

Notes on the Fishes Collected in the Down Stream of Tama River, with Descriptions of Two New Species

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This is the preliminary report on a collection of fishes obtained in the down stream of Tama River by the efforts of Mr. Kunihiro SHIRAI of the Bureau of Game and Hunting of the Ministry of Agriculture and Forestry. The collection has been very kindly forwarded to the writer for identification.

Among the collection, three species, namely, *Sarcocheilichthys variegatus* (TEMMINCK & SCHLEGEL), *Rhodeus smithi* (REGAN), and *Abbotina peregma* JORDAN & FOWLER, seem to be introduced from the Lake Biwa, mingling with fry of the land-locked "Ayu," *Plecoglossus altivelis* TEMMINCK & SCHLEGEL, large number of which are liberated in the stream every year. In addition, the fact was found that certain exotic species which have been intentionally or unintentionally transplanted and propagated in the Japanese inland waters, for instance, Manchurian snake-head, *Ophicephalus argus* (CANTOR), is also taking rigid footing in this water. Such being the case, it is important, indeed, to determine which is endemic species or exotic, in order to make sound judgement regarding zoo-geographic problems.

Heartly thanks are due to Mr. SHIRAI who is still continuing the collection to raise the number of unrecorded species in Tama River.

Class Cyclostomata

Family Petromyzontidae

Genus *Lampetra* GRAY

1. *Lampetra reisneri* (DYBOWSKY) Sunayatsume
A single specimen, of 120 mm long.
Distrib.—Almost all parts of Japan including Hokkaido.

Class Pisces

Family Plecoglossidae

Genus *Plecoglossus* TEMMINCK & SCHLEGEL

2. *Plecoglossus altivelis* TEMMINCK & SCHLEGEL Ayu
3 specimens.
Distrib.—Streams of all parts of Japan, including Hokkaido and Okinawa; Korea, China and Formosa.

Family Cyprinodontidae

Genus *Aplocheilus* MCCLELLAND

3. *Aplocheilus latipes* (TEMMINCK & SCHLEGEL) Medaka
2 specimens.
Distrib.—Rice-fields and pools of Japan, Okinawa, Korea, China and Formosa.

Family Siluridae

Genus *Parasilurus* BLEEKER

4. *Parasilurus asotus* (LINNAEUS) Namazu

A single specimen.

Distrib.—Most common in Japan proper; Corea, Manchuria; China; Formosa.

Family Bagridae

Genus *Aoria* JORDAN

5. *Aoria aurantiacus* (TEMMINCK & SCHLEGEL) Gigi, Gibachi; Gebachi (at Tamagawa)
A single specimen.

Distrib.—North of Hakone except Aomori Prefecture, to south western part of Kiushu.

Family Cyprinidae

Genus *Rhodeus* AGASSIZ

6. *Rhodeus smithi* (REGAN) Baratanago; Nigabinta (Ezu-lake Kumamoto)
Five specimens (probably introduced from Lake Biwa).

Distrib.—Abundant in Kasumigaura; common in western part of Honshu and Kiushu.

Genus *Acheilognathus* BLEEKER

7. *Acheilognathus lanceolatus* (TEMMINCK & SCHLEGEL). Yaritanago; Binta (Kumamoto)
A single specimen.

Distrib.—Common in Japan proper except Aomori Prefecture and Hokkaido.

Genus *Hemibarbus* BLEEKER

8. *Hemibarbus barbatus* (TEMMINCK & SCHLEGEL) Nigo; Migoi; Soi; Sai (Lake Biwa);
Goi (Shinano); Seizo, Saizo, Saita (Tamagawa)
A single specimen.

Distrib.—Common in Japan proper except Hokkaido.

Genus *Pseudogobio* BLEEKER

9. *Pseudogobio esocinus* (TEMMINCK & SCHLEGEL) Kamatsuka
14 specimens.

Distrib.—Japan proper except Hokkaido; Corea; Manchuria.

Genus *Sarcocheilichthys* BLEEKER

10. *Sarcocheilichthys variegatus* (TEMMINCK & SCHLEGEL) Higai; Sakurabae; Meaka;
Ishibae (Kumamoto)
3 specimens (probably introduced from Lake Biwa).

Distrib.—Proper habitats are the west of Toyohashi. Artificially propagated to various parts of Japan proper at present.

Genus *Abbottina* JORDAN & FOWLER

11. *Abbottina psegma* JORDAN & FOWLER Tsuchifuki; Doromoroko; Sunamoroko;
Dorougui
2 specimens.

Distrib.—Tributaries of Yodo River; Okayama; Yanagawa.

Genus *Pungtungia* HERZENSTEIN

12. *Pungtungia shiraii* sp. nov. Shirai-mugitsuku (new name)

Head 3,20 in length; depth 4,70; depth of caudal peduncle 3,16 in head; eye 4,75; snout 2,72; interorbital space 3,80; pectoral 1,90; ventral 2,10; D. II,7; A. 2,5; P. 18; V. 9; pharyngeal teeth 4-4; scales 6-46-9.



Fig. 1. *Pungtungia shiraii* sp. nov.

Body elongate, oblong and compressed; head large, elongate, conical, upper and lower profiles nearly straight; snout long, pointed anteriorly; eye moderate, superior and in the middle of head; mouth rather small, oblique and subinferior, its angle not reaching a vertical through front edge of anterior nostril; lips thin and fleshy; one pair of short maxillary barbel near the angle of mouth; edge of the mandible rounded, not horny; pharyngeal teeth slender, high and pointed; nostrils close together, in front of eye, much nearer to orbit than tip of snout, interorbital space broad and flat, boundary between the post-nasal space distinctly depressed; gill-openings moderate; gill-rakers rudimentary, short and few in number; pseudobranchiae present.

Scales cycloid, thin and minute, not imbricated; pectoral and ventral flaps present.

Origin of dorsal much nearer to tip of snout than the base of caudal, 2nd. ray the longest, somewhat spiny, when depressed the tip of the fin does not reach the origin of anal, base of the fin 2,10 in head, outer margin slightly concave; anal inserted midway between origin of ventral and base of caudal, the fin rather short, outer margin nearly straight; caudal elongate and deeply emarginate, tips of both lobes sharply pointed; pectorals short, reaching about two-thirds the distance to origin of ventrals; ventrals inserted a little before posterior end of the dorsal; anus one scale before the origin of anal; lateral line nearly straight, running along the middle of sides, anterior portion slightly decurved.

Colour in formalin pale gray above, paler and whitish below, top of head and snout uniformly gray; back indistinctly maculated with black; a longitudinal series of irregular black spots along the lateral line above; dorsal and anal uniformly gray, outer margin of the former blackish; the rest of the fin whitish.

Total length 74 mm.

Described from a specimen collected in Tama River near Denyenchofu in May, 1952.

Remarks.—The present species differs from *Pungtungia hilgen-dorfi* chiefly in having different formulae of pharyngeal teeth and number of scales. Colouration also differs markedly having no broad lateral band of deep brown along the lateral line.

Genus *Biwia* JORDAN & FOWLER

13. *Biwia tama* sp. nov. Tamabaya (new name)

Head 4,45 in length; depth 4,45; snout 3 in head; eye 4,50; interorbital space 3; depth of caudal peduncle 1,93; pectoral 1,50; ventral 1,50; D. 2,7; A. 1,6; P. 16; V. 9; scales in lateral line 43; 5 scales between origin of dorsal and lateral line, 5 scales between the latter and the middle of belly; pharyngeal teeth 4-4.



Fig. 2. *Biwia tama* sp. nov.

Body elongate, compressed, broadest at the insertion of dorsal; caudal peduncle rather deep; head rather small; snout blunt and rounded, median anterior part of nostrils markedly depressed; eye moderate, high and anterior; nostrils close together, in front of eye above; mouth small, terminal, slightly oblique, upper jaw longer than the lower, angle scarcely reaching a vertical through anterior edge of anterior nostril; lips thick and fleshy, the broad suborbitals overlapping the angle of mouth on each side, anterior part of the lower jaw exposed; no barbels; interorbital space broad and convex, with a median longitudinal depression which extends forwards to the depression on the top of snout; gill-openings moderate, gill-rakers on the first arch few and small, 2+4; pseudobranchiae present; pharyngeal teeth one-rowed, rather high and compressed with distinctly hooked tip.

Origin of dorsal nearer to tip of snout than the base of caudal, anterior ray the longest, 1,28 in head, the base of the fin 1,50, outer margin of the fin nearly straight; anal originated well behind the tip of depressed dorsal, rather short, anterior ray the longest, 1,80 in head, outer margin of the fin nearly straight; caudal bifurcate, tip of each lobe pointed; pectorals rather short, nearly as long as ventrals, extending a little beyond the midway to ventrals; ventrals inserted beneath the middle of the base of dorsal.

Scales large, cycloid, imbricated, of more or less even size; no scales on breast; pectoral and ventral flaps present; lateral line at almost straight, very slightly decurved anteriorly.

Colour in formalin brownish gray above, paler and whitish below; sides maculated with dark brown; dorsal and caudal gray, tip of the former whitish, a black broad streak starts at the anterior threefifths of the fin, running obliquely backwards staining three anterior developed rays; pectoral gray; ventral and anal whitish.

Total length 122 mm.

Described from a specimen collected at Denyenchofu in May, 1952.

Remarks.—Hitherto known species included in the genus *Biwia* JORDAN & FOWLER is *Biwia zezera* (ISHIKAWA) known from Lake Biwa, Gifu, Nagoya and Asahi River,

Okayama. The present species differs distinctly from the former in having 43 scales in the lateral line and 4-4 pharyngeal teeth instead of 5-5. At present a single specimen has been obtained in the type locality.

Genus *Pseudorasbora* BLEEKER

14. *Pseudorasbora parva* (TEMMINCK & SCHLEGEL) Motsugo; Kuchiboso; Ishimoroko
13 specimens.

Distrib.—Common in Japan proper; Corea; Manchuria; China, Formosa.

Genus *Tribolodon* SAUVAGE

15. *Tribolodon hakuensis hakuensis* (GÜNTHER) Ugui; Eda; Akahara; Haya Maruta,
Marutahaya (Tamagawa)

7 specimens of moderate size.

Distrib.—Common in Japan, including Hokkaido; Amur Provinces; Sakhalin;
Corea.

Genus *Zacco* JORDAN & EVERMANN

16. *Zacco platypus* (TEMMINCK & SCHLEGEL) Oikawa; Haya; Shirahaya; Yamabe, Jinjin-
baya, Kusareppaya (Tamagawa)

10 specimens.

Distrib.—Most common in streams of Japan proper extending to Corea, China and
Formosa.

Genus *Carassius* (LINNAEUS)

17. *Carassius auratus* (LINNAEUS) Funa

10 young specimens.

Distrib.—Most common in streams, rice-fields, pools throughout the country. Rather
cosmopolitan.

Family Cobitidae

Genus *Misgurnus* LACÉPÈDE

18. *Misgurnus anguilicaudatus* (CANTOR) Dojo

A single specimen.

Distrib.—Most common in rice-fields in Japan proper, Corea, China, and Formosa,
extending to India.

Genus *Cobitis* (ARTEDI) LINNAEUS

19. *Cobitis taenia* LINNAEUS Shima-dojo; Yanagi-dojo (Tamagawa); Ajime-dojo; Taka-
noha-dojo; Sasa-dojo; Tsurumaki-dojo; Kuruma-dojo

6 specimens.

Distrib.—Common in Japan proper except Hokkaido

Family Anguillidae

Genus *Anguilla* SHAW

20. *Anguilla japonica* TEMMINCK & SCHLEGEL Unagi

A single specimen.

Distrib.—Throughout Japan proper; Corea, China, Formosa.

Family Mugillidae

Genus *Mugil* (ARTEDI) LINNAEUS

21. *Mugil cephalus* LINNAEUS Bora
A single specimen (young form).
Distrib.—Common in Japanese waters. Young forms enter into estuaries.
Family Ophicephalidae
Genus *Ophicephalus* BLOCH
22. *Ophicephalus argus* (CANTOR) Rai (Corean Snake-head)
A single specimen.
Distrib.—Propagated in main streams and lakes in Japan proper being accidentally transplanted from Corea and Manchuria.
Family Gobiidae
Genus *Gobius* LINNAEUS
23. *Gobius giurinus* RUTTER Yoshinobori; Gori
Distrib.—Common in streams of Shikoku and Kiushu and in Lake Biwa.
Abundant. Distributed in Corea, China and Formosa.
Genus *Tridentiger* GILL
24. *Tridentiger obscurus* (TEMMINCK & SCHLEGEL) Chichibu; Torahaze
5 specimens.
Distrib.—From Hokkaido to Okinawa, entering into estuaries and down streams.
Genus *Acanthogobius* GILL
25. *Acanthogobius flavimanus* (TEMMINCK & SCHLEGEL) Mahaze
6 specimens.
Distrib.—Common in brackish waters south to Aomori, extending to Corea and China.