List of specimens of the families Triacanthodidae and Triacanthidae (Actinopterygii: Tetraodontiformes) deposited in the Department of Zoology, The University Museum, The University of Tokyo

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Abstract

The collection of families Triacanthodidae and Triacanthidae (Actinopterygii: Tetraodontiformes) held in the Department of Zoology, The University Museum, The University of Tokyo (ZUMT) were reassessed. Family Triacanthodidae was composed of 42 lots, including 46 specimens comprising four genera and four species. The specimens were collected between 1893 and 1960. A specimen of *Macrorhamphosodes uradoi* (Kamohara, 1933) collected from Misaki, Kanagawa Prefecture, is the first record from that locality. Family Triacanthidae was composed of 17 lots including 17 specimens comprising three genera and three species. Ther are no types of any species from these two families in the ZUMT collections. The triacanthid specimens were collected between 1909 and 1980.

Introduction

Tyler (1968) erected Superfamily Triacanthoidea to include the two families Triacanthodidae and Triacanthidae. These two families share the following primitive features: dorsal nerve cord not greatly shortened; pelvic fin spine large and able to be locked into position and with up to two soft rays; upper jaw slightly protractile; dorsal fin usually with six spines and caudal fin with 12 principal rays; 20 vertebrae (Nelson et al., 2016).

The spikefishes of Family Triacanthodidae is composed of two subfamilies comprising 24 species in 11 genera, with a world-wide distribution (Matsuura, 2015; Matsuura et al., 2018). The family Triacanthodidae are usually found at depths of 100–600 m on continental shelves and slopes (Tyler, 1968; Matsuura and Tyler, 1997). Eight of these species have been recorded previously from Japanese waters (Matsuura, 2015; Matsuura et al., 2018).

The triple-spine family Triacanthidae is includes 7 species in 4 genera with a world-wide distribution (Matsuura, 2015), usually on continental shelves in the Indo-West Pacific, just below the sea surface down to 60 m (Tyler, 1968; Matsuura, 2015). Only one species, *Triacanthus biaculeatus* (Bloch, 1786), is known from the coast of Japan.

Materials and Methods

The Triacanthodidae and Triacanthidae specimens in ZUMT were identified by the first and second authors with reference to Matsuura (2001), Hayashi and Hagiwara (2013) and Matsuura et al. (2021). Standard length (SL) was measured for each specimen and they are listed below in alphabetical order by species. The list includes ZUMT registration number, SL, (number of specimens in parentheses when there are two or more), type (abbreviated when non-type), collection locality (with Japanese language equivalent in parentheses), collection depth, collection date, collecting method, collector or donator and affiliation, and remarks as applicable. Registration numbers after ZUMT 62000 were assigned during the present study. The year of collection and collector for some specimens have been estimated following Koeda et al. (2022). The ZUMT specimens listed here were stored in Room 406 (specimen storage room) in the museum building. Species are arranged in alphabetical order.

Collection of Triacanthodidae in ZUMT

The specimens of Triacanthodidae deposited at ZUMT include 49 specimens in 45 lots, comprising three species. There are no type specimens in this ZUMT collection. A specimen of *Macrorhamphosodes uradoi* (Kamohara, 1933) collected from Misaki, Kanagawa Prefecture, is the first record from this locality. Specimens were collected between 1893 and 1960, mostly 1931–1960. Many specimens were collected from Sagami Bay.

Triacanthodidae　ベニカワムキ科

Bathyphylax Myers, 1934　ヤミカワムキ属

Bathyphylax bombifrons Myers, 1934

ZUMT 48936: 29.1 mm SL, near by Molu Island, Kepulauan Tanimbar, Indonesia, Jan. 1956, Z. Maekawa and T. Suzuki (前川善四郎・鈴木貞次郎).

Macrorhamphosodes Fowler, 1934　フエカワムキ属

Macrorhamphosodes uradoi (Kamohara, 1933)　フエカワムキ

ZUMT 19980: 141.6 mm SL, Sagami Bay, Misaki (三崎), Kanagawa Pref., Japan, written as Soshu (相州), before 1930.

Remarks: This specimen is the first record of this species from this locality.

ZUMT 22594: 130.0 mm SL; **ZUMT 23285**: 141.7 mm SL, Kannoura (甲浦), Kochi Pref., Japan, 3 Apr. 1929, T. Kamohara (蒲原稔治).

ZUMT 23463: 112.2 mm SL; **ZUMT 23491**: 123.7 mm SL; **ZUMT 23492**: 64.8 mm SL; **ZUMT 23493**: 55.8 mm SL; **ZUMT 23494**: 74.3 mm SL, Urado (浦戸), Kochi Pref., Japan, 16 Mar. 1931, T. Kamohara.

ZUMT 25593: 41.9 mm SL, off 500 m of Onahama (小名濱), Fukushima Pref., Japan, 10 Apr. 1933, S. Kadota (角田春斉).

ZUMT 64540: 145.6 mm SL; **ZUMT 64541**: 53.4 mm SL; **ZUMT 64542**: 50.0 mm SL, Suruga Bay, Heda (戸田), Numazu (沼津), Shizuoka Pref., Japan, Mar. 1937, donated from MIMB (Mitsui Institute of Marine Biology, Japan).

Paratriacanthodes Fowler, 1934　フエカワムキ属

Paratriacanthodes retrospinis Fowler, 1934　ミスジカワムキ

ZUMT 64544: 26.3 mm SL, Suruga Bay, Heda, Numazu, Shizuoka Pref., Japan, Mar. 1937, donated from MIMB.

Triacanthodes Bleeker, 1857　ベニカワムキ属

Triacanthodes anomalus (Temminck and Schlegel, 1850)　ベニカワムキ

ZUMT 1750: 50.2 mm SL, Japan (details unknown), 18 July 1893.

ZUMT 5942 (3): 27.8–28.6 mm SL, Sagami Bay, Misaki, Kanagawa Pref., Japan, before 1915.

ZUMT 8325(3): 19.9–26.7 mm SL, Tanabe (田辺), Wakayama Pref., Japan, before 1918, N. Ui (宇井縫蔵).

ZUMT 18813: 71.2 mm SL; **ZUMT 18814**: 100.9 mm SL; **ZUMT 18815**: 92.0 mm SL; **ZUMT 18816**: 71.6 mm SL, Miyazaki Pref., Japan, before 1928.

ZUMT 21763: 103.8 mm SL, Miyazaki (宮崎), Miyazaki Pref., Japan, before 1930, S. Tanaka (田中茂穂).

ZUMT 23859: 83.9 mm SL; **ZUMT 23860**: 73.6 mm SL, Naya (納屋), Kagoshima (鹿児島), Kagoshima Pref., Japan, before 1931.

ZUMT 26804: 86.1 mm SL; **ZUMT 26805**: 98.9 mm SL; **ZUMT 33766**: 89.1 mm SL; **ZUMT 33767**: 88.3 mm SL, Nagasaki Pref., Japan, Mar. 1909, S. Tanaka.

ZUMT 26883: 95.6 mm SL; **ZUMT 31591**: 80.1 mm SL, Kagoshima Pref., Japan, before 1934.

ZUMT 32008: 102.6 mm SL, off Nagasaki Pref., Japan, before 1936, T. A. Glover (倉場富三郎).

ZUMT 43660: 33.1 mm SL, Sagami Bay, Misaki, Kanagawa Pref., Japan.

ZUMT 49596: 34.2 mm SL, Sagami Bay, off Hayama (葉山), Kanagawa Pref., Japan, 9 Feb. 1959, hand trawl.

ZUMT 50932: 27.4 mm SL; **ZUMT 50933**: 27.1 mm SL, Sagami Bay, off Hayama, Kanagawa Pref., Japan, 15 Jan. 1960, hand trawl.

ZUMT 51063: 90.9 mm SL; **ZUMT 51228**: 78.8 mm SL, East China Sea, Dec. 1959.

ZUMT 51668: 42.7 mm SL, East China Sea (Norin-kaiku 319 and 320), 4 Apr. 1960.

ZUMT 52235: 82.0 mm SL, East China Sea (Norin-kaiku 319), 23 May 1960.

ZUMT 52302: 33.2 mm SL, East China Sea (Norin-kaiku 253 and 254), FV No. 1–2 Shotoku-maru, before 5 May 1960.

ZUMT 63040: 76.5 mm SL.

ZUMT 65707: 34.0 mm SL, Sagami Bay, Aburatsubo (油壷), Miura (三浦), Kanagawa Pref., Japan, 2 Apr. 1899.

Collection of Triacanthidae in ZUMT

The collection of Triacanthodidae at ZUMT is composed of 17 specimens in 17 lots, comprising three species. There are no types present. The specimens were collected between 1909 and 1980.

Triacanthidae　ギマ科

Triacanthus Oken, 1817　ギマ属

Triacanthus biaculeatus (Bloch, 1786)　ギマ

ZUMT 5936: 144.0 mm SL, Sagami Bay, Misaki, Kanagawa Pref., Japan, before 1915.

ZUMT 6977: 82.5 mm SL, Tosa (土佐), Kochi Pref., Japan, before 1918.

ZUMT 9678: 52.0 mm SL, Kumamoto Pref. (probably Yatsushiro City), Japan, before 1920, Y. Yamada (山田友記).

ZUMT 18558: 31.8 mm SL; **ZUMT 18559**: 41.7 mm SL; **ZUMT 27157**: 85.6 mm SL, Lake Hamana (浜名湖), Shizuoka Pref., Japan, before 1928, S. Ooe (大恵尚一).

ZUMT 18641: 84.4 mm SL; **ZUMT 18642**: 78.5 mm SL, Urado Bay, Kochi Pref., Japan, 30 July 1925, T. Kamohara.

ZUMT 34485: 27.9 mm SL, Japan (details unknown), before 1936.

ZUMT 51385: 256.7 mm SL, East China Sea (Norin-kaiku 169), 30 Oct. 1959.

ZUMT 55515: 120.0 mm SL, Owashi (尾鷲), Mie Pref., Japan, Aug. 1980., set net, K. Mochizuki (望月賢二).

ZUMT 64479: 202.6 mm SL, Suruga Bay, Mihonomatsubara (三保松原), Shimizu (清水), Shizuoka Pref., 20 Apr. 1979, M. Aizawa (藍澤正宏).

ZUMT 65037: 124.2 mm SL, Sansyu (三州, Aichi Pref., Japan, purchased at Tokyo Market).

ZUMT ABE 59-502: 94.9 mm SL, Japan (probably Sagami Bay, Manazuru (真鶴), Kanagawa Pref.), before 1959, T. Abe (阿部宗明).

Tripodichthys Tyler, 1968
Tripodichthys blochii (Bleeker, 1852)

ZUMT 40834: 56.2 mm SL, Manila, Philippines, 11 Feb. 1909, I. Iijima and K. Aoki (飯島　魁・青木熊吉).
ZUMT 42123: 98.3 mm SL, Jakarta (Batavia), Indonesia, 5 Mar. 1909, I. Iijima and K. Aoki.

Pseudotriacanthus Fraser-Brunner, 1941
Pseudotriacanthus strigilifer (Cantor, 1849)

ZUMT 18472: 117.2 mm SL, Keelung (基隆), Taiwan, Sept. 1927, H. Sato (佐藤春吉).

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