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FISHES IN GREAT LAKE (TONL'E SAP), CAMBODIA

by

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The Great Lake of Cambodia is noted for its abundance of fish. The economic as well as the social importance of the lake is at once realized when we consider that it furnishes the inhabitants with ample protein food resources and that a great deal of fished product is exported to neighboring countries. A great variety of engraved fishes and fishing scenes on the stone wall the Bayon of Angkor Thom standing near the Great Lake provide an eloquent testimony to the close relationship which has existed between the lake and the people's life since ancient times (Fig. 1).

While Cambodia was a French protectorate, the fish fauna of the Great Lake was investigated by such ichthyologists as TIRANT, PETILLOT, CHABANAUD, PELLEGRIN, CHEVEY, who published respectively the results of their researches. In the biological section of the Proceedings of the Fifth Pacific Science Congress (1933) there is found P. CHEVEY'S essay entitled "The Great Lake of Cambodia" in which he made mention of 88 species of 26 families both from his own information and from the predecessors works on the ichthyological fauna of this lake.

While making a valuable agricultural survey by traveling through Cambodia in 1957, Prof. Takashi SATO and assistant Prof. Toshihiro TAKAYAMA of the Hyōgo University of Agriculture collected the fishes of the Great Lake and its adjacent waters, photographing other specimens as well (Fig. 2). We have been requested to make researches about the specimens carried back home by them.

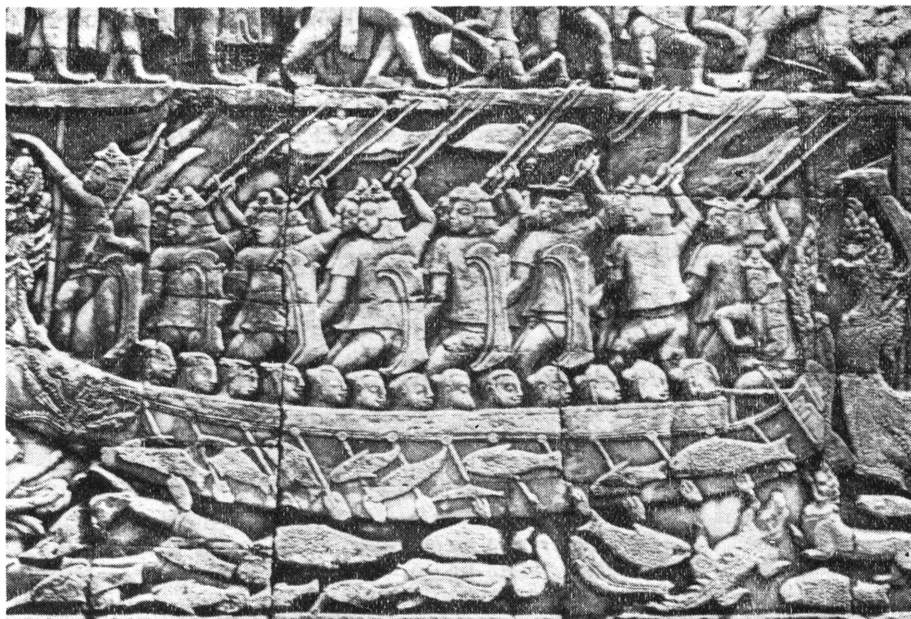


Fig. 1 Photograph of the stone wall of the Bayon of Angkor Thom.

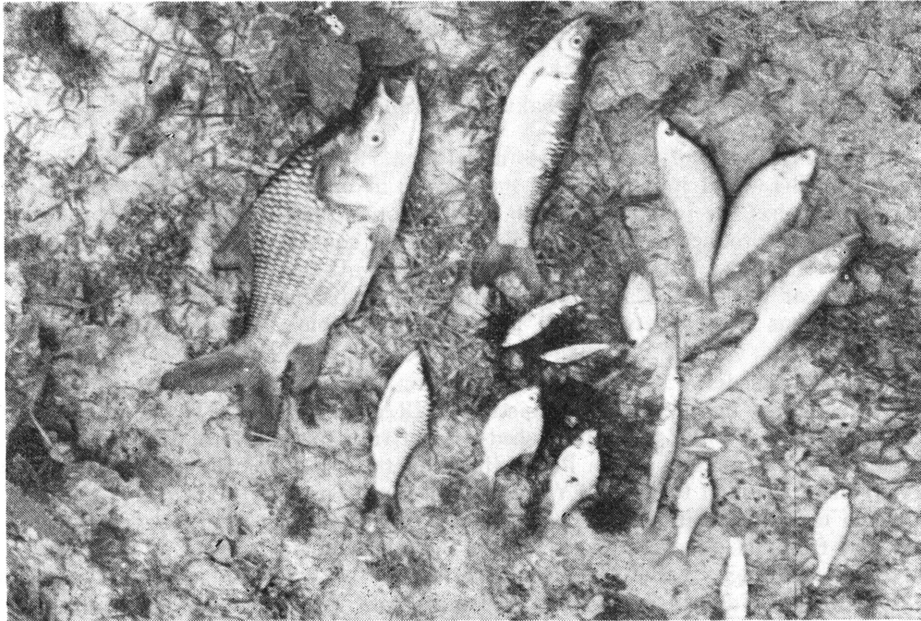


Fig. 2 Photograph of the specimens collected from a small lake in Batheay of Kompong Cham Province.

After they were studied and catalogued, there were found representatives of 31 species of 15 families, most of which can be found in Chevey's list. But *Wallago kratensis* Fowler, *Hemipimelodus siamensis* Sauvage, *Mystus leucophasis* Blyth, *Clarias macrocephalus* Gunther, *Toxotes chatareus* Ham. Buch, and *Centriscus scutus* L. *Oxyeleotris urophthalmus* Blkr. are unrecorded species. The Great Lake is so peculiar in the marine character of its fauna that even the following marine species are found among the specimens.

Carcharhinidae	<i>Scolidon sorrakowah</i> (Cavia)
Pristidae	<i>Pristis microdon</i> Lath.
Dasyatidae	<i>Dasyatus imbricatus</i> (Bl. Schn) <i>krempfi</i> (Chab.)
Engralidae	<i>Lycothrissa crocodilus</i> (Blkr.) <i>Engraulis</i> sp. <i>Coilia mystus</i> (L.)
Clupeidae	<i>Hilsa kanagurta</i> (Blkr.)
Syngnathidae	<i>Microphis boaja</i> (Blkr.)
Belontiidae	<i>Xenentodon canciloides</i> Blkr.
Hemirhamphidae	<i>Zenarchopterris ectuntio</i> H.B. <i>buffoni</i> C. et V.
Polynemidae	<i>Polynemus longipectoralis</i> Web. et Beauf.
Lobotidae	<i>Datnioides microlepis</i> Blkr.
Sciaenidae	<i>Sciaena soldato</i> Lacep.
Cynoglossidae	<i>Cynoglossus</i> sp.
Centriscidae	<i>Centriscus scutus</i> L.
Tetraodontidae	<i>Tetrodon cambodgiensis</i> Chab.

KREMPF and CHEVEY (1934) conclude that Indo-China, the former French possessions in S.E. Asia comprising Cambodia, has a very close affinity to Indonesia in the geographical distribution of ichthyological fauna, while FOWLER (1937) and SMITH (1945) hold similar views that it belongs to the same distribution region as Thailand. Although no objection is, on the whole, taken of the four above-mentioned ichthyologists statements, yet an exception must be made of Tonkin, the northern part of Indo-China, where, unlike the other parts, such South-China forms as *Acnethorhodeus tonkinensis* Vaill., *Squaliobarbus curriculus* (Rich.), *Hemibarbus labeo* Pallas, *Xenocypris argentea* Gunth., *Ctenopharyngodon idella* (C. et V.), *Elopichys bambusa* (Rich.), *Culter brevicauda* Gunth., *Hemiculter leucisculus* (Basi.), *Salanx chinensis* (Osbeck) are found. This leads us to draw a conclusion that it is proper that Tonkin should belong to South-China subregion under Oriental region, while Thailand, Indo-China, Malaya, Indonesia and Philippine Islands constitute Thailand-Indo-China subregion of the same region.

Thanks to the efforts of Messrs. SATO and TAKAYAMA, their collections from Cambodia have enabled us to compile the following list, each species with brief description therein.

List of fishes collected by Professor Takashi SATO and Assistant Professor Toshihiro TAKAYAMA from Great Lake, Cambodia.

Family Notopteridae

1. **Notopterus notopterus** (Pallas)
D.9; A.101.
One example; 235 mm. in total length.

Family Cyprinidae

2. **Leptobarbus hoeveni** (Bleeker)
D.9; A.8; Scales 34.
Dorsal without osseous ray, 3.5 in body length.
One example; 215 mm. in total length.
3. **Hampala macrolepidota** (C. et V.)
D. III, 8; A. III, 5; Scales 28.
Osseous dorsal ray finely serrated.
One example; 280 mm. in total length.
4. **Labeo chrysophekadion** (Bleeker)
D. III, 17; A. III, 5; Scales 40.
Four barbels, the lower of which considerably longer than eye.
One example; 210 mm. in total length.
5. **Thynnichthys thynnioides** Bleeker
D. 13—14; A. 6—8; Scales 55—58
Head 3.4 in body length, body height 4.3; eye 4.0 in head.
Three examples; 165, 173, 178 mm. in total length.

Family Siluridae

6. **Wallago dinema** (Bleeker)

D.5; A.90; P.1,18.

Head compressed, its width being one-half of its length. Maxillary barbels extend to origin of anal, those of mandibles shorter than eye; pectorals shorter than head, with smooth spine. Caudal forked.

One example; 815 mm. in total length.

7. **Wallago kratensis** Fowler

D.1.3; A. 57.

Head 4.0 in body length, depth 3.3. Eye 6.5 in head.

Maxillary barbels little longer than head. Lower jaw exceedingly prominent. Ventrals situated before the origin of dorsal.

One example; 243 mm. in total length.

8. **Cryptopterus apogon** Bleeker

A.81; P. 1,13.

Head 4.7 in body length, depth 6.0. Maxillary barbels short, extend to eye. Anal separate from caudal.

One example; 262 mm in total length.

Family Pangasidae

9. **Pangasius pangasius** Ham. Buch.

D.1,6; A.30

Dorsal and pectoral spines serrated, their length 1.8 in head length; maxillary barbels not extending to eye, mental barbels extend to mouth angle. Caudal emarginated.

One example; 255 mm. in total length.

10. **Pangasius larnaudii** Bocourt

D.1,5; A.29.

Head granulated above; maxillary barbels extending half distance to operculum. A large round black humeral spot present, no black longitudinal band. Caudal forked.

One example; 158 mm. in total length.

11. **Helichophagus** ?

D.1,7; A.33.

Snout rounded, with the upper jaw projecting. Maxillary barbels reaching to the middle of pectoral. Adipose short.

One example; 251 mm. in total length.

Family Ariidae

12. **Hemipimelodus siamensis** Sauvage

D.1.7; A.16.

Head 5.0 in total length. Maxillary barbels extend scarcely to posterior margin of operculum. Adipose fin as long as anal, ventrals inserted behind vertical from dorsal.

One example; 160 mm. in total length.

Family **Bagridae**

13. **Mystus leucophasis** *Blyth*

D.1,7; A.10; P.1,9.

Maxillary barbels very long, reaching to caudal base, nasal barbels nearly extend to posterior margin of operculum. Adipose long, commences immediately behind dorsal and is thrice as long as the latter. Anal very short.

One example; 213 mm. in total length.

14. **Mystus** *sp.*

Head specimen only. Head length 290 mm., its width 230.; maxillary barbels 550 mm.

Family **Clariidae**

15. **Clarias macrocephalus** *Gunther*

D.68; A.49; P.1,9.

Head finely granulate above, its width between operculum is ~~two-thirds~~ of its length. Nasal barbels extend to posterior margin of opercle and those of maxillary to the middle of pectoral.

One example; 224 mm. in total length.

Family **Ophicephalidae**

16. **Channa micropeltes** (*Kuhl et Hass.*)

D.45; A.29; Scales 94.

Cephalic shield small size.

One example; 575 mm. in total length.

17. **Ghanna striatus** *Bleeker.*

D.40; A.26; Scales 57.

Cephalic shield large size.

One example; 355 mm. in total length.

Family **Anabantidae**

18. **Anabas testudineus** (*Bloch*)

D.XVIII, 9; A.VIII, 10; Scales 29.

One example; 152 mm. in total length.

19. **Trichogaster trichopterus** *Pallas*

D.IV, 7; A.XI, 37; Scales 42

One example; 100 mm. in total length.

Family **Toxotidae**

20. **Toxotes chatareus** *Ham. Buch.*

D.VII, 10; A.III, 16; Scales 37.

One example; 145 mm. in total length.

Family **Eleotridae**

21. **Oxyelotris urophthalmus** (*Bleeker*)

D.VI, 10; A. 9; Scales 75.

Red edged ocellus on the base of caudal fin.

One example; 370 mm. in total length.

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