand.

Tan, Lim[5] reported new species of fish from Peninsular Thailand.

Rodmongkoldee, Rodmongkoldee, Okaddee[6] reported 77 species in 22 families of fish in Mun River, Phutthaisong District, Buriram Province.

Species diversity and distribution of freshwater fish in this area have not been recorded. The results of research will bring for the natural resource conservation, and sustainable utilization by local community.

Objective

The objectives of this research were studied species diversity, and distribution of freshwater fish, as well as some parameters of water quality in Mun River, Nakhon Ratchasima and Buriram Provinces.

Materials and Methods

The specimens were collected every month from Mun River in Ban Tha Chang, Chaloem Pra Kiat District, Ban Plau Pau, Non Sung District, Ban Phimai, Phimai District, Ban Khanak, Chum Phuang District, Nakhon Ratchasima Province, as well as Ban Wang Palat, Khu Mueang District, Fisherman Village, Satuek District, Buriram Province, which situated at the riverside, during October 2011 to September 2012. The specimens were collected by using local fishing gears, net, fishnet, hand net, seine, bamboo fish-trap, and fishhook. The specimens were cleaned and preserved in 10% formalin solution. They were deposited in the Science and Applied Science Center, Faculty of Science, Buriram Rajabhat University, Buriram Province. The specimens of

freshwater fish were identified by following Rainboth[7], Smith[1], and Vidthayanon[3].

Physical and chemical parameters of water quality were measured (pH, dissolved oxygen (DO), water temperature, and turbidity by using pH meter (INDEX ID1000), DO meter (HANNA HI9146), and Secchi disk).

Figure 1 Mun River in Ban Phimai, Phimai District, Nakhon Ratchasima Province.

Results

Freshwater fish in Mun River were identified 107 species 64 genera in 24 families (figure 2). The classification and distribution of fish were showed in Table 1.

Some parameters of water quality, which related to the distribution and survival of aquatic animals, were measured as follow: pH 6 - 8, DO 5.4 - 8.3 mg/l, water temperature 23 - 34° C, turbidity 17 - 98 cm. The results of parameters were indicated that water quality in Mun River were generally cleaned and found many species of fish.

Table 1 The classification and distribution of freshwater fish in Mun River, Nakhon Ratchasima and Buriram Provinces. Abbreviations were as follows: A = Ban Tha Chang, Chaloem Pra Kiat District, B = Ban Plau Pau, Non Sung District, C = Ban Phimai, Phimai District, D = Ban Khanak, Chum Phuang District, Nakhon Ratchasima Province, E = Ban Wang Palat, Khu Mueang District, F = Fisherman Village, Satuek District, Buriram Province, + = found and - = not found.

Classification	Distribution					
	A	B	C	D	E	F
Phylum Chordata						
Subphylum Vertebrata						
Class Osteichthyes						
Subclass Actinopterygii						
Order Osteoglossiformes						
Family Notopteridae						
Chitala ornata	+	+	+	+	+	+

Table 1 (cont.)

Classification	Distribution					
	A	B	C	D	E	F
Notopterus notopterus	+	+	+	+	+	+
Order Clupeiformes						
Family Clupeidae						
Clupeichthys aesapnensis	+	+	+	+	+	+
Order Cypriniformes						
Family Cyprinidae						
Paralaubuca typus	+	+	+	+	+	+
P. riveroi	+	+	+	+	+	+
Oxygaster pointoni	+	+	+	+	+	+
Parachela oxygastroides	+	+	+	+	+	+
P. siamensis	+	+	+	+	+	+
P. maculicauda	+	+	+	+	+	+
Esomus metallicus	+	+	+	+	+	+
Rasbora borapetensis	+	+	+	+	+	+
R. myersi	+	+	+	+	+	+
R. tornieri	+	+	+	+	+	+
R. spilocerca	+	+	+	+	+	+
R. trilineata	+	+	+	+	+	+
Thynnichthys thynnoides	+	+	+	+	+	+
Cycloeheilichthys enoplos	-	-	+	+	+	+
C. furcatus	-	-	-	+	+	+
C. apogon	+	+	+	+	+	+
C. lagleri	+	+	+	+	+	+
C. repasson	+	+	+	+	+	+
Mystacoleucus argenteus	+	+	+	+	+	+
M. ectypus	+	+	+	+	+	+
Puntioplites falcifer	-	-	-	-	-	+
P. proctozysron	+	+	+	+	+	+
Barbodes altus	+	+	+	+	+	+
B. gonionotus	+	+	+	+	+	+
B. schwanenfeldi	-	-	-	-	-	+
Hypsibarbus lagleri	-	-	-	-	+	+
H. wetmorei	-	-	-	-	-	+

Table 1 (cont.)

Classification	Distribution					
	A	B	C	D	E	F
Discherodontus ashmeadi	-	-	-	-	-	+
Puntius brevis	+	+	+	+	+	+
Systomus orphoides	+	+	+	+	+	+
S. partipentazona	+	+	+	+	+	+
Osteochilus hasselti	+	+	+	+	+	+
O. melanopleura	+	+	+	+	+	+
O. microcephalus	+	+	+	+	+	+
O. waandersi	+	+	+	+	+	+
Crossocheilus reticulatus	-	-	-	-	-	+
C. siamensis	-	-	-	-	+	+
Epalzeorhynchos frenatum	-	-	-	-	-	+
Labeo rohita	+	+	+	+	+	+
Morulius chrysophekadian	+	+	+	+	+	+
Hampala dispar	+	+	+	+	+	+
H. macrolepidota	-	-	-	-	+	+
Henicorhynchus ornatipinnis	+	+	+	+	+	+
H. lobatus	+	+	+	+	+	+
H. siamensis	+	+	+	+	+	+
Labiobarbus siamensis	+	+	+	+	+	+
Family Cobitidae						
Acanthopsis thiemmethdi	+	+	+	+	+	+
Yasuhikotakia modesta	+	+	+	+	+	+
Y. morleti	+	+	+	+	+	+
Syncrossus helodes	+	+	+	+	+	+
Lepidocephalichthys hasselti	+	+	+	+	+	+
Pangio anguillaris	+	+	+	+	+	+
Order Siluriformes						
Family Bagridae						
Pseudomystus siamensis	+	+	+	+	+	+
Heterobagrus bocourti	+	+	+	+	+	+
Mystus singaringan	+	+	+	+	+	+
M. mysticetus	+	+	+	+	+	+
M. atrifasciatus	+	+	+	+	+	+

Table 1 (cont.)

Classification	Distribution					
	A	B	C	D	E	F
Hemibagrus filamentus	+	+	+	+	+	+
H. wickioides	+	+	+	+	+	+
Family Siluridae						
Belodontichthys dinema	-	-	-	-	-	+
Kryptopterus cheveyi	+	+	+	+	+	+
K. geminus	+	+	+	+	+	+
Micronema apogon	+	+	+	+	+	+
M. bleekeri	+	+	+	+	+	+
Ompok krattensis	+	+	+	+	+	+
Wallago attu	+	+	+	+	+	+
Family Schilbeidae						
Laides longibarbis	+	+	+	+	+	+
Family Pangasiidae						
Pangasianodon gigas	-	-	-	-	+	+
Pangasius conchophilus	-	-	-	-	+	+
P. hypophthalmus	+	+	+	+	+	+
P. larnaudi	+	+	+	+	+	+
P. macronema	+	+	+	+	+	+
P. pleurotaenia	+	+	+	+	+	+
Helicophagus leptorhynchus	+	+	+	+	+	+
Family Sisoridae						
Bagarius yarrelli	-	-	-	-	+	+
Glyptothorax lampris	-	-	-	-	+	+
Family Akysidae						
Akysis varius	+	+	+	+	+	+
Family Clariidae						
Clarias batrachus	+	+	+	+	+	+
C. macrocephalus	+	+	+	+	+	+
Order Beloniformes						
Family Belonidae						
Xenantodon cancila	+	+	+	+	+	+
Family Hemirhamphidae						
Dermogynys siamensis	+	+	+	+	+	+

Table 1 (cont.)

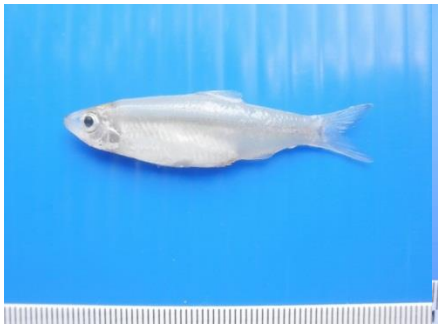
Classification	Distribution					
	A	B	C	D	E	F
Order Synbranchiformes						
Family Synbranchidae						
Monopterus albus	+	+	+	+	+	+
Family Mastacembelidae						
Macrognathus siamensis	+	+	+	+	+	+
M. semiocellatus	+	+	+	+	+	+
Mastacembelus armatus	+	+	+	+	+	+
Order Perciformes						
Family Ambassidae						
Parambassis siamensis	+	+	+	+	+	+
Family Nandidae						
Pristolepis fasciatus	+	+	+	+	+	+
Nandus oxyrhynchus	+	+	+	+	+	+
Family Cichlidae						
Oreochromis niloticus	+	+	+	+	+	+
Family Eleotrididae						
Oxyeleotris marmoratus	+	+	+	+	+	+
Family Anabantidae						
Anabas testudineus	+	+	+	+	+	+
Family Belontiidae						
Trichopsis pumila	+	+	+	+	+	+
T. vittatus	+	+	+	+	+	+
Trichogaster trichopterus	+	+	+	+	+	+
T. pectoralis	+	+	+	+	+	+
Betta smaragdina	+	+	+	+	+	+
Family Channidae						
Channa gachua	+	+	+	+	+	+
C. lucius	+	+	+	+	+	+
C. micropeltes	+	+	+	+	+	+
C. striata	+	+	+	+	+	+
Order Pleuronectiformes						
Family Soleidae						
Euryglossa harmandi	+	+	+	+	+	+

Table 1 (cont.)

Classification	Distribution					
	A	B	C	D	E	F
Order Tetraodontiformes						
Family Tetraodontidae						
Monotreta leiurus	+	+	+	+	+	+
M. suvatti	+	+	+	+	+	+
M. fangi	+	+	+	+	+	+

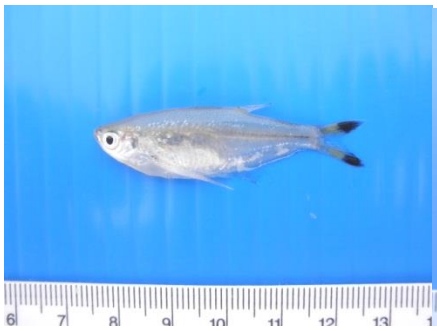
Chitala ornata

Notopterus notopterus



Clupeichthys aesapnensis

Parachela oxygastroides



Parachela maculicauda

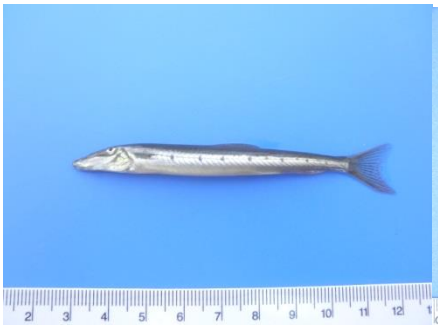
Rasbora trilineata

Barbodes schwanenfeldi

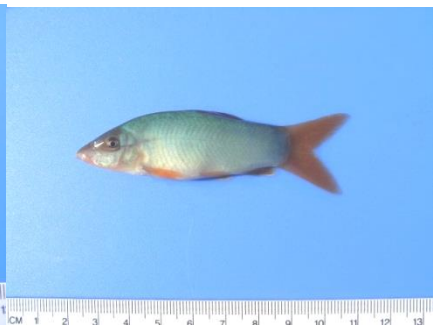
Dischorodontus ashmeadi

Systomus partipentazona

Morulius chrysophekadian

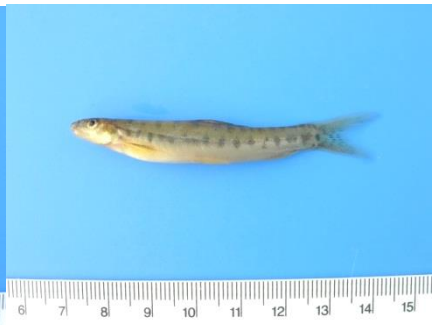


Acanthopsis thiemmethdi



Yasuhikotakia modesta

Syncrossus helodes

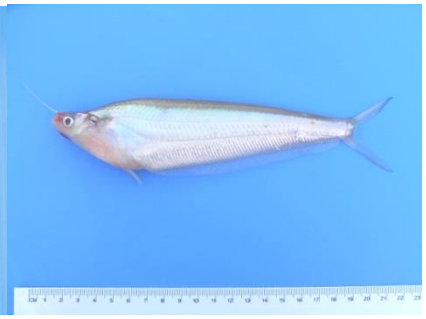


Lepidocephalichthys hasselti

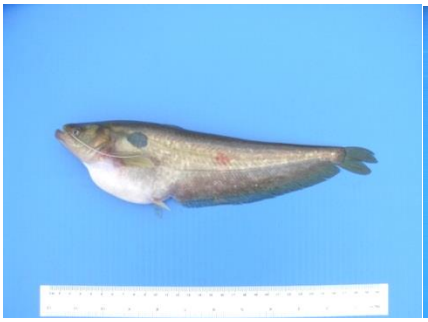
Hemibagrus filamentus

Hemibagrus wickioides

Belodontichthys dinema



Kryptopterus cheveyi



Ompok krattensis

Wallago attu

Pangasius hypophthalmus

Pangasius larnaudi

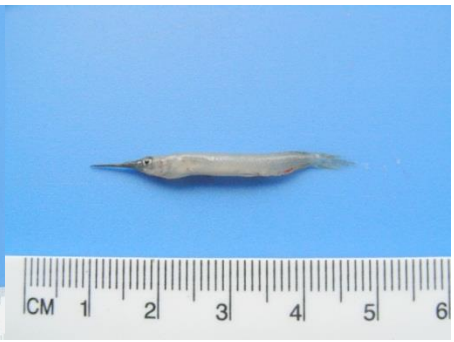
Helicophagus leptorhynchus

Glyptothorax lampris

Akysis varius

Clarias batrachus

Xenantodon cancila



Dermogynys siamensis

Monopterus albus

Macrognathus siamensis

Parambassis siamensis

Pristolepis fasciatus

Figure 2 Freshwater fish in Mun River, Nakhon Ratchasima and Buriram Provinces.

Discussion and Conclusion

The specimens were collected from Mun River, Nakhon Ratchasima and Buriram Provinces. The areas were situated at the riverside. The mostly vocation of people were fisherman, which captured fish in Mun River by using local fishing gears. Pa Bung and Pa Tam (Flood plain forest) were found at the riverside in all areas, which were habitats of aquatic animals in rainy season.

The water quality and ecosystem were related to the distribution and survival of aquatic animals. The most species of fish were abundant and widely distributed in Mun River. Some species were found in some areas such as *Cycloeheilichthys enoplos, C. furcatus, Hypsibarbus lagleri, Crossocheilus siamensis, Hampala macrolepidota, Pangasianodon gigas, Pangasius conchophilus, Bagarius yarrelli,* and *Glyptothorax lampris*. Whereas, *Puntioplites falcifer, Barbodes schwanenfeldi, Hypsibarbus wetmorei, Discherodontus ashmeadi, Crossocheilus reticulatus, Epalzeorhynchos frenatum,* and *Belodontichthys dinema* were rarely found.

This research reported 24 species of fish that similar to the National Inland Fisheries Institute[2] investigated in Mun River in 1955 as *Notopterus notopterus, Paralaubuca riveroi, Esomus metallicus, Rasbora borapetensis, R. trilineata, Cycloeheilichthys enoplos, C. apogon, Puntioplites proctozysron, Osteochilus hasselti, O. melanopleura, Morulius chrysophekadian, Hampala dispar, Heterobagrus bocourti, Pangasianodon gigas, Pangasius larnaudi, P. macronema, Clarias batrachus, C. macrocephalus, Xenantodon cancila, Pristolepis fasciatus, Oxyeleotris mamoratus, Anabas testudineus, Trichopsis vittatus,* and *Trichogaster trichopterus.*

This study reported 33 species of fish that similar to Champasri[4] investigated in Yom River as *Notopterus notopterus, Paralaubuca typus, P. riveroi, Esomus metallicus, Rasbora borapetensis, R. myersi, Cycloehellichthys enoplos, C. apogon, C. repasson, Puntioplites proctozysron, Osteochilus hasselti, O. melanopleura, O. waandersi, Crossocheilus reticulatus, Labeo rohita, Morulius chrysophekadian, Hampala macrolepidota, Mystus singaringan, M. mysticetus, Pangasius larnaudi, P. macronema, Clarias macrocephalus, Xenantodon cancila, Macrognathus siamensis, M. semiocellatus, Mastacembelus armatus, Oreochromis niloticus, Anabas testudineus, Trichopsis pumila, T. vittatus, Trichogaster trichopterus, Channa gachua,* and *C. striata*

Recently, this study reported 77 species of fish that similar to Rodmongkoldee, Rodmongkoldee, Okaddee[6] investigated in Mun River, Phutthaisong District, Buriram Province.

Some parameters of water quality, which related to the distribution and survival of aquatic animals were measured (pH, DO, water temperature, and turbidity). The results of parameters were indicated that water quality in Mun River were generally cleaned and suitable for aquatic animals.

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