

# **Report on the specimens of family Chaetodontidae (Teleostei: Perciformes) deposited in the Department of Zoology, The University Museum, The University of Tokyo with comments on distributional shifted in these 100 years**

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## **Abstract**

The collection of Chaetodontidae (Teleostei: Perciformes) held in the Department of Zoology, The University Museum, The University of Tokyo (ZUMT) comprise 433 lots, including 449 specimens representing seven genera and 40 species, most of which were collected in the early 20th century. Presence of the holotype of *Coradion fulvocinctus* Tanaka, 1918 was confirmed. Although many chaetodontid species recently distributed along the Pacific coast of southern Japan can be considered as examples of abortive migration, few specimens in the ZUMT collection appeared to be indicative of such, the historical collection instead reflecting past distributional characteristics of each species.

## **Introduction**

The butterflyfish family Chaetodontidae (Teleostei: Perciformes), one of the most representative coral reef fish groups (Nakamura 2003), has been studied from many angles, including social structure, feeding habits, and relationships with corals (Bouchon-Navaro, 1986; Zekeria et al., 2006). On the Pacific coast of southern Japan, the family is also known as an abortive migration group, juveniles of various southern species appearing during summer, but apparently dying in winter without reproducing (Hagiwara and Hasegawa 1990; Koeda 2018). Such fishes dispersed mainly from tropical areas during their early life history. However, in recent years their quality and abundance have changed, as they became more common in temperate areas, with some species overwintering (Hirata et al. 2011; Nakamura et al. 2013).

Because the fish collection in the Department of Zoology, The University Museum, The University of Tokyo (ZUMT) was mainly acquired from Japan and overseas during the late 18th and early 19th centuries, it is of significant value as direct evidence of the distribution of some fish species during that period. Since the butterflyfishes have shown the most dramatic changes in their distributional ranges, the specimens held in ZUMT are listed below.

## **Materials and Methods**

Identities of the Chaetodontidae specimens in ZUMT were confirmed by the first author, generally following Burgess (1978) and Shimada (2013), with confirmation of at least one

diagnostic character. Standard lengths (SL) were measured for all specimens, which are arranged in alphabetical order by species. Local name, and collector's name and affiliation are given where known (from the specimen catalog or tag), with Japanese language equivalents in parentheses. The following list includes ZUMT number, SL, with number of specimens in parentheses when two or more, type (abbreviated when non-type), collection locality, collection date, collector or donator and affiliation, collection method, and remarks when available. Although, some of the ZUMT specimens collected by Dr. Abe had not been formally cataloged into the ZUMT collection (and the data of some specimens not retained), such specimens which can recognize by having underbar with the number on the accompanying label, are listed herein with the number ZUMT ABE XXXX, due to the possibility of future discovery of Dr. Abe's remaining catalog books with collection data.

### **Collection of Chaetodontidae in ZUMT**

Examination of the specimens of Chaetodontidae deposited in ZUMT comprised 449 specimens [40 species (all known from Japan) in seven genera] in 433 lots, including the holotype of *Coradion fulvocinctus* Tanaka, 1918, presently recognized as a junior synonym of *Coradion altivelis* McCulloch, 1916.

### **Distributional shifted of Chaetodontidae in these 100 years**

The Faculty of Science, The University of Tokyo has a long history of collecting fish specimens from all over Japan between 1900 and 1940. This is largely due to the relationship of Tanaka Shigeo with schoolteachers, fishery experiment station staff, and volunteers from all over Japan, with a particularly large number of specimens donated from Chiba, Kanagawa, Shizuoka, Wakayama, Kochi, Nagasaki, and Okinawa prefectures. For butterflyfishes before 1940, especially many specimens from Okinawa were donated by S. Sakaguchi (坂口総一郎), H. Yashiro (矢代弘孝), and T. Tanabe (田辺貞夫), and from the Philippines by U. Yamamura (山村樞次郎), but very few specimens from the Pacific coast of mainland Japan, and only the following specimens likely represented abortive migration at that time:

*Chaetodon argentatus* Smith & Radcliffe, 1911: ZUMT 39705, juvenile, ZUMT 42823, juvenile (Hachijo-jima Island)

*Chaetodon auriga* Forsskal, 1775: ZUMT 28298, 28299, 34352, juvenile (Chiba Pref.), ZUMT 26856, juvenile (Awaji-shima Island)

*Chaetodon citrinellus* Cuvier, 1831: ZUMT 37910, subadult (Izu Peninsula, Shizuoka Pref.)

*Chaetodon ephippium* Cuvier, 1831: ZUMT 26857, ZUMT 26858, juveniles (Awaji-shima Island), ZUMT 35253, juvenile, (Hamamatsu, Shizuoka Pref.), ZUMT 43662, ZUMT 55423, juveniles (Misaki, Kanagawa Pref.)

*Chaetodon kleinii* Bloch, 1790: ZUMT 26276, subadult (Okino-shima Island, Kochi Pref.)

*Chaetodon lineolatus* Cuvier, 1831: ZUMT 26276, adult (Onahama, Fukushima Pref.), probably adult transportation (see Koeda in press).

*Chaetodon plebeius* Cuvier, 1831: adult (Okino-shima Island, Kochi Pref.)

*Chaetodon vagabundus* Linnaeus, 1758: ZUMT 34351, juvenile (Okitsu, Chiba Pref.), ZUMT 42824, subadult (Hachijo-jima Island)

In contrast, large numbers of variously-sized specimens of seven species, *Chaetodon auripes* Jordan & Snyder, 1901, *Chaetodon guentheri* Ahl, 1923, *Chaetodon nippon* Steindachner & Döderlein, 1883, *Coradion altivelis* McCulloch, 1916, *Heniochus acuminatus* (Linnaeus, 1758), *Heniochus diphreutes* Jordan 1903, and *Roa modesta* (Temminck & Schlegel, 1844), collected from the Pacific coast of southern Japan before 1940, were found in the collection, indicating that such species were better adapted to temperate waters than the remaining 33 species. Furthermore, the paucity of specimens of the latter suggests that they were very rare or not distributed off the Pacific coast of southern Japan in the early 19th century. The comparison of the result and the distribution of each species shown by Shimada (2013) reveal that the distributions of the butterflyfishes were dramatically shifted in these 100 years (Table 1). 23 species expanded their distribution northward from tropical area (north to Amai) to temperate area (Pacific coast of southern Japan), and nine species slightly expanded northward in temperate area. *Chaetodon auriga* is one of the most noticeably changed their distribution that the species known before 1940 from Amai (adult) and Chiba (juvenile), but now from Mie (adult) and Iwate (juvenile). Based on the results, this species is now more adapted to colder regions than other six temperate species (except for *C. auripes* which known from Aomori), even though it was assumed to have been abortive migration species before 1940.

Because the ZUMT butterflyfish collection provides likely evidence of historical distributional characteristics of each species, compared with subsequent dramatic changes in the distributional range of some, the entire collection is a valuable historical asset that cannot now be replicated.

### **Chaetodontidae** チョウチョウウオ科

*Chaetodon* Linnaeus, 1758 チョウチョウウオ属

*Chaetodon argentatus* Smith & Radcliffe, 1911 カガミチョウチョウウオ

**ZUMT 14253:** 84.2 mm SL; **ZUMT 14254:** 82.2 mm SL; **ZUMT 14255:** 82.3 mm SL; **ZUMT 14256:** 80.3 mm SL; **ZUMT 14257:** 86.6 mm SL; **ZUMT 14258:** 82.0 mm SL, Naha Fish Market (那覇魚類市場), Naha, Okinawa Pref., 2 Feb. 1925, donated by H. Yashiro (屋代弘孝).

Remarks: Hirotaka Yashiro was a technician in Okinawa Prefecture, who studied Okinawan entomology from 1922 to 1944 (Higashihirachi 1962).

**ZUMT 16903:** 90.6 mm SL, Onna (恩納), Okinawa Pref., between 1920 and 1930, S. Tanabe (田辺貞夫).

**ZUMT 39705:** 36.6 mm SL, Hachijo-jima Island (八丈島), Aug. 1931, S. Masuda (増田繁雄).

**ZUMT 39946:** 78.0 mm SL; **ZUMT 39974:** 78.1 mm SL; **ZUMT 45760,** 81.3 mm SL; **ZUMT 45781,** 84.2 mm SL, Ryukyu (琉球), probably Okinawa-jima Island (沖縄島), specimens received on Mar. 1925, S. Sakaguchi (坂口総一郎).

**ZUMT 40424** (cloth tag “14”): 82.9 mm SL, Ryukyu, probably Okinawa-jima Island, between 1921 and 1923, S. Sakaguchi.

- ZUMT 42823:** 40.0 mm SL, Hachijo-jima Island, Sept. 1922, M. Uchiyama (内山 操).  
**ZUMT 53425:** 76.5 mm SL, Ishigaki-jima Island (石垣島).  
**ZUMT 62225** (plastic tag MA-064): 83.3 mm SL, Kii Peninsula (紀伊半島), 1970's, donation from Shirahama Aquarium, Kyoto University (京都大学白浜水族館) to M. Aizawa.  
**ZUMT ABE 6050:** 84.2 mm SL, Palau, 1930's, T. Abe.

*Chaetodon auriga* Forsskål, 1775 トゲチヨウチヨウウオ

- ZUMT 11107:** 102.1 mm SL, Basilan Island, Philippines, between May 1925 and April 1926, U. Yamamura (山村榎次郎).  
 Remarks: 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 13732:** 79.2 mm SL, Naha, Okinawa Pref., July 1921, C. Gusukuma (城間朝教) (Women's School, Okinawa Prefecture) (沖縄県女子師範学校).  
**ZUMT 15330:** 131.1 mm SL, Okinawa-jima Island, from 1920 to 1930, S. Sakaguchi.  
**ZUMT 16986** (cloth tag I-16 “イ十六”): 91.4 mm SL, Itoman (糸満), Okinawa-jima Island, between 1920 and 1930, K. Tanabe.  
**ZUMT 17254:** 34.6 mm SL, Unten (運天), Okinawa-jima Island, between 1920 and 1930, S. Tanabe (a student collector in Okinawa) (沖縄学生採).  
 Remarks: Local name in Okinawa “Fubicya (フウビチャ)”.
- ZUMT 17278:** 128.2 mm SL, Yaeyama Islands (八重山諸島), between 1920 and 1930, S. Tanabe (a student in the Fishing Department of Fisheries School) (水産学校漁労科).  
**ZUMT 22881:** 67.7 mm SL, Ryukyu, probably Okinawa-jima Island, between 1920 and 1930.  
**ZUMT 26856:** 43.4 mm SL, Fukura (福良), Awaji-shima Island (淡路島), Hyogo Pref., 5 Mar. 1912, R. Uchimura (内村柳太郎).  
**ZUMT 28298:** 15.1 mm SL; **ZUMT 28299**, 15.1 mm SL, Chiba Pref., 1927, S. Obama (小浜秀) (Women's School, Chiba Prefecture) (千葉県女子師範).  
**ZUMT 34352:** 18.7 mm SL, Okitsu (興津), Katsuura (勝浦), Chiba Pref., Aug. 1930, S. Masuda.  
**ZUMT 40387:** 138.3 mm SL, Kagoshima, received on June 1938, K. Ogawa (小川一男) (Women's School, Kagoshima Prefecture) (鹿児島女子師範).  
**ZUMT 40715** (cloth tag of 128): 82.6 mm SL, Amami-oshima Island, received on Nov. 1922, K. Enoya (榎屋兼武) (Junior High School, Kagoshima Prefecture) (鹿児島県立大島中学校).  
 Remarks: Local name in Kagoshima “Kasabera (カサベラ)”.
- ZUMT 41653:** 158.7 mm SL; **ZUMT 41654:** 146.9 mm SL; Ogasawara Islands, donated by S. Fujimori (藤森三郎).  
**ZUMT 42650**, 51.5 mm SL, Ryukyu, probably Okinawa-jima Island, received on Mar. 1925, S. Sakaguchi.

**ZUMT 62177:** 122.2 mm SL; **ZUMT 62178:** 112.2 mm SL; **ZUMT 62179:** 67.5 mm SL;  
**ZUMT 62180:** 46.3 mm SL; **ZUMT 63060:** 37.1 mm SL, specimens previously  
uncataloged, detailed data unknown.  
**ZUMT ABE 2882:** 83.9 mm SL; **ZUMT ABE 4150:** 29.8 mm SL; **ZUMT ABE 4151:** 25.3  
mm SL; **ZUMT ABE 4152:** 45.2 mm SL; **ZUMT ABE 5606:** 63.4 mm SL, Palau, T. Abe.

*Chaetodon auripes* Jordan & Snyder, 1901 チョウチョウウオ

**ZUMT 13966:** 116.2 mm SL, Okinawa-jima Island, from 1920 to 1930, S. Sakaguchi at  
Daiichi Junior High School of Okinawa Prefecture (沖縄県立第一中学校).  
**ZUMT 17372:** 81.9 mm SL; **ZUMT 17438:** 52.0 mm SL, Naha, Okinawa-jima Islands, S.  
Tanabe and Y. Hiyane (比屋根良隆).  
**ZUMT 18602:** 121.4 mm SL, Susaki, Kochi Pref., Oct. 1928 (received on 28 Nov. 1928), T.  
Kamohara (蒲原稔治) (Kochi High School) (高知高等学校).  
**ZUMT 19116:** 153.8 mm SL, Mitsune Beach (三根海岸), Hachijo-jima Island, 2 July 1929,  
Y. Otsuki (大槻洋四郎), collected by spear.  
**ZUMT 20093:** 51.0 mm SL, Ujiamada (宇治山田), Ise (伊勢), Mie Pref., Y. Tsuchiga (槌賀  
安平).  
**ZUMT 20506:** 102.4 mm SL; **ZUMT 20507** (2 specimens, each with a cloth tag in differing  
handwriting): 120.8 mm SL, 97.5 mm SL, Ryukyu, probably Okinawa-jima Island, Apr.,  
1909, S. Watase (渡瀬庄三郎) and H. Kuwano (桑野久任).  
**ZUMT 23213:** 105.3 mm SL; **ZUMT 23214:** 102.5 mm SL, Kata Bay (賀田湾), Mie Pref., Y.  
Tsuchiga (Kimoto Junior High School) (木本中学校), donated by T. Koide (小出哲夫).  
**ZUMT 25121:** 102.8 mm SL, Taipei (台北), Taiwan (台湾), M. Imai (今井倭武) (Medical  
School, Taipei) (台北医学専門学校), collected by Kinchaku-ryo (キンチャク漁).  
**ZUMT 28300:** 43.3 mm SL, Chiba Pref., S. Obama (Women's School, Chiba Prefecture).  
**ZUMT 33856:** 37.9 mm SL, Shizuura (静浦), Numazu (沼津), Shizuoka Pref., N. Kuroda (黒  
田長礼).  
Remarks: Although the ZUMT collection catalog records the specimen as “donated by Dr.  
Kuroda (黒田博士寄贈)”, without noting the name of the collector, the latter is considered  
to have been Nagamichi Kuroda, an ornithologist who worked with S. Tanaka (Tanaka et  
al. 1933), and who also collected and donated many specimens to ZUMT.  
**ZUMT 34016:** 42.3 mm SL, Yokohama (横浜) or Ninomiya (二宮), Kanagawa Pref.  
**ZUMT 34353:** 24.9 mm SL; **ZUMT 34354,** 24.1 mm SL, Okitsu, Katsuura, Chiba Pref., Aug.  
1930, S. Masuda.  
**ZUMT 34729:** 22.2 mm SL, Numazu, Shizuoka Pref., S. Yamamoto (山本末吉氏) (Numazu  
Junior High School) (沼津中学校).  
**ZUMT 34790:** 21.0 mm SL; **ZUMT 34791,** 28.1 mm SL, Japan.  
**ZUMT 40701:** 109.1 mm SL, Hachijo-jima Island.  
**ZUMT 46577:** 118.5 mm SL, Hachijo-jima Island, in jar with ZUMT 46576 (Exocoetidae).  
**ZUMT 47026:** 92.6 mm SL, Kochi Pref., in jar with ZUMT 47013 (Monacanthidae), T.  
Kamohara.

**ZUMT 48318**: 67.0 mm SL, Aburatsubo (油壺), Miura, Kanagawara Pref., 1935, T. Abe.  
**ZUMT 53320**: 94.8 mm SL, Ishigaki-jima Island, Sato.  
**ZUMT 56880**: 37.4 mm SL, tidepool at Joga-shima Island, Kanagawa Pref., 2 Aug. 1987.  
**ZUMT 62229** (cloth tag of 0118): 41.2 mm SL; **ZUMT 62230** (cloth tag of 0053): 35.5 mm SL; **ZUMT 62237**: 21.4 mm SL; **ZUMT 63118**: 38.4 mm SL; **ZUMT 63119**: 38.3 mm SL; **ZUMT 62988**: 27.8 mm SL; **ZUMT 62989**: 27.9 mm SL; **ZUMT 63050**: 29.5 mm SL; **ZUMT 62987**: 38.1 mm SL; **ZUMT 62990**: 24.0 mm SL, localities unknown.

*Chaetodon baronessa* Cuvier, 1829 ミカドチョウチョウウオ

**ZUMT ABE 3919**: 80.3 mm SL, Palau, 1930's, T. Abe.  
**ZUMT 11101**: 91.6 mm SL; **ZUMT 11110**: 96.4 mm SL, Philippines, between May 1925 and April 1926, U. Yamamura.  
**ZUMT 20509**: 97.5 mm SL, Ryukyu, probably Okinawa Island, Apr. 1909, S. Watase and H. Kuwano.

*Chaetodon bennetti* Cuvier, 1831 ウミヅキチョウチョウウオ

**ZUMT 13952**: 120.6 mm SL, Okinawa Island, between 1920 and 1930, S. Sakaguchi.

*Chaetodon citrinellus* Cuvier, 1831 ゴマチョウチョウウオ

**ZUMT 17122**: 97.9 mm SL; **ZUMT 17123**: 81.2 mm SL, Onna, Okinawa-jima Island, between 1920 and 1930, S. Tanabe.  
**ZUMT 37910**: 83.3 mm SL, Nirayama, Shizuoka Pref., M. Agata (阿方 勝) (Nirayama Junior High School) (韮山中学校).  
**ZUMT 39971**: 86.7 mm SL, Ryukyu, probably Okinawa Island, between 1920 and 1930, S. Sakaguchi.  
**ZUMT 41168** (cloth tag 125): 90.3 mm SL, Amami-oshima Island, collected on 18 Feb. 1921, received on 3 Feb. 1922, K. Enoya (榎屋兼武) (Junior High School, Kagoshima Prefecture) (鹿児島県立大島中学校).  
Remarks: Local name "Kasabera".  
**ZUMT ABE 4147**: 27.3 mm SL, Palau, 1930's, T. Abe.

*Chaetodon daedalma* Jordan & Fowler, 1902 ユウゼン

**ZUMT 19115**: 142.6 mm SL, Mitsune Beach, Hachijo-jima Island, 2 July 1929, Y. Otsuki, collected by spear.

**ZUMT 19247**: 153.1 mm SL; **ZUMT 19303**: 148.0 mm SL, Mitsune Beach, Hachijo-jima Island, received on 22 July 1929, Y. Oshitsu (押津義雄).

**ZUMT 19941**: 130.2 mm SL, Ogasawara Islands, before 1930, S. Fujimori (藤森三郎).

Remarks: Referred to and figured in Tanaka (1930a,b).

**ZUMT 19942** (cloth tag of sketch No. 234 “写生二百三十四号”): 136.3 mm SL, Ogasawara Islands, before 1930, S. Fujimori (藤森三郎).

Remarks: May have been collected with ZUMT 19941, but not referred to in Tanaka (1930a,b).

*Chaetodon ephippium* Cuvier, 1831 セグロチヨウチヨウウオ

**ZUMT ABE 3176**: 76.2 mm SL; **ZUMT ABE 3177**: 82.4 mm SL; **ZUMT ABE 3912**: 83.7 mm SL; **ZUMT ABE 3914**: 116.3 mm SL; **ZUMT ABE 3918**: 112.1 mm SL; **ZUMT ABE 4149**: 45.2 mm SL: Palau, 1930's, T. Abe.

**ZUMT 11047**: 155.5 mm SL, Philippines, between May 1925 and April 1926, U. Yamamura.

**ZUMT 11270**: 172.2 mm SL, Okinawa-jima Island, between 1921 and 1923, S. Sakaguchi.

**ZUMT 26857**: 25.9 mm SL; **ZUMT 26858**: 29.0 mm SL, Fukura, Awaji-shima Island, 5 Mar. 1912, R. Uchimura (内村柳太郎).

**ZUMT 35253**: 22.8 mm SL, Hamamatsu, Shizuoka Prefecture, S. Araki (荒木精一) (Women's High School, Hamamatsu City) (浜松市立浜松高等女学校).

**ZUMT 43264**: 22.1 mm SL, locality unknown.

**ZUMT 43662**: 26.4 mm SL, Misaki.

**ZUMT 55423**: 3 specimens, 19.3 mm SL, 21.3 mm SL, 22.9 mm SL, Misaki, 16 Aug. 1911.

**ZUMT 62203**: 6 specimens, 18.0–37.1 mm SL, locality unknown.

**ZUMT 62218** (plastic tag MA-062): 95.9 mm SL, Kii Peninsula, 1970's, donation from Shirahama Aquarium, Kyoto University to M. Aizawa.

*Chaetodon guentheri* Ahl, 1923 コクテンカタギ

**ZUMT 24306**: 84.4 mm SL, Mimae, Kochi Pref., 21 Jan. 1931, T. Kamohara.

**ZUMT 62175**: 64.6 mm SL; **ZUMT 62176**: 62.9 mm SL, locality unknown.

*Chaetodon kleinii* Bloch, 1790 ミヅレチヨウチヨウウオ

**ZUMT 11272**: 96.7 mm SL; **ZUMT 15095**: 84.6 mm SL; **ZUMT 15112**: 83.0 mm SL, Okinawa-jima Island, between 1921 and 1923, S. Sakaguchi.

**ZUMT 14278**: 88.6 mm SL; **ZUMT 14279**: 87.6 mm SL; **ZUMT 14280**: 93.6 mm SL; **ZUMT 14281**: 97.4 mm SL, Naha Fish Market, Naha, Okinawa Pref., 23 Jan. 1925, H. Yashiro.

**ZUMT 15067**: 75.2 mm SL, Naha, Okinawa Pref., probably 1925, H. Yashiro.

**ZUMT 17072** (cloth tag I-41 “イ四一”): 71.2 mm SL, Itoman, Okinawa-jima Island, between 1920 and 1930, K. Tanabe.

**ZUMT 17313:** 80.1 mm SL, Yaeyama Islands, K. Tanabe (a student collector at Fishing Department of Fisheries School).

**ZUMT 22595:** 93.2 mm SL, Okino-shima Island (沖の島), Kochi Pref., T. Kamohara.

**ZUMT 26909:** 85.8 mm SL, Naze Port (名瀬港), Amami-oshima Island (奄美大島), 31 Aug. 1934.

**ZUMT 31843:** 49.8 mm SL, Buton Island, Indonesia.

**ZUMT 41169**(cloth tag 125): 79.6 mm SL, Naze Port, Amami-oshima Island, collected on 18 July 1921, received on 3 Feb. 1922, K. Enoya (Junior High School, Kagoshima Prefecture).  
Remarks: Local name “Kasabera”.

**ZUMT 44918:** 90.2 mm SL, Market at Zamboanga, Mindanao, Philippines, Feb. 1929, M. Hachisuka (蜂須賀正氏).

Remarks: Masauji Hachisuka was an ornithologist and aviculturist who visited Mindanao Island for bird research in 1929. His research group climbed Apo Mountain on 11th Feb. that year, following which he visited Zamboanga (Hachisuka 2006).

**ZUMT ABE 3924:** 83.2 mm SL; **ZUMT ABE 3925:** 77.2 mm SL; **ZUMT ABE 6049:** 82.2 mm SL, Palau, 1930's, T. Abe.

*Chaetodon lineolatus* Cuvier, 1831 ニセフウライチョウウオ

**ZUMT 26276:** 205.1 mm SL, Onahama, Fukushima Pref., Dec. 1932.

Remarks. The present specimen represents the northernmost record of the species (Koeda in press)

**ZUMT 37444:** 108.2 mm SL, Pengfu, Taiwan, July 1908.

**ZUMT ABE 2918:** 193.6 mm SL; **ZUMT ABE 3917:** 166.1 mm SL, Palau, 1930's, T. Abe.

*Chaetodon lunula* (Lacepède, 1802) チョウハン

**ZUMT 29683:** 52.6 mm SL, Nyagu (皆川) at Okinoerabu-jima Island (沖永良部島), Amami Islands, 25 Aug. 1909, Miyashita (宮下).

**ZUMT 49085:** 150.9 mm SL, Fordate, Indonesia, 31 Jan. 1955, donated by Z. Maekawa (前川善四郎) and T. Suzuki (鈴木貞次郎) to I. Tomiyama.

**ZUMT 55422:** 16.7–34.9 mm SL, 6 specimens, tidepool at Onna, Okinawa-jima Island, 2 Apr. 1925.

**ZUMT 63304:** 66.6 mm SL, locality unknown.

*Chaetodon lunulatus* Quoy & Gaimard, 1825 ミスジチョウウオ

**ZUMT ABE 3908:** 86.4 mm SL; **ZUMT ABE 3909:** 62.2 mm SL; **ZUMT ABE 3910:** 89.9 mm SL; **ZUMT ABE 3911:** 88.0 mm SL; **ZUMT ABE 4923:** 102.7 mm SL; **ZUMT ABE**



**5605**: 93.7 mm SL; **ZUMT ABE 6051**: 95.7 mm SL; **ZUMT ABE 6052**: 110.0 mm SL; **ZUMT ABE 6053**: 92.8 mm SL, Palau, 1930's, T. Abe.

**ZUMT 4777**: 101.3 mm SL, 102.4 mm SL, 2 specimens, **ZUMT 4778**: 95.4 mm SL, Ryukyu Archipelago, Apr. 1909, S. Watase and Kohno.

Remarks: Shozaburo Watase (Tokyo Imperial University) was a zoologist who focused his research on the biogeography of the northern Ryukyu Archipelago.

**ZUMT 11051**: 98.8 mm SL; **ZUMT 11053**: 86.8 mm SL, Philippines, from May 1925 to April 1926, U. Yamamura (山村樺次郎).

**ZUMT 11261** (cloth tag of 148): 106.6 mm SL; **ZUMT 13963**: 100.6 mm SL; **ZUMT 13964**: 88.2 mm SL, Okinawa Island, from 1920 to 1930, S. Sakaguchi (Daiichi Junior High School, Okinawa Prefecture).

**ZUMT 14302**: 87.2 mm SL, Naha Fish Market (那覇魚類市場), Naha, Okinawa Pref., 6 Feb. 1925, donated by H. Yashiro.

**ZUMT 14604**: 82.8 mm SL, Philippines.

**ZUMT 16972** (cloth tag I-42 “イ四二”): 79.4 mm SL, Itoman, Okinawa-jima Island, T. Tanabe.

**ZUMT 17121**: 79.3 mm SL; **ZUMT 17226**: 87.4 mm SL, Unten, Okinawa-jima Island, T. Tanabe.

Remarks: Local name “Fubicha (フウビチャ)”.

**ZUMT 17305**: 92.8 mm SL, Yaeyama Islands, T. Tanabe.

**ZUMT 17350**: 101.2 mm SL, Naha, Okinawa-jima Islands, S. Tanabe and Y. Hiyane.

**ZUMT 19524** (cloth tag 56): 95.8 mm SL, Itoman, Okinawa-jima Island, 23 May 1928, T. Tanabe.

Remarks: Local name “Anlagasa (アンラガーサー)”.

**ZUMT 31845**: 55.5 mm SL; **ZUMT 31846**: 53.8 mm SL, Buton Island, Indonesia.

**ZUMT 39802**: 89.9 mm SL; **ZUMT 39899**: 74.0 mm SL; **ZUMT 39900**: 76.2 mm SL, Ryukyus, probably Okinawa-jima Island, received on Mar. 1925, S. Sakaguchi (Daiichi Junior High School, Okinawa Prefecture).

**ZUMT 40062**: 86.3 mm SL, Kyan Cape, Okinawa-jima Island, 12 Apr. 1901, K. Mitsukuri (箕作佳吉) and I. Ikeda (池田岩治).

Remarks: Kakichi Mitsukuri and Iwaji Ikeda (Tokyo and Kyoto Universities, respectively) were zoologists who worked during both the Meiji and Taisho eras.

**ZUMT 40714** (cloth tag 128): 105.4 mm SL, Amami-oshima Island, collected on 22 July 1921, received on Nov. 1922, K. Enoya (Junior High School, Kagoshima Prefecture).

**ZUMT 44924**: 91.3 mm SL; **ZUMT 44925**: 101.1 mm SL, Market at Zamboanga, Mindanao, Philippines, Feb. 1929, M. Hachisuka.

**ZUMT 53326**: 98.2 mm SL; **ZUMT 53328**: 91.2 mm SL, Ishigaki-jima Island, Yaeyama Islands, Sato.

**ZUMT 54079**: 89.9 mm SL, Kuji, Amami-oshima Island, Y. Tominaga (富永義昭).

**ZUMT 62312**: 15.2 mm SL, Nishidomari, Otsuki, Kochi, 6 Sept. 2021, K. Koeda (小枝圭太), 3 m depth, hand net.

**ZUMT 62181** (cloth tag 80): 95.8 mm SL, Ryukyu Archipelago, 10 May 1921, S. Sakaguchi.

*Chaetodon melannotus* Bloch & Schneider, 1801 アケボノチョウチョウウオ

- ZUMT 11108**: 95.3 mm SL, Philippines, between May 1925 and April 1926, U. Yamamura.  
**ZUMT 11251** (cloth tag 149): 113.9 mm SL; **ZUMT 14485**: 115.1 mm SL; **ZUMT 15129**: 94.4 mm SL; **ZUMT 39903**: 95.5 mm SL; **ZUMT 39975**: 99.7 mm SL; **ZUMT 45775**: 85.3 mm SL; **ZUMT 45776**: 92.4 mm SL, probably Okinawa-jima Island, specimens received on 24 Mar. 1925, S. Sakaguchi (Daiichi Junior High School, Okinawa Prefecture).  
**ZUMT 14303**: 109.0 mm SL, Naha Fish Market, Naha, Okinawa Pref., 6 Feb. 1925, donated by H. Yashiro.  
**ZUMT 22763**: 40.8 mm SL; **ZUMT 39740**: 40.9 mm SL, Okinawa-jima Island.  
**ZUMT 22880**: 42.4 mm SL, Ryukyu Archipelago.  
**ZUMT 62231** (cloth tag 0020): 52.2 mm SL; **ZUMT 63261**: 41.9 mm SL; **ZUMT 63262**: 3 specimens, 19.7–35.8 mm SL; **ZUMT 63306**: 39.6 mm SL, locality unknown.  
**ZUMT 62310**: 54.6 mm SL, Nishidomari, Otsuki, Kochi, 6 Sept. 2021, K. Koeda, 3 m depth, hand net.

*Chaetodon meyeri* Bloch & Schneider, 1801 オウギチョウチョウウオ

- ZUMT ABE 2963**: 85.9 mm SL; **ZUMT ABE 2964**: 124.4 mm SL; **ZUMT ABE 2965**: 121.6 mm SL, Palau, 1930's, T. Abe.

*Chaetodon nippon* Steindachner & Döderlein, 1883 シラコダイ

- ZUMT 12420**: 111.2 mm SL, 111.2 mm SL, Misaki.  
**ZUMT 62191**: 95.1 mm SL; **ZUMT 62192**: 106.6 mm SL; **ZUMT 62193**: 118.2 mm SL; **ZUMT 62194**: 124.3 mm SL; **ZUMT 62195**: 56.8 mm SL; **ZUMT 62236**: 121.2 mm SL, locality unknown.

*Chaetodon octofasciatus* Bloch, 1787 ヤスジチョウチョウウオ

- ZUMT 62219** (plastic tag MA-076): 55.4 mm SL, Kii Peninsular, 1970's, donation from Shirahama Aquarium, Kyoto University to M. Aizawa.

*Chaetodon oligacanthus* Bleeker, 1850 テンツキチョウチョウウオ

- ZUMT 12329**: 85.2 mm SL, Kagoshima? (probably Amami-oshima Island).  
**ZUMT 25537**: 73.9 mm SL; **ZUMT 25538**: 69.9 mm SL; **ZUMT 25539**: 82.2 mm SL; **ZUMT 25540**: 113.3 mm SL, Philippines, identified on 12 May 1933 by A. W. Herre (Stanford University).

**ZUMT 40960:** 27.2 mm SL, Jolo, Sulu Islands, Philippines, Feb. 1909, I. Ijima (飯島魁) and K. Aoki (青木熊吉).

Remarks: Isao Ijima and Kumakichi Aoki (both University of Tokyo) were an ichthyologist and specimen collector, respectively.

**ZUMT 41031:** 70.4 mm SL, Singapore, 12 Mar. 1910, I. Ijima and K. Aoki.

**ZUMT 42144:** 87.3 mm SL; **ZUMT 42154:** 81.1 mm SL; **ZUMT 42291:** 84.8 mm SL, Philippines, 1926, U. Yamamura.

**ZUMT 42344:** 84.7 mm SL, Basilan, Philippines, 1926, U. Yamamura.

**ZUMT 62224:** 61.4 mm SL, locality unknown.

*Chaetodon ornatissimus* Cuvier, 1831 ハナグロチヨウチヨウウオ

**ZUMT 15111:** 84.7 mm SL; **ZUMT 15329:** 109.6 mm SL, probably from Okinawa Island, from 1920 to 1930, S. Sakaguchi (Daiichi Junior High School, Okinawa Prefecture).

**ZUMT 17351:** 102.9 mm SL, Naha, Okinawa-jima Islands, S. Tanabe and Y. Hiyane.

**ZUMT 20497:** 113.1 mm SL; **ZUMT 20498:** 132.4 mm SL; **ZUMT 20499:** 131.1 mm SL, Ryukyu Archipelago, Apr. 1909, S. Watase and H. Kuwano.

**ZUMT 2962:** 124.2 mm SL; **ZUMT 5987:** 129.2 mm SL, Palau, 1930's, T. Abe.

*Chaetodon oxycephalus* Bleeker, 1853 ヒメフウライチヨウチヨウウオ

**ZUMT 25502:** 148.0 mm SL, Philippines, identified on 12 May 1933 by A.W. Herre (Stanford University).

*Chaetodon plebeius* Cuvier, 1831 スミツキトノサマダイ

**ZUMT 14304:** 107.3 mm SL, Naha Fish Market, Naha, Okinawa Pref., 6 Feb. 1925, H. Yashiro.

**ZUMT 15126:** 102.2 mm SL; **ZUMT 15137:** 98.2 mm SL; **ZUMT 15373:** 99.5 mm SL, probably from Okinawa Island, between 1920 and 1930, S. Sakaguchi (Daiichi Junior High School, Okinawa Prefecture).

**ZUMT 17048** (cloth tag I-40 “イ四十”): 104.7 mm SL, Itoman, Okinawa-jima Island, between 1920 and 1930, K. Tanabe.

**ZUMT 18876:** 114 mm SL, Okino-shima Island, Kochi Pref., July 1926, T. Kamohara (Kochi High School).

**ZUMT 19525** (cloth tag 56): 100.8 mm SL, Itoman, Okinawa-jima Island, 23 May 1928, T. Tanabe.

Remarks: Local name “Anlagasa (アンラガーサー)”.

**ZUMT 26910:** 114.4 mm SL, Kagoshima Pref., 31 Aug. 1934.

**ZUMT 39805**: 99.3 mm SL; **ZUMT 39904**: 79.8 mm SL; **ZUMT 39972**: 95.1 mm SL; **ZUMT 45759**: 104.5 mm SL, probably from Okinawa Island, between 1920 and 1930, S. Sakaguchi.

**ZUMT 53327**: 90 mm SL, Ishigaki-jima Island, Yaeyama Islands, Sato.

**ZUMT 54085**: 74.1 mm SL, Kuji, Amami-oshima Island, Y. Tominaga.

**ZUMT 62182** (plastic tag MA-075): 65.4 mm SL, Kii Peninsular, 1970's, donation from Shirahama Aquarium, Kyoto University to M. Aizawa.

**ZUMT ABE 6054**: 94.2 mm SL; **ZUMT ABE 6055**: 79.1 mm SL, Palau, 1930's, T. Abe.

*Chaetodon punctatofasciatus* Cuvier, 1831 シチセンチョウチョウウオ

**ZUMT 15069**: 83.7 mm SL, Naha, Okinawa-jima Island, H. Yashiro.

**ZUMT 15172**: 74.8 mm SL, probably from Okinawa Island, between 1920 and 1930, S. Sakaguchi.

**ZUMT 62174** (plastic tag MA-071): 74.3 mm SL, Kii Peninsular, 1970's, donation from Shirahama Aquarium, Kyoto University to M. Aizawa.

**ZUMT ABE 6048**: 83.9 mm SL, Palau, 1930's, T. Abe.

*Chaetodon reticulatus* Cuvier, 1831 ハクテンカタギ

**ZUMT 62198**: 133.9 mm SL; **ZUMT 62199**: 93.7 mm SL, locality unknown.

*Chaetodon selene* Bleeker, 1853 テングチョウチョウウオ

**ZUMT 31842**: 95.6 mm SL, Buton Island, Indonesia.

**ZUMT 53950**: 51.8 mm SL, locality unknown, Yasuda.

**ZUMT 55421**: 69.8 mm SL, Osezaki, Suruga Bay, July 1972.

*Chaetodon semeion* Bleeker, 1855 レモンチョウチョウウオ

**ZUMT 62207**: 88.2 mm SL, locality unknown.

**ZUMT ABE 3915**: 130.1 mm SL; **ZUMT ABE 3916**: 116.5 mm SL, Palau, 1930's, T. Abe.

*Chaetodon speculum* Cuvier, 1831 トノサマダイ

**ZUMT 11050**: 105.5 mm SL; **ZUMT 11054**: 65.7 mm SL, Philippines, from May 1925 to April 1926, U. Yamamura.

**ZUMT 31844**: 46.3 mm SL, Buton Island, Indonesia.

- ZUMT 37422:** 72.0 mm SL, Pengfu, Taiwan, July 1906.  
**ZUMT 46839:** 122.1 mm SL, Taipei, Taiwan, received on 5 Aug. 1933.  
**ZUMT 54603:** 77.2 mm SL, Fish market at Puerto Princesa, Palawan Island, Philippines, M. Aizawa.  
**ZUMT ABE 4148:** 38.1 mm SL, Palau, 1930's, T. Abe.

*Chaetodon trifascialis* Quoy & Gaimard, 1825 ヤリカタギ

- ZUMT 11052:** 105 mm SL, Philippines, from May 1925 to April 1926, U. Yamamura.  
**ZUMT 13957:** 96.4 mm SL; **ZUMT 15097:** 93.7 mm SL; **ZUMT 15128:** 105.1 mm SL, Okinawa-jima Island, between 1920 and 1930, S. Sakaguchi (Daiichi Junior High School, Okinawa Prefecture).  
**ZUMT 14274:** 99.2 mm SL; **ZUMT 14275:** 112.1 mm SL; **ZUMT 14276:** 104 mm SL; **ZUMT 14277:** 110.5 mm SL, Naha Fish Market, Naha, Okinawa-jima Island, 2 Feb. 1925, H. Yashiro.  
**ZUMT 14591:** 101.2 mm SL, Philippines.  
**ZUMT 26908:** 107.1 mm SL, Naze Port, Amami-oshima Island, received by ZUMT on 31 Aug. 1934.  
**ZUMT 39945:** 100.2 mm SL, locality unknown.  
**ZUMT 41170** (cloth tag 125): 103.1 mm SL, Naze Port, Amami-oshima Island, collected on 18 July 1921, received on 3 Feb. 1922, K. Enoya (Junior High School, Kagoshima Prefecture).  
Remarks: Local name "Kasabera".  
**ZUMT 62190** (plastic tag of MA-065): 72.6 mm SL, Kii Peninsular, 1970's, donation from Shirahama Aquarium, Kyoto University to M. Aizawa.  
**ZUMT ABE 3923:** 86.2 mm SL; **ZUMT ABE 5606:** 85.2 mm SL; **ZUMT ABE 6047:** 102.3 mm SL, Palau, 1930's, T. Abe.

*Chaetodon unimaculatus* Bloch, 1787 イッテンチョウチョウウオ

- ZUMT 4779:** 119.4 mm SL, Ryukyu Archipelago, Apr. 1909, S. Watase and Kohno.  
**ZUMT 11228** (cloth tag 145): 123.2 mm SL; **ZUMT 15192:** 81.4 mm SL, Okinawa-jima Island, between 1920 and 1930, S. Sakaguchi (Daiichi Junior High School, Okinawa Prefecture).  
**ZUMT 12330:** 113.7 mm SL, probably Amami-oshima Island, Kagoshima Prefecture.  
**ZUMT 14268:** 64.6 mm SL; **ZUMT 14269:** 112.5 mm SL; **ZUMT 14270:** 90.3 mm SL; **ZUMT 14271:** 72.6 mm SL; **ZUMT 14272:** 92.1 mm SL; **ZUMT 14273:** 84.8 mm SL, Naha Fish Market, Naha, Okinawa-jima Island, 2 Feb. 1925, H. Yashiro.  
**ZUMT 14492:** 114.1 mm SL; **ZUMT 39803:** 88.5 mm SL; **ZUMT 39804:** 87.6 mm SL; **ZUMT 39901:** 98.6 mm SL; **ZUMT 39902:** 82.5 mm SL; **ZUMT 39973:** 65.7 mm SL, probably Okinawa-jima Island, specimens received on 24 Mar. 1925, S. Sakaguchi.

- ZUMT 15068:** 71.2 mm SL, Naha, Okinawa-jima Island, 2 Feb. 1925, H. Yashiro.  
**ZUMT 20184:** 99.6 mm SL, Kagoshima (probably Amami-oshima Island).  
**ZUMT 20504:** 131.5 mm SL, Ryukyu Archipelago, Apr. 1909, S. Watase and H. Kuwano.  
**ZUMT 26863:** 116.9 mm SL, Naze Port, Amami-oshima Island.

*Chaetodon vagabundus* Linnaeus, 1758 フウライチヨウチヨウウオ

- ZUMT 11106:** 105.2 mm SL, Philippines, from May 1925 to April 1926, U. Yamamura.  
**ZUMT 11225** (cloth tag 140): 124.1 mm SL; **ZUMT 15194:** 119.3 mm SL, Okinawa-jima Island, between 1920 and 1930, S. Sakaguchi (Daiichi Junior High School, Okinawa Prefecture).  
**ZUMT 17105:** 121.1 mm SL, Onna, Okinawa-jima Island, between 1920 and 1930, S. Tanabe.  
**ZUMT 21804:** 110.2 mm SL, Ryukyu Archipelago (probably Amami-oshima Island), T. Mukai (向井常治) (Miyakonojo Junior High School, Miyazaki Prefecture).  
**ZUMT 29682:** 52.2 mm SL, Nyagu at Okinoerabu-jima Island, Amami Islands, 25 Aug. 1909, Miyashita.  
**ZUMT 34351:** 27.6 mm SL, Okitsu, Katsuura, Chiba Pref., Aug. 1930, S. Masuda.  
**ZUMT 42648:** 45.0 mm SL; **ZUMT 42649:** 40.1 mm SL; **ZUMT 45761:** 48.0 mm SL; **ZUMT 45762:** 60.3 mm SL, probably Okinawa-jima Island, specimens received in Mar. 1925, S. Sakaguchi.  
**ZUMT 42824:** 50.1 mm SL, Hachijo-jima Island, Sept. 1922, M. Uchiyama  
**ZUMT 54604:** 81.0 mm SL, Fish market at Puerto Princesa, Palawan Island, Philippines, M. Aizawa.  
**ZUMT 62222:** 58.0 mm SL; **ZUMT 62223** (cloth tag of 0,009): 39.8 mm SL; **ZUMT 63305:** 50.8 mm SL, locality unknown.  
**ZUMT 3920:** 91.6 mm SL; **ZUMT 3921:** 56.7 mm SL, Palau, 1930's, T. Abe.

*Chaetodon wiebeli* Kaup, 1863 ツキチヨウチヨウウオ

- ZUMT 62226** (plastic tag of MA-075): 112.9 mm SL, Kii Peninsular, 1970's, donation from Shirahama Aquarium, Kyoto University to M. Aizawa.

*Chaetodon xanthurus* Bleeker, 1857 アミメチヨウチヨウウオ

- ZUMT 62187** (plastic tag of MA-072): 112.9 mm SL, Kii Peninsular, 1970's, donation from Shirahama Aquarium, Kyoto University to M. Aizawa.

*Chaetodon* sp.

- ZUMT 42847:** 19.5 mm SL, Hachijo-jima Island, Sept. 1922, M. Uchiyama.  
**ZUMT 43451:** 35.0 mm SL, locality unknown.  
**ZUMT 43472:** 20.5 mm SL; **ZUMT 43473:** 19.0 mm SL, Kochi Pref.

*Chelmon rostratus* (Linnaeus, 1758) ハシナガチョウチョウウオ

**ZUMT 14609**: 108.2 mm SL, Philippines.

**ZUMT 41030**: 100.6 mm SL, Singapore, 12 Mar. 1910, I. Ijima and K. Aoki.

**ZUMT 42155**: 98.8 mm SL; **ZUMT 42205**: 108.8 mm SL; **ZUMT 42223**: 107.5 mm SL;  
**ZUMT 42257**: 98.1 mm SL, Philippines, 1926, U. Yamamura.

*Coradion altivelis* McCulloch, 1916 タキゲンロクダイ

**ZUMT 23264**: 125.7 mm SL, Okino-shima Island, Kochi, T. Kamohara.

**ZUMT 40388**: 134.5 mm SL, Kagoshima, received in June 1938, K. Ogawa (Women's School, Kagoshima Prefecture).

**ZUMT 59858** (Fig. 1): 134.2 mm SL, holotype of *Coradion fulvocinctus* Tanaka, 1918, Tanabe, Wakayama Pref., N. Ui (宇井縫蔵).

Remarks: *C. fulvocinctus* is regarded as a junior synonym of *C. altivelis* (Burgess 1978). Although the dorsal fin of *C. altivelis* is generally accepted as having eight spines, the present specimen has nine spines. Although ZUMT 8317 which collected from Nagasaki Market by I. Kaneko designated as a paratype of this species (Tanaka 1918), this specimen was not found.

**ZUMT 62317** (paper tag of P. 4051): 124.5 mm SL; **ZUMT 62318** (paper tag P. 4052): 96.8 mm SL, probably Sarawak, donated in 1960 by Tom Harrison (Sarawak Museum) to I. Tomiyama.

Remarks: The dorsal fin of the specimen has nine spines.

*Coradion chrysozonus* (Cuvier, 1831) キスジゲンロクダイ

**ZUMT 42156**: 104.9 mm SL; **ZUMT 42250**: 115.3 mm SL; **ZUMT 42251**: 95.1 mm SL, Philippines, 1926, U. Yamamura.

*Forcipiger flavissimus* Jordan & McGregor, 1898 フエヤッコダイ

**ZUMT 14249**: 114.8 mm SL; **ZUMT 14250**: 107 mm SL; **ZUMT 14251**: 100.2 mm SL;  
**ZUMT 14252**: 134 mm SL, Naha Fish Market, Naha, Okinawa Pref., 2 Feb. 1925, donated by H. Yashiro.

**ZUMT 14489**: 126.2 mm SL; **ZUMT 38908**: 96.9+ mm SL; **ZUMT 39766**: 114.1 mm SL;  
**ZUMT 39767**: 100.6+ mm SL, probably Okinawa-jima Island, specimens received on Mar. 1925, S. Sakaguchi.

**ZUMT 14612**: 71.5 mm SL, Philippines.

**ZUMT 15096**: 120.5 mm SL, Okinawa-jima Island, between 1920 and 1930, S. Sakaguchi (Daiichi Junior High School, Okinawa Prefecture).

**ZUMT 40381**: 116.5 mm SL, Kagoshima (probably Amami-oshima Island), received in June 1938, K. Ogawa (Women's School, Kagoshima Prefecture).  
**ZUMT 42224**: 95.7 mm SL; **ZUMT 42225**: 75.5 mm SL; **ZUMT 42334**: 109.3 mm SL, Philippines, received in 1926, U. Yamamura.  
**ZUMT 49729**: 77.8 mm SL, Oshima Strait (大島海峡) at Setouchi (瀬戸内), Amami-oshima Island, Mar. 1956.  
**ZUMT ABE 6041**: 92.8 mm SL; **ZUMT ABE 6042**: 109.1 mm SL; **ZUMT ABE 6043**: 103.9 mm SL; **ZUMT ABE 6044**: 103.7 mm SL; **ZUMT ABE 6045**: 95.6 mm SL; **ZUMT ABE 6046**: 98.1 mm SL, Palau, 1930's, T. Abe.

*Hemitaurichthys polylepis* (Bleeker, 1857) カスミチヨウチヨウウオ

**ZUMT 13956**: 88.3 mm SL; **ZUMT 15094**: 125.2 mm SL; **ZUMT 15101**: 120.1 mm SL; **ZUMT 15102**: 104.6 mm SL; **ZUMT 15146**: 127.5 mm SL, Okinawa-jima Island, between 1920 and 1930, S. Sakaguchi (Daiichi Junior High School, Okinawa Prefecture).  
**ZUMT 49727**: 87.9 mm SL; **ZUMT 49728**: 82.2 mm SL, Oshima Strait at Setouchi, Amami-oshima Island, Mar. 1956.  
**ZUMT 52595**: 104.8 mm SL, Naha Fish Market, 3 June 1966.  
**ZUMT 62221** (plastic tag of MA-063): 72.3 mm SL, Kii Peninsular, 1970's, donation from Shirahama Aquarium, Kyoto University to M. Aizawa.

*Heniochus acuminatus* (Linnaeus 1758) ハタタテダイ

**ZUMT 17253**: 34.0 mm SL, Unten, Okinawa-jima Island, T. Tanabe.  
Remarks: Local name "Fubicha (フウビチャ)".  
**ZUMT 19679**: 75.1 mm SL, Keelung (基隆), Taiwan, H. Sato (佐藤春吉) (Taipei Keelung Junior High School) (台北基隆中学校).  
**ZUMT 23511**: 24.1 mm SL, Susaki, Kochi Pref., 12 Mar. 1931, T. Kamohara (Kochi High School).  
**ZUMT 26854**: 24.1 mm SL; **ZUMT 26855**: 32.0 mm SL, Fukura, Awaji-shima Island, Hyogo Pref., 5 Mar. 1912, R. Uchimura.  
Remarks: Local name "Noboritate (ノボリタテ)".  
**ZUMT 37457**: 43.9 mm SL, Pengfu, Taiwan, July 1908.  
**ZUMT 41961**: 39.7 mm SL, Basilan Island, Philippines, U. Yamamura.  
**ZUMT 42312**: 61.4 mm SL, Philippines, 1926, U. Yamamura.  
**ZUMT 43287**: 66.8 mm SL; **ZUMT 43288**: 63.9 mm SL; Fukura, Awaji-shima Island, Hyogo Pref., probably 1912, R. Uchimura.  
**ZUMT 43302**: 52.8 mm SL; Kochi Pref., donation from Jyoto Junior High School, Kochi City (高知市城東中学校).  
**ZUMT 43356**: 32.1 mm SL, Shizuura, Aug. 1922, N. Kuroda.  
**ZUMT 43382**: 26.5 mm SL, Misaki.



*Heniochus diphreutes* Jordan, 1903 ムレハタタテダイ

- ZUMT 2549:** 37.7 mm SL, Nagasaki, 3 Oct. 1909, Nagasaki Prefecture Normal School (長崎師範学校).
- ZUMT 11725:** 63.6 mm SL; **ZUMT 11726:** 60.0 mm SL, Shimizu Port, Shizuoka Pref., probably 1920's, M. Uchiyama.
- ZUMT 18632:** 35.3 mm SL; Susaki, Kochi Pref., Oct. 1928, T. Kamohara (Kochi High School).
- ZUMT 20515:** 66.2 mm SL; **ZUMT 20516:** 70.3 mm SL; **ZUMT 22042:** 74.8 mm SL, Wakayama Pref.
- ZUMT 22660:** 73.2 mm SL, Kisyu-tanabe, Dec. 1920.
- Remarks: Collector not recorded, but probably Nuizo Ui, who collected and donated many specimens to ZUMT.
- ZUMT 32281:** 37.3 mm SL, Tokyo Market.
- ZUMT 33014:** 81.4 mm SL, Ajiro (網代), Izu, Shizuoka Pref., 7 Dec. 1933, Ajiro Junior High School, Izu (伊豆網代中学校).
- ZUMT 33726:** 35.7 mm SL, Sendai (川内), Kagoshima Pref., T. Ari (有井徳之丞) (Sendai Junior High School, Kagoshima Prefecture).
- ZUMT 39174:** 65.0 mm SL, Estuary at Ukitsu (浮津川尻), Muroto (室戸), Kochi Pref., S. Tanaka?, casting net.
- ZUMT 47064:** 95.0 mm SL, probably Kochi Pref.
- ZUMT 48294:** 71.0 mm SL; **ZUMT 48295:** 64.6 mm SL, near Aburatsubo, Miura, Kanagawa Pref., 1935, T. Abe.
- ZUMT 50687:** 56.5 mm SL, Totoro (土々呂), Nobeoka (延岡), Miyazaki Pref., 10 Sept. 1959, Y. Tominaga.
- ZUMT ABE 62-321:** 30.4 mm SL, locality unknown.

*Heniochus varius* (Cuvier, 1829) ツノタテダイ

- ZUMT 11256** (cloth tag of 161): 152.1 mm SL, Okinawa-jima Island, between 1920 and 1930, S. Sakaguchi (Daiichi Junior High School, Okinawa Prefecture).
- ZUMT 14582:** 103.7 mm SL, Philippines.
- ZUMT 20508:** 132.1 mm SL, Ryukyu Archipelago, Apr. 1909, S. Watase and H. Kuwano.
- ZUMT 62173** (plastic tag MA-103): 60.3 mm SL, Kii Peninsular, 1970's, donation from Shirahama Aquarium, Kyoto University to M. Aizawa.
- ZUMT 62305:** 40.9 mm SL, Nishidomari, Otsuki, Kochi Pref., summer 2021, Kuroshio Biological Research Foundation.

*Roa modesta* (Temminck & Schlegel, 1844) ゲンロクダイ

- ZUMT 20527:** 61.9 mm SL; **ZUMT 20745:** 58.0 mm SL; **ZUMT 20746:** 60.2 mm SL, Wakayama, Jan. 1920.

**ZUMT 22631:** 60.4 mm SL; **ZUMT 22632:** 58.7 mm SL; **ZUMT 22633:** 62.4 mm SL; **ZUMT 22634:** 58.4 mm SL; **ZUMT 22635:** 51.5 mm SL; **ZUMT 22636:** 55.3 mm SL; **ZUMT 22637:** 60.7 mm SL, Kisyu-tanabe, Dec. 1920, probably N. Ui.  
**ZUMT 25314:** 108.8 mm SL, Yamaguchi Pref.  
Remarks: Local name “Kagamidai (カガミダイ)”.  
**ZUMT 26650:** 100.6 mm SL, Tokyo Market, 1929.  
**ZUMT 31237:** 91.9 mm SL, Matsue, Shimane Pref., R. Yanai (柳井隆一) (Matsue High School) (松江高校).  
**ZUMT 36414:** 98.6 mm SL, Hayama (葉山), Kanagawa Pref., Aug. 1936, S. Inuo (犬尾三郎).  
**ZUMT 39173:** 54.9 mm SL, Estuary at Ukitsu (浮津川尻), Muroto (室戸), Kochi Pref., S. Tanaka?, cast net.  
**ZUMT 41193:** 109.8 mm SL, bottle labelled Hachijo-jima Island.  
**ZUMT 41420:** 89.1 mm SL, Uozu, Namerikawa, I. Tomiyama.  
**ZUMT 51044:** 90.9 mm SL; **ZUMT 51071:** 88.4 mm SL; **ZUMT 51231:** 81.2 mm SL; **ZUMT 51232:** 88.3 mm SL, East China Sea, Dec. 1959.  
**ZUMT 51458:** 77.0 mm SL, Norin-kaiku 521 (農林 521 区), East China Sea  
**ZUMT 52232:** 91.7 mm SL; **ZUMT 52233:** 87.5 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 52286:** 84.9 mm SL, Norin-kaiku 253 and 254 (農林 253 から 254 区), East China Sea, April and May 1960, R/V No. 1 and 2 Shotokumaru (第 1, 2 昭徳丸), bottom trawl.  
**ZUMT 62228:** 18.3 mm SL, 14.1 mm SL, 2 specimens, Jogasaki, Kanagawa Pref., 30 July 1986, H. Masuda (益田 一).  
**ZUMT 62227** (cloth tag T-47): 110.2 mm SL; **ZUMT 62235:** 87.6 mm SL; **ZUMT 63144:** 85.0 mm SL; **ZUMT 63163:** 13.0 mm SL, locality unknown.  
**ZUMT ABE 82-1473:** 91.2 mm SL; **ZUMT ABE 82-1485:** 85.2 mm SL, Wagu, Mie Pref., 22 Jan. 1985, T. Abe.

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**ZUMT 48472:** 21.2 mm SL, Southern Pacific (3°18'S, 171°12'E), 30 Mar. 1956, I. Tomiyama.  
**ZUMT 48793:** 28.7 mm SL; **ZUMT 48787:** 26.7 mm SL; **ZUMT 48792:** 22.9 mm SL, Southern Pacific (1°25'S, 169°15'E), 2 Apr. 1956, I. Tomiyama.  
**ZUMT 49147:** 28.9 mm SL, probably Indian Ocean, received 8 Oct. 1954, M. Shinohara (篠原 勝) (RV Fukuseimaru) (福生丸).

### **Acknowledgements**

We are deeply grateful to the late Y. Tominaga for his dedication and efforts to the ZUMT collection. We are also grateful to H. Hata (National Museum of Nature and Science), I. Abe, S. Fujiwara, A. Inuma, M. Saito, A. Takahashi (Tokyo University of Marine Science and Technology), and H. Ogata (ZUMT) for curatorial assistance. G. S. Hardy (Ngunguru, New Zealand) kindly improved the English in the manuscript. The present study was supported in part by JSPS KAKENHI 21K06313 JP and the Sasakawa Scientific Research Grant from The Japan Science Society (2021-4064) to the first author.

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Table 1. Comparison between past and present northern most records of family Chaetodontidae based on ZUMT specimens and Shimada (2013), respectively. Records of adults and juveniles are shown separately when differed. Prefecture or Island are abbreviated.

Species	ZUMT (before 1940)		Shimada (2013)	
	Adult	Juvenile	Adult	Juvenile
<i>Chaetodon argentatus</i>	Okinawa	Hachijo	Kanagawa	-
<i>C. auriga</i>	Amami	Chiba	Mie	Iwate
<i>C. auripes</i>	Kanagawa	Chiba	Aomori	-
<i>C. baronessa</i>	Okinawa	-	Wakayama	Chiba
<i>C. bennetti</i>	Okinawa	-	Kanagawa	Chiba
<i>C. citrinellus</i>	Amami	Shizuoka	Chiba	-
<i>C. daedalma</i>	Hachijo	-	Wakayama	-
<i>C. ephippium</i>	Okinawa	Kanagawa	Wakayama	Chiba
<i>C. guentheri</i>	Kochi	-	Shizuoka	Chiba
<i>C. kleinii</i>	Kochi	-	Chiba	-
<i>C. lineolatus</i>	Taiwan*	-	Wakayama	Chiba
<i>C. lunula</i>	Okinawa	Amami	Wakayama	Chiba
<i>C. lunulatus</i>	Amami	-	Kanagawa	Chiba
<i>C. melannotus</i>	Okinawa	-	Kanagawa	Chiba
<i>C. meyeri</i>	Palau	-	Yakushima	-
<i>C. nippon</i>	Kanagawa	-	Chiba	-
<i>C. oligacanthus</i>	Philippines	-	Ogasawara	-
<i>C. ornatissimus</i>	Okinawa	-	Wakayama	-
<i>C. plebeius</i>	Kochi	-	Shizuoka	-
<i>C. punctatofasciatus</i>	Okinawa	-	Wakayama	-
<i>C. selene</i>	Indonesia	-	Kanagawa	-
<i>C. semeion</i>	Palau	-	Okinawa	Wakayama
<i>C. speculum</i>	Taiwan	-	Mie	Kanagawa
<i>C. trifascialis</i>	Amami	-	Wakayama	-
<i>C. unimaculatus</i>	Amami	-	Shizuoka	-
<i>C. vagabundus</i>	Amami	Chiba	Kanagawa	Ibaraki
<i>Chelmon rostratus</i>	Philippines	-	-	Kanagawa
<i>Coradion altivelis</i>	Wakayama	-	Kanagawa	Chiba
<i>Co. chrysozonus</i>	Philippines	-	Kagoshima	-
<i>Forcipiger flavissimus</i>	Amami	-	Hachijo	-
<i>Hemitaurichthys polylepis</i>	Okinawa	-	Shizuoka	-
<i>Heniochus acuminatus</i>	Awaji	Kanagawa	Aomori	-
<i>H. diphreutes</i>	Kanagawa	-	Chiba	-
<i>H. varius</i>	Okinawa	-	Wakayama	Shizuoka
<i>Roa modesta</i>	Kanagawa	-	Ibaraki	Miyagi

\*ZUMT 26276, an adult specimen from Onahama, Fukushima Pref., was not included as an exception.