

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

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Abstract

A total of 71 specimens of the family Gempylidae, representing nine species in nine genera, are held in the Department of Zoology, The University Museum, The University of Tokyo, including three paratypes of *Tongaichthys robustus* Nakamura & Fujii, 1983. A specimen of *Thyrsitoides marleyi* Fowler, 1929 represents the first record of the species from waters off Fukushima Prefecture.

Introduction

The snake mackerel family Gempylidae, long considered a member of Perciformes (e.g., Nakamura and Parin 1993, 2001; Nakabo and Doiuchi 2013), comprises 26 species in 16 genera (Nakamura and Parin 1993, 2001; Roberts and Stewart 1997; Nakayama et al. 2014; Ho et al. 2017; Fricke et al. 2022). However, the family has been suggested as polyphyletic, and has also been frequently placed in the order Scombriformes, together with families such as Scombridae and Trichiuridae (Miya et al. 2013; Betancur-R. et al. 2017).

Some gempylid species are abundantly caught and important for fisheries worldwide, including Japan (Gushiken 1972; Nakamura and Parin 1993; Nakamura 1995; Chiang et al. 2014; Wong and Ho 2019; Ogata 2021). However, human consumption of some large-bodied species has been known to cause severe diarrhea due to high concentrations in the muscles of an indigestible wax ester (N. Y. 1983; Oikawa 2021). In Japan, marketing of two such species [*Lepidocybium flavobrunneum* (Smith, 1843) and *Ruvettus pretiosus* Cocco, 1833] is prohibited by law (Veterinary Sanitation Division, Environmental Health Bureau, Ministry of Health and Welfare 1970, 1981). Specimens held in the Department of Zoology, The University Museum, The University of Tokyo, representing nine species, are listed below.

Materials and Methods

Gempylid specimens in the Department of Zoology, The University Museum, The University of Tokyo (abbreviated as ZUMT) were identified following Nakamura and Parin (1993, 2001) and Nakabo and Doiuchi (2013). Data included in parentheses following specimen registration numbers are as follows: standard length; collection locality; collection date; and collector. Collection data of specimens are omitted when the same as that for the following specimen. Remarks are also given where applicable. The collection year and collector for some specimens was estimated by following Koeda et al. (2022).

The ZUMT specimens listed herein were primarily stored in Room 406 (specimen storage room), with additional specimens in Room 407 (including types and S. Tanaka specimens), in the museum building. Most were stored in shelved containers, although some larger specimens were stored in a glass tank (labelled “Gempylidae”; glass lid sealed with a silicon adhesive) in room 406 (as of Mar. 2022). Although some of the ZUMT specimens collected by Dr. Tokiharu Abe (most with collection data missing) had not been registered into the ZUMT collection, they are listed herein together with their ZUMT ABE number (underlined number written on specimen label), in the hope that Dr. Abe’s catalog books with collection data will be rediscovered in the future. Of the latter specimens, those labelled between ZUMT ABE 2700 to 6000 were collected from Palau by Dr. Abe between 1936 and 1937 (Koeda et al. 2022).

Results

In the ZUMT fish collection, 71 specimens of nine gempylid species, including three paratypes of *Tongaichthys robustus* Nakamura & Fujii, 1983, were confirmed. Ten specimens had been collected by Zenshiro Maekawa (前川善四郎) and Teijiro Suzuki (鈴木貞次郎) in 1956, over a wide area from the vicinity of Cocos Islands (eastern Indian Ocean) to Kiribati (central Pacific Ocean).

Species accounts

Family Gempylidae クロタチカマス科
***Diplospinus multistriatus* Maul, 1948** ホソクロタチ

PALAU

ZUMT ABE 4155 (160.9 mm; Palau)

***Gempylus serpens* Cuvier, 1829** クロタチカマス

JAPAN

ZUMT 24891 [approx. 701.3 mm (body cut into four parts); Numazu City, Shizuoka Pref. (obtained at Toyohashi Fish Market, Toyohashi City, Aichi Pref.); 23 Sept. 1932]

ZUMT 26274 (573.2 mm; probably collected from Kanagawa Pref.; coll. by personnel of Kanagawa Prefectural Fisheries Experimental Station (Odawara Branch)

ZUMT 55541 (580.0 mm), ZUMT 55542 (532.4 mm; obtained at Chinen Fisheries Cooperation Association, Chinen, Nanjo City, Okinawa Pref.; 15 Sept. 1986; coll. by H. Senou)

NEW GUINEA

ZUMT 63152 (177.4 mm), ZUMT 63153 (160.5 mm; New Guinea; coll. by T. Abe)

KIRIBATI

ZUMT 48594 [526.5 mm; approx. 170 km southeast of Banaba (2°07'S, 170°24'E); 28 Mar. 1956; coll. by Z. Maekawa and T. Suzuki]

ZUMT 48595 [605.3 mm; approx. 300 km southeast of Banaba (3°10'S, 171°07'E); 28 Mar. 1956; coll. by Z. Maekawa and T. Suzuki]

INDIAN OCEAN

ZUMT 48942 [372.2 mm; approx. 600 km southwest of Sumatra, Indonesia (7°00'S, 97°24'E); 6 Aug. 1956; coll. by Z. Maekawa and S. Suzuki]

ZUMT 49029 [185.5 mm; approx. 1200 km west of Sumatra, Indonesia (3°55'S, 90°49'E); 17 Apr. 1957; coll. by Z. Maekawa and S. Suzuki]

ZUMT 49066 [775.4 mm; approx. 850 km northwest of Cook Islands (10°03'S, 89°19'E); 22 Feb. 1955; coll. by M. Shinohara]

LOCALITY UNKNOWN

ZUMT 63242 (812.3 mm; no data)

Lepidocybium flavobrunneum (Smith, 1843) アブラソコムツ

INDONESIA

ZUMT 48746 (64.4 mm; approx. 250 km south of Seram Island, Moluccas (6°00'S, 130°0'E); Jan. 1956; coll. by Z. Maekawa and S. Suzuki)

ZUMT 48930 (45.1 mm; off Molu Island, Banda Sea; Jan. 1956; coll. by Z. Maekawa and S. Suzuki)

PACIFIC OCEAN

ZUMT 48987 [96.7 mm; approx. 860 km northeast of Marshall Islands (10°56'N, 178°34'E); 25 Nov. 1956; coll. by Z. Maekawa and S. Suzuki]

INDIAN OCEAN

ZUMT 48944 [84.0 mm; approx. 500 km north of Cocos Islands (7°00'S, 97°24'E); 6 Aug. 1956; coll. by Z. Maekawa and S. Suzuki]

ZUMT 49055 [143.6 mm; approx. 1000 km northwest of Cocos Islands (9°09'S 88°00'E; obtained from stomach of *Xiphias gladius*); 23 Feb. 1955; coll. by M. Shinohara]

Nealotus tripes Johnson, 1865 フウライカマス

PACIFIC OCEAN

ZUMT 48980 [60.2 mm; approx. 280 km northeast of Tabuaeran, Kiribati (5°12'N, 157°04'W); 5 Oct. 1956; coll. by Z. Maekawa and S. Suzuki]

Promethichthys prometheus (Cuvier, 1832) クロシビカマス

JAPAN

ZUMT 14478 (410.5 mm), ZUMT 14479 (471.2 mm; Okinawa Pref.; coll. by S. Sakaguchi)

ZUMT 20211 (183.0 mm; Wakayama Pref.; Jan. 1920; coll. by N. Ui)

ZUMT 26273 [388.0 mm; probably collected from Kanagawa Pref.; coll. by personnel of Kanagawa Prefectural Fisheries Experimental Station (Odawara Branch)]

ZUMT 26399 (163.0 mm; Iwa, Manazuru Town, Kanagawa Pref.; 1925; coll. by M. Fujita)

ZUMT 49116 (209.1 mm; Misaki, Miura City, Kanagawa Pref.; 1956; coll. by I. Tomiyama)

ZUMT 55648 (309.0 mm; obtained at Misaki Fish Market, Miura City, Kanagawa Pref.)

ZUMT 62752 (380.0 mm), ZUMT 62753 (358.0 mm), ZUMT 62754 (370.0 mm), ZUMT 62755 (295.0 mm), ZUMT 62756 (349.0 mm), ZUMT 62757 (441.0 mm), ZUMT 62758 (360.0 mm), ZUMT 62759 (382.0 mm), ZUMT 62760 (365.0 mm), ZUMT 62761 (421.0 mm), ZUMT 62762 (385.0 mm), ZUMT 62763 (430.0 mm), ZUMT 62764 (365.0 mm; Sagami Bay; 23 Oct. 2021; coll. with line fishing by K. Koeda on *R/V Kaimei*)

ZUMT ABE 10096 (113.5 mm; Manazuru City, Kanagawa Pref.; 2 Oct. 1954)

LOCALITY UNKNOWN

ZUMT 39345 (176.4 mm), ZUMT 62956 (217.5 mm), ZUMT 63241 (367.1 mm), ZUMT ABE 60-1542 (189.7 mm), ZUMT ABE 1543 (169.1 mm; no data)

Rexea prometheoides (Bleeker, 1856) カゴカマス

JAPAN

ZUMT 23641 (189.6 mm; Urado, Kochi City, Kochi Pref.; 10 Apr. 1931; coll. by T. Kamohara)

ZUMT 23642 (129.0 mm; Urado, Kochi City, Kochi Pref.; 26 Feb. 1930; coll. by T. Kamohara)

ZUMT 23748 (210.6 mm; Taniyama, Kagoshima City, Kagoshima Pref.; 20 July 1930)

ZUMT 46010 (176.0 mm; Yanagawa City, Fukuoka Pref.)

ZUMT 47213 (157.8 mm), ZUMT 47219 (114.7 mm; Kochi Pref.)

ZUMT 49885 [217.7 mm; Fukue, Goto City (Fukue-jima Island, Goto Islands), Nagasaki Prefecture; 10 June 1953; coll. by I. Tomiyama]

NEW ZEALAND

ZUMT 64083 [402.0 mm; Chatam Rise, approx. 140 km east of Christ Church (43°14'S, 174°29'E), 550–551 m depth; 6 Mar. 1983]

LOCALITY UNKNOWN

ZUMT 63246 (237.8 mm), ZUMT ABE 60-1154 (176.3 mm; no data)

***Ruvettus pretiosus* Cocco, 1833** バラムツ**JAPAN**

ZUMT 19586 [370.2 mm; probably collected from Mie Pref.; coll. by S. Hirano, Mie Prefectural Fisheries Experimental Station (Hamajima Branch)]

ZUMT 39651 (Muscle tissue only, approx. 22 mm length retained; probably collected from Okinawa Pref.)

ZUMT 57779 (447.5 mm; off Joga-shima Island, Miura City, Kanagawa Pref.; 7 July 1988; coll. by A. Itoh)

ZUMT 63238 (441.2 mm; Kume-jima Island, Okinawa Islands, Ryukyu Archipelago; Oct. 1929)

ZUMT ABE 61-849 (326.7 mm), ZUMT ABE 61-850 (334.2 mm; off Manazuru Town, Kanagawa Pref.; 15 Aug.–31 Dec. 1961)

PALAU

ZUMT ABE 4144 (173.0 mm; Palau)

NEW GUINEA

ZUMT 63145 (203.5 mm; New Guinea; coll. by T. Abe)

PACIFIC OCEAN

ZUMT 48378 [432.5 mm; approx. 630 km north of Howland Island, Northern Phoenix Islands (6°30'N, 177°06'W); 13 Aug. 1955; coll. by M. Shinohara]

ZUMT 48599 (300.9 mm), ZUMT 48600 [417.1 mm; approx. 140 km southeast of Banaba, Kiribati (1°43'S, 170°30'E); Jan. 1956; coll. by Z. Maekawa and S. Suzuki]

LOCALITY UNKNOWN

ZUMT 63237 (340.0 mm; no data)

***Thyrsitoides marleyi* Fowler, 1929** ナガタチカマス**JAPAN**

ZUMT 25263 (278.4 mm; off Onahama, Iwaki City, Fukushima Pref.; Aug. 1931; coll. by S. Tsunoda)

Remarks. In Tohoku District, *T. marleyi* has been recorded only from Hachinohe City, Aomori Prefecture. (Kitagawa et al. 2008; Nakabo and Doiuchi 2013; Hata et al. 2018). Therefore, the present specimen represents the first record of the species from Fukushima Prefecture.

***Tongaichthys robustus* Nakamura & Fujii, 1983**

SOUTH PACIFIC

ZUMT 54254 (219.3 mm), ZUMT 54255 (195.2 mm), ZUMT 54256 [212.3 mm; paratypes of *Tongaichthys robustus* Nakamura & Fujii, 1983; ca. 100 km south of Tonga (22°10.8'S, 175°23.6'W), 288–312 m depth; 11 Jan. 1977].

Remarks. This species was described by Nakamura and Fujii (1983) based on 16 specimens, including the three ZUMT specimens.

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