Report on the specimens of families Toxotidae and Drepaneidae (Teleostei: Perciformes) deposited in the Department of Zoology, The University Museum, The University of Tokyo

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Abstract

The collection of Toxotidae and Drepaneidae (Teleostei: Perciformes) deposited in the Department of Zoology, The University Museum, The University of Tokyo (ZUMT) were re-identified in the present study. For Toxotidae, 58 specimens from 31 lots were identified (no types known for this family), including two species, *Toxotes jaculatrix* (Pallas, 1767) and *Toxotes chatareus* (Hamilton, 1822), all collected outside Japan. For Drepaneidae, 15 specimens from 15 lots were identified, including two species, *Drepane longimana* (Bloch & Schneider, 1801) and *Drepane punctata* (Linnaeus, 1758). Although ZUMT 7263 is recognized as a holotype of *Drepane undecimfasciata* Tanaka, 1917, the specimen could not find from the collection.

Introduction

The fish collection of two families Toxotidae and Drepaneidae (Teleostei: Perciformes) which preserved in the Department of Zoology, The University Museum, The University of Tokyo (ZUMT) were re-identified in the present study. The family Toxotidae (archerfishes) is well known for its ability to shoot down insects from overhanging vegetation with a jet water squirted from the mouth (Allen 2004; Senou 2019). This family inhabit in mangrove shores, brackish estuaries, and fresh waters, always in shallow depths (Allen 2001). Archerfishes are sometimes seen in markets and are an important component of artisanal fisheries in many areas, particularly where mangroves are plentiful. A single genus with seven species is recognized as valid, and only a single species, *Toxotes jaculatrix* (Pallas, 1767), have known from Iriomote-jima Island in Japanese waters (Allen 2004; Senou 2013).

The family Drepaneidae (Sicklefishes) inhabit usually in sandy or muddy bottoms, and rarely in coral reefs in shallow water, including estuaries and harbors (Heemstra 2001). Mostly caught with bottom trawls and abundantly marketed in southeast Asia. A single genus with three species is recognized as valid, and two species, *Drepane longimana* (Bloch & Schneider, 1801) and *Drepane punctata* (Linnaeus, 1758), have known from southern Japan (Hayashi and Hagiwara 2013: Uejo et al. 2015).

Materials and Methods

The specimens of Toxotidae and Drepaneidae in ZUMT were re-identified in the present study, generally following Allen (2004) for the former and Heemstra (2001) for the latter, and confirmation of at least one diagnostic character. The standard length (SL) of the specimens were measured for all specimens. Species are arranged in alphabetical order by species name. Japanese were given in parentheses for local name, personal name, affiliation name when these written in Japanese in the specimen catalog or tag. The list contains ZUMT number, SL with number of specimens in parentheses when two or more, collection locality, collection date, collector or donator and affiliation, collection method, and remarks when available. No type specimens deposited for Toxotidae in ZUMT.

Collection of Toxotidae in ZUMT

Examination of the specimens of Toxotidae deposited at ZUMT disclosed 58 specimens from 31 lots. No types are known for this family in ZUMT collection. All of the specimens except for a single specimen of *Toxotes chatareus* (Hamilton, 1822) from Australia, are *Toxotes jaculatrix* (Pallas, 1767) which collected from southeastern Asia or Palau.

Collection of Drepaneidae in ZUMT

Examination of the specimens of Drepaneidae deposited at ZUMT disclosed 15 specimens from 15 lots, including two species, *Drepane longimana* (Bloch & Schneider, 1801) and *Drepane punctata* (Linnaeus, 1758). Two specimens of *D. longimana* are collected from East China Sea (Norinkaiku 319), and the remains from Taiwan, China, or Philippines. Although ZUMT 7263 is recognized as a holotype of *Drepane undecimfasciata* Tanaka, 1917, the specimen could not find from the collection.

Toxotidae テッポウウオ科

Toxotes Cloquet, 1816 テッポウウオ属

Toxotes jaculatrix (Pallas, 1767) テッポウウオ

ZUMT 18259: 164.2 mm SL; **ZUMT 18260**: 153.7 mm SL, probably Palau.

Remarks: The specimens labelled as Nan-yo (南洋), generally meaning Micronesian islands.

ZUMT 25510: 87.2 mm SL, Philippines, identified on 12 May 1933, A.W. Herre (Stanford University).

ZUMT 40740: 107.5 mm SL; **ZUMT 40741**: 108.7 mm SL; **ZUMT 41028**: 136.8 mm SL; **ZUMT 41029**: 122.1 mm SL, Singapore, 12 Mar. 1910, I. Ijima (飯島　魁) and K. Aoki (青木熊吉).

ZUMT 42001: 29.3 mm SL; **ZUMT 42002**: 40.0 mm SL; **ZUMT 42003**: 48.9 mm SL; **ZUMT 42004**: 59.9 mm SL; **ZUMT 42005**: 62.6 mm SL; **ZUMT 42006**: 61.7 mm SL; **ZUMT 42007**: 58.0 mm SL; **ZUMT 42008**: 47.9 mm SL; **ZUMT 42009**: 26.5 mm SL; **ZUMT 42010**: 58.1 mm SL; **ZUMT 42011**: 63.1 mm SL, Philippines, Jan. 1938, U. Yamamura (山村楳次郎).

Remarks: Although ZUMT 42001 has underbar on the tag, the identification match with ZUMT catalog. Umejiro Yamamura was a palm plantation superintendent on Basilan Island, southern Philippines from May 1925 to April 1926 (Kuroda 1927). He and his family collected and donated a large number of specimens from the area, including fishes, birds, insects, and corals.

ZUMT 55164: 10 specimens, 25.6–83.6 mm SL, Palau, Y. Haneda (羽根田弥太).

ZUMT 62170: 19 specimens, 33.1–144.0 mm SL, Palau, received on Jan. 1938, Y. Haneda.

ZUMT ABE 2748: 98.0 mm SL; **ZUMT ABE 2479**: 160.9 mm SL; **ZUMT ABE 2789**: 41.7 mm SL; **ZUMT ABE 3048**: 157.8 mm SL (dissected); **ZUMT ABE 3383**: 80.0 mm SL; **ZUMT ABE 3384**: 62.5 mm SL; **ZUMT ABE 3385**: 98.9 mm SL; **ZUMT ABE 3395**: 98.9 mm SL; **ZUMT ABE 3906**: 193.7 mm SL; **ZUMT ABE 3958**: 57.2 mm SL, Palau, 1936, T. Abe (阿部宗明).

Toxotes chatareus (Hamilton, 1822)

ZUMT 62172 (metallic tag of 2815): 93.1 mm SL, probably Australia.

Drepanidae スダレダイ科

Drepane Cuvier, 1831 スダレダイ属

Drepane longimana (Bloch & Schneider, 1801) スダレダイ

Remarks: *Drepane undecimfasciata* Tanaka, 1917 was described as a new species with the Japanese name "Sudaredai (スダレダイ)" on the basis of the holotype (133 mm total length) which collected from Nagasaki Market (長崎市場) by Ichiro Kaneko (金子一狼). The description of the species, e.g., having 10 vertical stripes on body lateral (Tanaka 1917), well match with the characteristic of *D. longimana*, and probably the junior synonym of the latter. Although the information in the specimen ledger revealed that ZUMT 7263 corresponds to the holotype, we were unable to find this specimen in the collection.

ZUMT 52229: 125.5 mm SL; **ZUMT 52260**: 111.6 mm SL, Norin-kaiku 319 (農林 319 区), East China Sea, 23 May 1960, R/V *No. 31 Tenyomaru* (第 31 天洋丸).

ZUMT 62331 (cloth tag of T-48): 169.3 mm SL, locality unknown.

ZUMT 62332: 153.6 mm SL, Nishimon-machi Market (西門町市場), Taipei, Taiwan, 21 Feb. 1927.

ZUMT 62333: 117.0 mm SL, Chitose-machi Market (千歳町市場), Taipei (台北), Taiwan, 1931.

ZUMT 62334 (cloth tag of 114): 145.0 mm SL, Chitose-machi Market, Taipei, Taiwan, 22 Nov. 1930.

Drepane punctata (Linnaeus, 1758) ユウダチスダレダイ

ZUMT 40527: 77.0 mm SL, Hainan Island (海南島), Kanton (広東省), Shin (清), Oct. 1906, I. Katsuge (勝毛市五郎).

ZUMT 40845: 83.5 mm SL, Manila, Philippines, 11 Feb. 1909, I. Ijima and K. Aoki.
ZUMT 42161: 91.1 mm SL; **ZUMT 42162**: 117.1 mm SL; **ZUMT 42309**: 112.6 mm SL, Philippines, 1926, U. Yamamura.
ZUMT 42320: 87.6 mm SL; **ZUMT 42322**: 98.5 mm SL; **ZUMT 42373**: 90.0 mm SL, Basilan, Philippines, 1926, U. Yamamura.
ZUMT 62626: 78.0 mm SL, locality unknown.

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