List of specimens of the family Tripterygiidae (Actinopterygii: Blenniiformes) deposited in the Department of Zoology, The University Museum, The University of Tokyo

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Abstract

An investigation of the family Tripterygiidae (Actinopterygii: Blenniiformes) deposited in the Department of Zoology, The University Museum, The University of Tokyo (ZUMT) revealed a total of 1,441 specimens in 89 lots, including 929 unregistered specimens. Re-identification of the specimens confirmed that they represented eight species in three genera (all recorded from Japan). In addition, specimens registered as ZUMT 1973 [*Enneapterygius etheostoma* (Jordan and Snyder, 1902), 25 specimens, 29.3–54.1 mm standard length] were recognized as having been utilized by Tanaka (1912).

Introduction

Triplefins [family Tripterygiidae Whitley, 1931 (Actinopterygii: Blenniiformes)] are generally small bottom living fishes, characterized by three dorsal fins, ctenoid scales on the lateral body surface, continuous or discontinuous lateral lines, and 14–32 anal-fin rays (Fricke, 1997). The family currently includes 30 genera, and at least 150 species distributed worldwide in cold to tropical waters (Fricke, 1997; Fricke et al., 2024), usually inhabiting intertidal rock pools or subtidal rocky or coral reefs (Fricke, 1997). To date, 35 tripterygiid species have been recognized in Japanese waters (Hayashi, 2013; Tashiro and Motomura, 2013, 2014, 2018; Motomura et al., 2015; Tashiro et al., 2018; Dewa et al., 2021, 2023, 2024; Dewa and Motomura, 2022).

In this study, the collection of specimens in the family Tripterygiidae deposited in the Department of Zoology, The University Museum, The University of Tokyo (ZUMT) (including 929 unregistered specimens) were re-identified, and an updated catalog of all tripterygiid specimens in ZUMT provided.

Materials and Methods

Nomenclature and identifications of ZUMT specimens generally followed Shen (1994), Fricke (1997), Hayashi (2013), Tashiro and Motomura (2014) and Dewa et al. (2023). The standard lengths of specimens were generally measured for each specimen, although only of the largest and smallest specimens when a large number were included in a single lot. Contents included in parentheses following registration numbers are as follows: [specimen numbers, standard length; collection locality; collection date; collector; remarks (if applicable)]. Collection data of specimens are omitted if the same as that for the previous specimen. An asterisk (*) following each registration number indicates specimens that were newly registered during this study. The specimens listed herein were stored in glass bottles in Room 406 (specimen storage room) in the ZUMT building.

Collection of Tripterygiidae in ZUMT

The specimens of Tripterygiidae deposited in ZUMT comprised 89 lots, totaling 1,441 specimens [eight species

(all previously recorded from Japan) in three genera], including 929 unregistered specimens. The majority (96%) of the ZUMT tripterygiid specimens were identified as *Enneapterygius etheostoma* (Jordan and Snyder, 1902). No tripterygiid type specimens were found in the ZUMT collection.

Species Accounts

Family Tripterygiidae

Enneapterygius Rüppell, 1835　ヘビギンポ属

Enneapterygius cerasinus Jordan and Seale, 1906　セダカヘビギンポ

ZUMT 68857 (1, 17.5 mm; Maruma Beach, Uehara, Iriomote-jima island, Yaeyama Islands, Okinawa, Japan)

Enneapterygius erythrosoma Shen, 1994　スバルヘビギンポ

ZUMT 69321 (1, 18.6 mm; Sokodo, Hachijo-jima island, Izu Islands, Tokyo, Japan)

Enneapterygius etheostoma (Jordan and Snyder, 1902)　ヘビギンポ

JAPAN

CHIBA Pref.

ZUMT 34340 (1, 40.5 mm; Okitsu; Aug. 1930; coll. by S. Masuda)

ZUMT 68961 (1, 30.3 mm; Osawa, Katsuura; 27 May 1980; coll. by H. Tachikawa and J. Takayama)

TOKYO Metropolitan Area

ZUMT 2020 (1, 43.4 mm; vicinity of Tokyo)

IZU-OSHIMA ISLAND

ZUMT 55276 (31, 19.9–28.9 mm; Motomura Beach; 18 or 19 Aug. 1933; coll. by I. Tomiyama)

ZUMT 62976 (15, 31.7–44.3 mm; Izu-oshima island; 1 Aug. 1992)

ZUMT 63009 (45, 32.3–49.7 mm; Okada Port; 28 July 1991; coll. by K. Sakamoto)

ZUMT 63066 (18, 34.0–49.1 mm), ZUMT 63093 [(16, 35.7–50.2 mm); Izumihama; 1 Aug. 1993; coll. by K. Sakamoto]

ZUMT 63117 (11, 36.9–44.0 mm; Izumihama; 1 Aug. 1989)

NIIGATA Pref.

ZUMT 11001 (1, 35.7 mm; Awa-shima island; donated by M. Nakamura)

TOYAMA Pref.

ZUMT 32320 (1, 39.2 mm; Abuga-shima island; donated by H. Yamashita)

KANAGAWA Pref.

ZUMT 1776 (28, 29.9–55.9 mm; Misaki; 1990's)

ZUMT 1973 [25, 29.3–54.1 mm; Misaki; May 1908; coll. by S. Tanaka; referenced in Tanaka (1912)]

ZUMT 5731 (2, 42.5–45.0 mm), ZUMT 5738 (30, 27.2–52.3 mm), ZUMT 5745 (47, 30.7–50.1 mm), ZUMT 5754 [(2, 33.4–36.0 mm); Jogashima]

ZUMT 20700 (1, 37.5 mm), ZUMT 20701 (1, 41.0 mm), ZUMT 20871 (1, 36.0 mm), ZUMT 20941 [(1, 37.4 mm); Misaki, Sagami Bay; 1930]

ZUMT 26421 (1, 45.9 mm), ZUMT 26422 [(1, 45.6 mm); Hayama, Sagami Bay; Aug. 1929; coll. by I. Tomiyama]

ZUMT 27710 (1, 43.2 mm; vicinity of Soshu, Sagami Bay; 1934; donated by N. Kuroda)

ZUMT 28664 (1, 29.7 mm), ZUMT 28665 [(1, 27.5 mm); Misaki, Sagami Bay; 2 May 1909]

ZUMT 28977 (1, 43.2 mm), ZUMT 28978 (1, 39.3 mm), ZUMT 28979 (1, 40.4 mm), ZUMT 28980 (1, 38.7 mm), ZUMT 28981 (1, 42.9 mm), ZUMT 28982 (1, 46.2 mm), ZUMT 28983 (1, 44.1 mm), ZUMT 28984 (1, 40.2

mm), ZUMT 28986 (1, 39.6 mm), ZUMT 28990 (1, 37.8 mm), ZUMT 28991 (1, 45.4 mm), ZUMT 28992 (1, 38.8 mm), ZUMT 28993 (1, 36.1 mm), ZUMT 28994 (1, 40.3 mm), ZUMT 28996 (1, 38.4 mm), ZUMT 28997 (1, 41.4 mm), ZUMT 28999 [(1, 39.2 mm); Misaki, Sagami Bay; May 1918]
ZUMT 32562 (1, 51.3 mm; Misaki, Sagami Bay; 1936; coll. by S. Watanabe)
ZUMT 34872 (1, 39.5 mm; probably Misaki; 1936)
ZUMT 38994 (81, 23.6–48.7 mm; Misaki, Sagami Bay; 1938)
ZUMT 44246 (1, 45.2 mm), ZUMT 44247 [(1, 36.3 mm); Odawara, Sagami Bay; 1942]
ZUMT 54739 (42, 22.8–54.6 mm; Mito Beach, Miura Pen.; 20 July 1966)
ZUMT 54783 (1, 34.2 mm), ZUMT 54846 [(1, 26.6 mm); Hamamoroiso, Miura, Sagami Bay; 5 May 1985; coll. by M. Aizawa]
ZUMT 56872 (7, 38.5–52.5 mm; Jogashima; 2 Aug. 1987; M. Aizawa)
ZUMT 64590 (1, 22.9 mm; Arasaki, Miura; M. Fukatani)
ZUMT 67492 (5, 24.4–44.2 mm; Nebukawa, Odawara; M. Fukatani)
ZUMT 68616* (49, 27.8–50.6 mm), ZUMT 68623* (165, 29.8–50.4 mm), ZUMT 68628* (127, 29.0–52.4 mm), ZUMT 68631* (149, 27.4–54.8 mm), ZUMT 68633* (139, 26.1–56.2 mm), ZUMT 68636* [(189, 27.3–54.2 mm); Misaki, Soshu; 31 May 1911]
ZUMT 68626* (64, 27.0–48.0 mm; Misaki; May 1911)

SHIZUOKA Pref.

ZUMT 32736 (1, 46.7 mm), ZUMT 32737 (1, 42.6 mm), ZUMT 32738 [(1, 41.6 mm); Shizuura, Numazu, Sagami Bay; donated by N. Kuroda in Jan. 1932]
ZUMT 33336 (1, 25.3 mm; Shizuura, Numazu, Sagami Bay)
ZUMT 60801 (1, 46.4 mm), ZUMT 60802 [(1, 37.5 mm); Futo Fishing Port, Harai, Ito, Sagami Bay, 34°53′36″N, 139°08′09″E; 24 May 1990; coll. by H. Senou and M. Aizawa]

YAMAGUCHI Pref.

ZUMT 9883 (1, 35.8 mm; Suo-oshima island; coll. by T. Yamahara)

EHIME Pref.

ZUMT 25295 (1, 36.1 mm; Gogo-shima island; July 1932; coll. by M. Katayama)

NAGASAKI Pref.

ZUMT 2751 (2, 26.0–27.8 mm; Mogi; Apr. 1910; coll. by Nagasaki Normal School)
ZUMT 6576 (1, 38.2 mm; Tameishi; July 1915; coll. by I. Kaneko)

OKINAWA Pref.

ZUMT 40436 [2, 41.9–43.0 mm; Okinawa Pref. (Ryukyu); donated by S. Sakaguchi on 20 May 1921]
ZUMT 45886 (3, 32.0–43.2 mm; Okinawa-jima island; 8 July 1936; coll. by Dr. Inuya)
ZUMT 68610* (24, 21.7–30.0 mm; Onnason, Okinawa-jima island; 2 Aug. 1919; coll. by S. Tanabe)

LOCALITY UNKNOWN

ZUMT 68615* (2, 36.4–37.1 mm; Japan; 1940)
ZUMT 68618* (7, 20.5–49.3 mm; 21 Aug. 1900)

Remarks. The specimen label of ZUMT 1973 (25 specimens, 29.3–54.1 mm SL, collected from Misaki) stated that the specimens were used in “Figures and descriptions Vol. 41”(Tanaka, 1927). However, *E. etheostoma* had been previously reported by Tanaka (1912) on the basis of ZUMT 1793, and Tanaka (1927) included no information on that species. In addition, the voucher number ZUMT 1793 had been assigned to *Misgurnus anguillicaudatus* (Cantor, 1842), collected from Lake Biwa in Aug. 1890, according to the original ledger. Tanaka (1912) had most likely cited the registration number of the *E. etheostoma* specimens incorrectly, and the remarks on the specimen label of ZUMT 1973 should be revised following the “Figures and descriptions Vol. 6” (Tanaka, 1912).

During our Nov. 2024 survey of specimens, 916 specimens of *E. etheostoma* were newly registered. Of them, 818 specimens (ZUMT 68616, 68623, 68628, 68631, 68633, and 68636) had been collected in Misaki, Soshu (historical name of Kanagawa area), on 31 May 1911. Those specimens have been preserved in five glass bottles with tags bearing the locality and collection date. Thirteen additional specimens (five species of five families) were also included, having been collected with *E. etheostoma* at the same sampling sites: *Scorpaenodes evides* (Jordan and Thompson, 1914) (Scorpaenidae): ZUMT 68629* (2, 22.5–25.1 mm); *Pseudoblennius marmoratus* (Döderlein,

1884) (Cottidae): ZUMT 68625* (3, 32.5–39.1 mm); *Neoclinus bryope* (Jordan and Snyder, 1902) (Chaenopsidae): ZUMT 68632* (1, 46.9 mm); *Omobranchus elegans* (Steindachner, 1876) (Blenniidae): ZUMT 68634* (2, 37.0–38.8 mm); and *Chaenogobius annularis* Gill, 1859 (Gobiidae): ZUMT 68624* (3, 16.7–43.1 mm), ZUMT 68635* (1, 15.5 mm).

Enneapterygius minutus (Günther, 1877)　クサギンポ

ZUMT 45889 (1, 26.3 mm; Okinawa-jima island; 8 July 1936; coll. by Dr. Inuya)
ZUMT 68609* (1. 27.1 mm; Onnason, Okinawa-jima island; 2 Aug. 1919; coll. by S. Tanabe)

Remarks. Although *E. minutus* (Günther, 1877) had been previously regarded as a junior synonym of an Indo Pacific widespread species *Enneapterygius philippinus* (Peters, 1868) (Fricke, 1997), Dewa et al. (2023) redescribed the former as a valid on the basis of 109 specimens, including the types. Furthermore, re-examination of type and non-type specimens in that study revealed that *E. philippinus* is known only from Luzon, the Philippines, on the basis of two type specimens (Dewa et al., 2023).

The standard Japanese name “Kusa-gimpo” was originally proposed for *Enneapterygius tusitalae* Jordan and Seale, 1906 by Jordan et al. (1913) (erroneously spelled as *E. tusitale*). However, they provided neither description nor figures of the species, and the standard Japanese name bearing type of “Kusa-gimpo” is unknown. In this case, following the recommendation of the Ichthyological Society of Japan (2020: art. 2.2, 4.1.1), the standard Japanese name “Kusa-gimpo” is considered to have been designated by Hayashi (2000) in Nakabo (ed.) (2000), being applicable to *E. minutus*. In addition, the morphological characters and sketches of “Kusa-gimpo” agreed closely with the description of *E. minutus* provided by Dewa et al. (2023). Furthermore, *E. tusitalae* is currently treated as a junior synonym of *E. minutus* based on re-examination of the type specimens (Dewa et al., 2023). Thus, the standard name “Kusa-gimpo” should be applied to *E. minutus*.

Enneapterygius miyakensis Fricke, 1987　ミヤケヘビギンポ

ZUMT 41885 (42, 24.1–39.7 mm; Hachijo-jima island, Izu Islands; Sept. 1922; coll. by Y. Uchiyama)
ZUMT 68612* (9, 41.4–45.7 mm; Okada Port, Izu-oshima island, Izu Islands; 28 July 1991; coll. by K. Sakamoto; separated from ZUMT 63009)

***Enneapterygius* sp.**　ヘビギンポ属の一種

ZUMT 27365 (1, 25.8 mm; Naha, Okinawa-jima island; 23 May 1900; coll. by Miyajima)
ZUMT 41074 (6, 16.2–25.8 mm; Hachijo-jima island; coll. by S. Watanabe)

Remarks. The above seven specimens were badly damaged, with no remaining distinctive species diagnostic characters.

Helcogramma McCulloch and Waite, 1918　クロマスク属
Helcogramma fuscipectoris (Fowler, 1946)　クロマスク

ZUMT 30567 (1, 17.5 mm; Onnason, Okinawa-jima island, 26°29′50″N, 127°51′13″E; 2 Aug. 1925; coll. by S. Tanabe)

Helcogramma nesion Williams and Howe, 2003　ヨゴレヘビギンポ

ZUMT 34356 (1, 29.9 mm; Hachijo-jima island; Sept. 1922; coll. by M. Uchiyama)

***Helcogramma* sp.**　クロマスク属の一種

ZUMT 68611* (1, 26.9 mm; Hachijo-jima island, Izu Islands; Sept. 1922; coll. by Y. Uchiyama; separated from ZUMT 41885)

Remarks. Although this species is most similar to *Helcogramma fuscipectoris* (Fowler, 1946), having 14 second dorsal-fin rays, 9 mandibular pores, short unbranched orbital tentacles, and a black mask on the head, the former differs from the latter in having six suborbital pores and a restricted black area on the head (upper edge of black mask not reaching eye) (Fricke, 1997; Tashiro and Motomura, 2014; Dewa, unpub. data).

Springerichthys Shen, 1994　ヒメギンポ属
Springerichthys bapturus (Jordan and Snyder, 1902)　ヒメギンポ

ZUMT 26950 (1, 55.1 mm; Kagoshima Pref.; collection date unknown)
ZUMT 33366 (1, 52.6 mm, Shizuoka Pref.; collection date unknown)

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