

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

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### Abstract

A total of 1,974 specimens in 1,639 lots, representing 62 species of Carangidae, were identified in the Department of Zoology, The University Museum, The University of Tokyo, including the holotype of *Decapterus kurroides akaadsi* Abe, 1958 (ZUMT 49749). A list of the specimens is provided, including all available data, and remarks on some species.

### Introduction

The mainly marine family Carangidae, distributed in warm waters worldwide (Gushiken, 1983; Smith-Vaniz 1995, 1999, 2002), has usually been regarded as comprising four subfamilies, Naucratinae, Scomberoidinae, Trachinotinae, and Caranginae (Gushiken 1983, 1988; Kijima et al. 1988], although Smith-Vaniz (1984) treated the subfamilies as tribes. However, recent molecular phylogenetic studies demonstrated that Carangidae was polyphyletic, and that a clade including Naucratinae and Caranginae was the sister group of a clade including Scomberoidinae, Trachinotinae, Echeneidae (sharksuckers), Coryphaenidae (dorados), and Rachycentridae (cobias) (Harrington et al. 2016; Girard et al. 2020).

The family Carangidae, as traditionally conceived, includes many commercially important species, such as *Trachurus japonicus* (Temminck & Schlegel, 1844) and species in the genus *Seriola*, of which more than 90,000 tons are taken every year in Japanese waters (Statistics Department of Ministry of Agriculture, Forestry and Fisheries, Japan, 2022). Many other species are abundantly marketed in tropical regions (Talwar and Kacker 1984; Smith-Vaniz 2002; Tan 2009; Kimura 2017; Hata 2019).

During a survey of the fish collection deposited in the Department of Zoology, The University Museum, The University of Tokyo (ZUMT), numerous carangid specimens were found, having been collected mainly from Japanese and other Asian waters. They are listed below, together with all accompanying data.

### Materials and Methods

The identification of carangid specimens in the Department of Zoology, The University Museum, The University of Tokyo (abbreviated as ZUMT) and classification of genera and species in the family followed Gushiken (1983), Gunn (1990), Smith-Vaniz (1995, 1999, 2002), Senou (2013), Kimura et al. (2013, 2022) and Kimura (2022). Although the family was recently shown to be polyphyletic (Girard et al. 2020), the following list includes genera considered as belonging to Carangidae by Gushiken (1983). Contents included in parenthesis following registration numbers are as follows: [(standard length; specimen counts (if plural specimens included in the lot); collection locality; collection date; collector]. Collection data of specimens are omitted when the same as the following specimen(s).

The ZUMT specimens listed herein were primarily stored in Room 406 (specimen storage room) of the museum building. ZUMT 49749 (holotype of *Decapterus kurroides akaadsi* Abe, 1958) was stored in Room 407, which held type specimens and those attributed to S. Tanaka. Most specimens were shelved, with larger specimens

stored in glass tanks (labelled “Carangidae”) in the same room, with the glass lid sealed with a silicon adhesive (as of May 2022). Although some of the ZUMT specimens, collected by Dr. Tokiharu Abe, had not been registered into the ZUMT collection, with the collection data of most missing, they are listed herein together with their ZUMT ABE number (number with underbar written on the specimen label), in the hope that Dr Abe’s catalog books with collection data will be rediscovered in the future. Additionally, specimens with catalogue numbers ZUMT ABE 2700 to 6000 were collected from Palau by Dr. Abe between 1936 and 1937 (Koeda et al. 2022).

## Results

A total of 1639 lots, comprising 1974 specimens of 62 carangid species, including the holotype of *Decapterus kurroides akaadsi* Abe, 1958 (ZUMT 49749), were confirmed in the ZUMT fish collection. Although Abe (1958) also designated two paratypes (ZUMT ABE 57-120 and 57-265), no paratypes of the nominal species were found. Lists of ZUMT specimens of Echeineidae and Rachycentridae, and Coryphaenidae, families recently included in Carangidae (Girard et al. 2020), have been published by Hata et al. (2022a) and (2022b), respectively.

## Species accounts

**Family Carangidae アジ科**  
***Alectis ciliaris* (Bloch, 1787) イトヒキアジ**

### JAPAN

#### IWATE PREF.

ZUMT 13120 (92.9 mm), ZUMT 13121 (91.7 mm; Miyako Bay; coll. by S. Tanabe)  
ZUMT 16383 (61.7 mm; Kesen, Rikuzentakata City; 20 Aug. 1925; coll. by G. Toba)

#### FUKUSHIMA PREF.

ZUMT 25264 (84.4 mm; Onahama, Iwaki City; coll. by H. Kakuda)

#### IBARAKI PREF.

ZUMT 59432 (199.2 mm; off Nakaminato City; Jan. 1989)

#### CHIBA PREF.

ZUMT 18010 (34.5 mm), ZUMT 18011 (48.4 mm; Kujukuri-hama Beach; donated by N. Yosezato)  
ZUMT 28268 (74.0 mm), ZUMT 28269 (62.4 mm), ZUMT 28270 (51.6 mm; Chiba Pref.; coll. by S. Obama)  
ZUMT 33414 (57.2 mm), ZUMT 33415 (53.6 mm), ZUMT 33416 (49.9 mm; Katsuura City, Chiba Pref.)

#### TOKYO MARKET

ZUMT 12489 (85.0 mm), ZUMT 47751 (92.9 mm; obtained at Tokyo Market, Tokyo Met.)

#### KANAGAWA PREF.

ZUMT 4819 (71.9 mm), ZUMT 5888 (56.4 mm), ZUMT 5889 [57.7+ mm (tail broken)], ZUMT 20948 (67.5 mm), ZUMT 49114 (132.0 mm), ZUMT 62295 (49.7 mm; Misaki, Miura City)  
ZUMT 17984 (45.5 mm), ZUMT 17985 (70.7 mm), ZUMT 17956 (54.2 mm), ZUMT 17987 (140.5 mm),  
ZUMT 17988 (127.5 mm), ZUMT 17989 (99.7 mm; Misaki, Miura City; coll. by K. Aoki)  
ZUMT 21277 (65.9 mm; Kanagawa Pref.)  
ZUMT 35301 (43.2 mm; Kamakura City)

#### WAKAYAMA PREF.

ZUMT 9552 (96.8 mm; probably from Wakayama Pref.; coll. by N. Ui, Tanabe City, Wakayama Pref.)  
ZUMT 22430 (66.4 mm), ZUMT 22431 (71.6 mm), ZUMT 22432 (32.5 mm), ZUMT 22550 (45.9 mm; Tanabe City; coll. by N. Ui)

#### HYOGO PREF.

ZUMT 44519 (70.9 mm; Sumoto City, Awaji-shima Island)

#### SHIMANE PREF.

ZUMT 9515 (73.3 mm; probably from Oki Islands, Shimane Pref.; coll. by T. Okabe, Okinoshima Town, Shimane Prefecture)

**EHIME PREF.**

ZUMT 24958 [126.3 mm; Horie Village (currently northern part of Matsuyama City); coll. by J. Ishikawa]

**KOCHI PREF.**

ZUMT 9224 (69.1 mm; probably from Kochi Pref.; coll. by T. Iyoda, Kochi Daiichi Junior High School)

ZUMT 18645 (108.7 mm; Kashiwa-jima Island; Aug. 1928; coll. by T. Kamohara)

ZUMT 18920 (68.6 mm; Susaki City; 20 Aug. 1925; coll. by T. Kamohara)

ZUMT 18986 (29.3 mm; Kashiwa-jima Island, Otsuki Town; Oct. 1928; coll. by T. Kamohara)

ZUMT 19566 (41.2 mm; Susaki City; coll. by T. Kamohara)

ZUMT 19567 (35.0 mm), ZUMT 21689 (125.3 mm; Kashiwa-jima Island, Otsuki Town, Kochi Pref.; coll. by T. Kamohara)

**NAGASAKI PREF.**

ZUMT 2538 (204.9 mm; Nagasaki Pref.; 3 Oct. 1909)

ZUMT 20435 (85.3 mm; off Nagasaki Pref.; coll. by T. Kuraba)

ZUMT 49938 (82.6 mm), ZUMT 49956 [58.0 mm; Fukue, Goto City (Fukue-jima Island, Goto Islands); 10 June 1953; coll. by I. Tomiyama]

ZUMT 49991 (51.0 mm), ZUMT 49992 [141.8 mm; Arikawa, Shinkamigoto Town (Nakadori-jima Island, Goto Islands); 10 June 1953; coll. by I. Tomiyama]

ZUMT 50028 [192.2 mm; Miiraku, Goto City (Fukue-jima Island, Goto Islands); 13 Oct. 1953; coll. by I. Tomiyama]

ZUMT 50200 (134.4 mm), ZUMT 50201 [184.5 mm; Arikawa, Shinkamigoto Town (Nakadori-jima Island, Goto Islands); 19 June 1953; coll. by I. Tomiyama]

**KAGOSHIMA PREF.**

ZUMT 23817 (161.9 mm), ZUMT 23910 (71.0 mm), ZUMT 23911 (71.7 mm), ZUMT 24133 (73.2 mm), ZUMT 24134 (90.7 mm; Arata Beach, Kagoshima City)

ZUMT 23986 (114.2 mm), ZUMT 23995 (88.4 mm; Shibushi City)

ZUMT 29686 (35.6 mm; Keraji, Kikai-jima Island, Amami Islands, Ryukyu Islands)

ZUMT 39346 (64.1 mm), ZUMT 40502 (74.6 mm; Kagoshima Pref.)

**OKINAWA PREF.**

ZUMT 14282 [145.2 mm; probably from Okinawa-jima Island, Ryukyu Islands; coll. by H. Yashiki at Naha Market, Okinawa Pref.]

ZUMT 17031 (103.1 mm), ZUMT 17032 (127.0 mm; Itoman City, Okinawa-jima Island, Ryukyu Islands; coll. by S. Tanabe)

**PRECISE LOCALITY UNKNOWN**

ZUMT 34800 (86.9 mm; Japan)

**EAST CHINA SEA**

ZUMT 51393 (225.6 mm; East China Sea; 28 Oct. 1959)

**PALAU**

ZUMT 31686 [140.7 mm; probably from Palau; labelled as「南洋」(“nan-yo”, general term for Micronesian islands)]

ZUMT 62360 (59.3 mm; probably from Palau, in same bottle with ZUMT ABE 5881 and 5882)

**EASTERN PACIFIC**

ZUMT ABE 60-1015 [62.3 mm; approx. 2300 km west of Lima, Peru (10°06'S 100°14'W); 9 Aug. 1961]

**LOCALITY UNKNOWN**

ZUMT ABE 9590 (75.0 mm), ZUMT 12400 (113.5 mm), ZUMT 33743 (82.7 mm), ZUMT 35252 (73.2 mm), ZUMT 39347 (29.8 mm), ZUMT 40694 (55.4 mm), ZUMT 62249 (137.2 mm), ZUMT 62251 (167.3 mm), ZUMT 63674 (45.6 mm), ZUMT 63675 (25.6 mm; no data)

ZUMT 62292 (45.8 mm), ZUMT 62293 (39.1 mm), ZUMT 62294 [53.2 mm, no data; originally stored with

ZUMT 46869 (*Caranx ignobilis*; collection data unknown)]

*Alepes djedaba* (Fabricius, 1775) クロボシヒラアジ

**TAIWAN**

ZUMT 2505 (200.6 mm; obtained at Kaohsiung Market; Sept. 1908; coll. by K. Akamatsu)

ZUMT 14975 (139.0 mm; Tainan; coll. by T. Aoki)

**PHILIPPINES**

ZUMT 40769 (130.0 mm; Manila, Luzon; 11 Feb. 1909; coll. by I. Iijima and K. Aoki)

ZUMT 42177 (142.9 mm), ZUMT 42214 (139.5 mm; Philippines; 1926; coll. by U. Yamamura)

**PALAU**

ZUMT 63057 (5 specimens, 26.9–35.3 mm), ZUMT 63070 (3 specimens, 40.3–43.5 mm; Palau; coll. by Y. Haneda)

*Alepes kleinii* (Bloch, 1793) ミヤカミヒラアジ

**CHINA**

ZUMT 22817 (87.9 mm; Hainan Island)

ZUMT 40518 (100.3 mm), ZUMT 40519 (83.0 mm), ZUMT 40520 (83.4 mm; Hainan Island; Oct. 1906; coll. by I. Katsuge)

**PHILIPPINES**

ZUMT 40795 (91.5 mm), ZUMT 40796 (123.2 mm), ZUMT 40797 (127.3 mm), ZUMT 40812 (116.5 mm), ZUMT 40813 (89.8 mm), ZUMT 40831 (92.3 mm), ZUMT 40832 (93.9 mm), ZUMT 40833 (93.7 mm), ZUMT 40842 (90.8 mm); ZUMT 40852 (125.8 mm), ZUMT 40853 (93.4 mm; Manila, Luzon; 11 Feb. 1909; coll. by I. Iijima and K. Aoki)

*Alepes vari* (Cuvier, 1833) マブタシマアジ

**JAPAN**

ZUMT 17188 (82.5 mm), ZUMT 17189 (91.6 mm; Baten, Nanjo City, Okinawa-jima Island, Okinawa Pref.; coll. by S. Tanabe)

ZUMT 23557 (344.8 mm; Okinawa Pref.; donation from Okinawa Prefectural Fisheries Experimental Station)

**PHILIPPINES**

ZUMT 42335 (159.5 mm), ZUMT 42336 (142.1 mm), ZUMT 42337 (143.1 mm), ZUMT 42391 (132.8 mm), ZUMT 42392 (142.5 mm; Basilan, Philippines; 1926; coll. by U. Yamamura)

**PALAU**

ZUMT ABE 5983 (229.8 mm; Palau)

*Atropus armatus* (Forsskal, 1775) ヨロイアジ

**TAIWAN**

ZUMT 14903 (83.3 mm; probably from Taiwan; donated by T. Aoki at Government-General of Taiwan)

*Atropus atropos* (Bloch & Schneider, 1801) クボアジ

**JAPAN**

ZUMT 62238 (172.4 mm; Zaimokuza Beach, Kamakura City, Kanagawa Pref.; 21 Mar. 1934)

**EAST CHINA SEA**

ZUMT 51386 (144.5 mm), ZUMT 51392 (144.0 mm; East China Sea; 28 Oct. 1959)

**TAIWAN**

ZUMT 57770 [approx. 213.6 mm (body cut); obtained at Kaohsiung Fish Market, Taiwan; Aug. 1975]

**Remarks:** Hata and Koeda (2022a) reported ZUMT 62238, collected from Kamakura City, Kanagawa Pref., as the first record of *A. atropos* from Sagami Bay.

*Atropus hedlandensis* (Whitley, 1934) リュウキュウヨロイアジ

**JAPAN**

ZUMT 9222 (82.8 mm; probably from Kochi Pref.; coll. by T. Iyoda, Kochi Daiichi Junior High School)

ZUMT 12399 (89.4 mm; obtained at Tokyo Market, Tokyo Met.)

ZUMT 17213 (75.5 mm; Baten, Nanjo City, Okinawa-jima Island, Okinawa Pref.; coll. by S. Tanabe)

ZUMT 23744 (144.0 mm; Taniyama, Kagoshima City, Kagoshima Pref.; 20 July 1930)

ZUMT 24027 (83.8 mm; Shibushi City, Kagoshima Pref.)

ZUMT 52143 (99.0 mm; Totoro, Nobeoka City, Miyazaki Pref.; Aug. 1960)

**TAIWAN**

ZUMT 2506 (190.9 mm obtained at Kaohsiung Market; Sept. 1908; coll. by K. Akamatsu)

ZUMT 14849 (133.2 mm), ZUMT 14850 (94.4 mm; Tainan; coll. by T. Aoki)

ZUMT 14851 (104.0 mm; Tainan; coll. by T. Aoki)

**PHILIPPINES**

ZUMT 40911 (158.5 mm; Jolo Island; Feb. 1909; coll. by I. Iijima and K. Aoki)

**LOCALITY UNKNOWN**

ZUMT 45447 (84.8 mm; Taiwan or Singapore)

ZUMT 62291 [52.6 mm; no data; originally stored with ZUMT 46869 (*Caranx ignobilis*; collection data unknown)]

ZUMT 62696 (100.1 mm; no data)

*Atropus mentalis* (Cuvier, 1833) ヒシカイワリ

**TAIWAN**

ZUMT 14852 (112.3 mm; Tainan; coll. by T. Aoki)

ZUMT 14902 (77.3 mm; probably from Taiwan; coll. by T. Aoki at Government-General of Taiwan)

ZUMT 37424 (103.4 mm; Taipei City; July 1908)

**PALAU**

ZUMT ABE 3754 (474.7 mm; Palau)

*Atule mate* (Cuvier, 1833) マテアジ

**EAST CHINA SEA**

ZUMT 51429 (214.8 mm; East China Sea; Sept. 1959)

**PHILIPPINES**

ZUMT 42231 (104.8 mm; Philippines; 1926; coll. by U. Yamamura)

*Carangichthys dinema* (Bleeker, 1851) イトヒラアジ

**JAPAN**

ZUMT 12393 (127.9 mm; obtained at Tokyo Market, Tokyo Met.)

ZUMT 15524 (116.3 mm; purchased at Tsurumi, Yokohama City, Kanagawa Pref.; donated by S. Miyashiro, Higashi-Kanagawa Technical School)

ZUMT 17160 (140.8 mm; Baten, Nanjo City, Okinawa-jima Island, Okinawa Pref.; coll. by S. Tanabe)

ZUMT 22597 (75.5 mm; Kiragawa, Muroto City, Kochi Pref.; 3 Jan. 1930; coll. by T. Kamohara)

ZUMT 24379 [206.4 mm; Kaminada Village (currently eastern part of Tosashimizu City), Kochi Pref.; 3 Mar. 1932; coll. by M. Fukutomi]

ZUMT 40554 (213.9 mm; Hachijo-jima Island, Izu Islands)

ZUMT 42415 (141.4 mm; Nagasaki Pref.; July)

**TAIWAN**

ZUMT 14974 (Tainan; coll. by T. Aoki)

**PHILIPPINES**

ZUMT 42230 (165.7 mm; Philippines; 1926; coll. by U. Yamamura)

**LOCALITY UNKNOWN**

ZUMT ABE 59-498 (120.0 mm), ZUMT ABE 60-990 (104.4 mm), ZUMT ABE 61-1078 (107.9 mm; no data)

*Carangichthys oblongus* (Cuvier, 1833) テンジクアジ

**JAPAN**

ZUMT 9553 [134.4 mm; probably from Wakayama Pref.; collected by N. Ui, Tanabe City, Wakayama Pref.)

ZUMT 12478 (197.4 mm), ZUMT 12483 (128.9 mm; obtained at Tokyo Fish Market, Tokyo Met.)

ZUMT 15109 (112.5 mm; probably from Okinawa-jima Island, Ryukyu Islands; coll. by S. Sakaguchi, Okinawa Prefectural Daiichi Junior High School)

ZUMT 17159 (94.6 mm; Baten, Nanjo City, Okinawa-jima Island, Okinawa Pref.; coll. by S. Tanabe)

ZUMT 18930 (56.7 mm; Susaki City, Kochi Pref.; coll. by T. Kamohara)

ZUMT 22454 (101.4 mm; Tanabe City, Wakayama Pref.; coll. by N. Ui)

ZUMT 26803 (91.7 mm; Nagasaki Pref.; Mar. 1903; coll. by S. Tanaka)

ZUMT 27359 (39.2 mm; Naha City, Okinawa-jima Island, Okinawa Islands, Okinawa Pref.; 23 May 1923)

ZUMT 42416 (125.4 mm; Nagasaki Pref.; July)

**PHILIPPINES**

ZUMT 11134 (97.2 mm; Philippines; coll. by U. Yamamura)

**LOCALITY UNKNOWN**

ZUMT 62362 (95.0 mm), ZUMT 62363 (88.2 mm), ZUMT 62727 (126.8 mm), ZUMT ABE 57-432 (110.0 mm), ZUMT ABE 60-991 (117.7 mm), ZUMT ABE 60-993 (92.7 mm; no data)  
ZUMT 40674 [124.0 mm; although the specimen locality was recorded as “Morioka? (盛岡か?)” in the ledger, this species has only been recorded from south of Sagami Bay on the Pacific coast of Japan (Senou 2013). The ledger entry is probably erroneous]

***Caranx ignobilis* (Forsskål, 1775) ローニンアジ****JAPAN****IBARAKI PREF.**

ZUMT 17879 (65.5 mm), ZUMT 17882 (60.0 mm), ZUMT 17883 (57.0 mm; Hinuma Lake)  
ZUMT 28204 (40.3 mm; Hiraiso, Hitachinaka City; Aug. 1925)  
ZUMT 34541 (53.2 mm), ZUMT 34542 (59.3 mm; Hinuma Lake, Ishizaki, Ibaraki Town; 22 May 1935; coll. S. Tanaka)

**TOKYO MARKET**

ZUMT 12460 (147.1 mm), ZUMT 12487 (100.8 mm), ZUMT 12488 (75.3 mm; obtained at Tokyo Market)

**KANAGAWA PREF.**

ZUMT 12398 (87.8 mm), ZUMT 20977 (83.6 mm; Misaki, Miura City)  
ZUMT 34225 (21.2 mm; Fujisawa City)

**SHIZUOKA PREF.**

ZUMT 27160 (40.6 mm; Hamana Lake; coll. by S. Ooe)

**EHIME PREF.**

ZUMT 7151 (159.1 mm; pearl farm in Uchiumi, Ainan Town; 18 Oct. 1915; coll. by K. Otsuki)

**KOCHI PREF.**

ZUMT 2850 (79.9 mm; Urado Bay, Kochi City; 12 Nov. 1909)  
ZUMT 24380 (184.9 mm; Urado Bay, Kochi City; 15 Feb. 1932; coll. M. Fukutomi)  
ZUMT 34610 (121.4 mm; Kochi Pref.)  
ZUMT 39165 (66.8 mm; probably from Ukitsu, Muroto City; probably collected by S. Tanaka)  
ZUMT 40136 (72.6 mm; Urado, Kochi City)  
ZUMT 62316 [43.9 mm; Tanoura, Sukumo City (following Papuan Jellyfish, *Mastigias papua*); 9 Sept. 2021; coll. by S. Toshino]

**NAGASAKI PREF.**

ZUMT 2462 (108.5 mm; Nagasaki Pref.; Aug. 1909)

**MIYAZAKI PREF.**

ZUMT 22361 (116.3 mm; Miyazaki Pref.; coll. by S. Tanaka)

**KAGOSHIMA PREF.**

ZUMT 3869 (2 specimens, 72.6–82.8 mm; Chosa, Aira City)  
ZUMT 24063 (73.9 mm; Taniyama, Kagoshima City)  
ZUMT 26918 (67.3 mm), ZUMT 40499 (88.7 mm; Kagoshima Pref.)

**OKINAWA PREF.**

ZUMT 11483 (64.2 mm), ZUMT 11484 (61.4 mm; Arakawa-gawa River, Ishigaki-jima Island, Yaeyama Islands; 1 July 1923; coll. by H. Kuroiwa)  
ZUMT 14334 (109.8 mm), ZUMT 14335 (116.8 mm; obtained at Naha Market; 6 Feb. 1925; coll. by H. Yashiki)  
ZUMT 17161 (126.2 mm; Baten, Nanjo City, Okinawa-jima Island; coll. by S. Tanabe)  
ZUMT 19962 (64.7 mm), ZUMT 41141 (55.1 mm; Ryukyu Archipelago)  
ZUMT 42680 (44.6 mm), ZUMT 42681 (52.3 mm; Okinawa-jima Island, Okinawa Islands; July 1936; coll. by S. Inuo)

ZUMT 45861 (17 specimens, 40.4–55.6 mm), ZUMT 45862 (9 specimens, 44.0–50.7 mm), ZUMT 45863 (28 specimens, 35.0–50.2 mm), ZUMT 45870 (14 specimens, 35.0–53.2 mm; Okinawa-jima Island, Okinawa Islands; 8 July 1936)

ZUMT 46982 (33.9 mm; Okinawa-jima Island, Okinawa Islands)

ZUMT 58100 (64.7 mm; Nakama-gawa River estuary, Iriomote-jima Island, Yaeyama Islands, Ryukyu Archipelago; 9 July 1988; coll. by H. Senou and M. Aizawa)

ZUMT 58738 (3 specimens, 43.3–52.4 mm; Sukuji-gawa River estuary, Kabira, Ishigaki-jima Island, Yaeyama Islands, Ryukyu Archipelago; 19 July 1988)

#### TAIWAN

ZUMT 5874 (7 specimens, 59.6–92.5 mm; Keelung; Sept. 1896; coll. by K. Tada)

ZUMT 14678 (132.9 mm; Dong-gang; coll. by T. Aoki)

#### PHILIPPINES

ZUMT 40941 (136.6 mm; Jolo Island; Feb. 1909; coll. by I. Iijima and K. Aoki)

ZUMT 42218 (108.7 mm; Philippines; 1926; coll. by U. Yamamura), ZUMT 42360 (102.8 mm; Basilan; 1936; coll. by U. Yamamura)

#### LOCALITY UNKNOWN

ZUMT 33746 (69.0 mm), ZUMT 33747 (62.9 mm), ZUMT 40124 (134.1 mm), ZUMT 40127 (75.4 mm), ZUMT 40128 (71.5 mm), ZUMT 40129 (70.5 mm), ZUMT 40141 (73.8 mm), ZUMT 40142 (62.6 mm), ZUMT 40143 (61.4 mm), ZUMT 44063 (81.3 mm), ZUMT 46869 (89.3 mm), ZUMT 62269 (400.1 mm), ZUMT 62742 (83.8 mm), ZUMT 62745 (66.0 mm), ZUMT 62852 (48.1 mm), ZUMT ABE 10738 (50.8 mm), ZUMT ABE 61-933 (48.7 mm; no data)

ZUMT 62374 (59.3 mm), ZUMT 62376 [49.6 mm; no data; originally stored with ZUMT 46869 (*Caranx ignobilis*; collection data unknown)]

ZUMT 63056 [43.5 mm; originally stored with ZUMT 56-193 (*Psenes arafurensis*; collection data unknown)]

#### *Caranx lugubris* Poey, 1860 カツボレ

#### MIDWAY ATOLL

ZUMT 52331 [431.0 mm+ (head cut); Midway Atoll]

#### LOCALITY UNKNOWN

ZUMT 62266 (521.0 mm; no data)

#### *Caranx melampygus* Cuvier, 1833 カスマアジ

#### JAPAN

##### CHIBA PREF.

ZUMT 33403 (65.7 mm; Katsuura City)

##### TOKYO MARKET

ZUMT 12402 (81.4 mm), ZUMT 12461 (148.4 mm), ZUMT 12462 (155.0 mm), ZUMT 12474 (94.5 mm), ZUMT 12482 (128.3 mm; obtained at Tokyo Market)

##### SHIZUOKA PREF.

ZUMT 10551 (44.7 mm; Shizuura, Numazu City; Aug. 1922; coll. by N. Kuroda)

##### MIE PREF.

ZUMT 23201 (54.0 mm; Kimoto, Kumano City, Mie Prefecture; 18 May 1930; coll. by Y. Tsuchiga)



**KOCHI PREF.**

ZUMT 18879 (150.5 mm; Kashiwa-jima Island, Otsuki Town; Oct. 1928)  
ZUMT 21940 (92.5 mm), ZUMT 21942 (100.2 mm), ZUMT 21943 (87.7 mm), ZUMT 21944 (100.8 mm),  
ZUMT 21945 (94.7 mm; Kochi Pref.; coll. by Kochi Prefectural Fisheries Experimental Station)

**KAGOSHIMA PREF.**

ZUMT 22220 (131.1 mm), ZUMT 22238 (126.8 mm; Naze, Amami City, Amami-oshima Islands, Amami  
Islands; 3 Feb. 1922; coll. by K. Enokiya)  
ZUMT 24126 (104.2 mm; Arata, Kagoshima City)  
ZUMT 29598 (86.5 mm; probably from Amami-oshima Island, Amami Islands; donated by K. Enokiya,  
Kagoshima Prefectural Oshima Junior High School)  
ZUMT 40498 (98.0 mm; Kagoshima Pref.)

**OKINAWA PREF.**

ZUMT 16882 (103.7 mm), ZUMT 16883 (114.2 mm; Onna Village, Okinawa-jima Island; coll. by S. Tanabe)  
ZUMT 17055 (111.6 mm), ZUMT 17056 (95.7 mm; Itoman City, Okinawa-jima Island; coll. by S. Tanabe)  
ZUMT 17325 (99.2 mm), ZUMT 17446 (133.8 mm; Yaeyama Islands; coll. by S. Tanabe)  
ZUMT 40144 (91.1 mm; Okinawa Pref.)

**PHILIPPINES**

ZUMT 42137 (120.9 mm), ZUMT 42216 (109.3 mm), ZUMT 42217 (163.1 mm; Philippines; 1926; coll. by U.  
Yamamura)

**PALAU**

ZUMT 26182 [87.8 mm; probably from Palau; labelled as「南洋」(“nan-yo”, general term for Micronesian  
islands)]  
ZUMT ABE 3762 (165.3 mm; Palau)

**LOCALITY UNKNOWN**

ZUMT 41161 (68.9 mm), ZUMT 41176 (65.7 mm), ZUMT 62380 (78.4 mm), ZUMT 62381 (69.0 mm), ZUMT  
ABE 1882 (73.8 mm), ZUMT ABE 60-992 (112.5 mm), ZUMT ABE 60-1534 (182.8 mm), ZMT-ABE 61-  
1085 (60.7 mm; no data)

*Caranx papuensis* Alleyne & Macleay, 1877 オニヒラアジ**JAPAN**

ZUMT 17163 (53.6 mm; Baten Port, Nanjo City, Okinawa-jima Island, Okinawa Pref.; coll. by S. Tanabe)  
ZUMT 18842 (63.6 mm; Miyazaki Pref.)  
ZUMT 19966 (81.8 mm; Okinawa Pref.)  
ZUMT 29597 (80.3 mm; probably from Amami-oshima Island, Amami Islands, Kagoshima Pref.; donated by  
K. Enokiya, Kagoshima Prefectural Oshima Junior High School)  
ZUMT 40134 (72.4 mm; Urado, Kochi City, Kochi Pref.)  
ZUMT 58737 (51.9 mm; Sukuji-gawa River estuary, Kabira, Ishigaki-jima Island, Yaeyama Islands, Ryukyu  
Archipelago; 19 July 1988)  
ZUMT 60273 (7 specimens, 70.4–86.6 mm; Yonada-gawa River estuary, Iriomote-jima Island, Yaeyama Islands,  
Ryukyu Archipelago; 20 Aug. 1989)  
ZUMT 60284 (74.1 mm), ZUMT 60285 (72.4 mm; Yonada-gawa River estuary, Iriomote-jima Island, Yaeyama  
Islands, Ryukyu Archipelago; 20 Aug. 1989)

**TAIWAN**

ZUMT 14679 (125.6 mm; Dong-gang; coll. by T. Aoki)

**PHILIPPINES**

ZUMT 40942 (126.2 mm; Jolo Island; Feb. 1909; coll. by I. Iijima and K. Aoki)

**PALAU**

ZUMT ABE 2912 (373.0 mm), ZUMT ABE 3006 (281.5 mm), ZUMT ABE 3387 (71.9 mm; Palau)

**LOCALITY UNKNOWN**

ZUMT 62241 (256.1 mm), ZUMT 62372 (96.7 mm), ZUMT 62373 (91.8 mm), ZUMT 62736 (71.4 mm),  
ZUMT 62737 (54.0 mm), ZUMT 62741 (95.2 mm), ZUMT 62743 (82.7 mm), ZUMT 62744 (66.3 mm),  
ZUMT 62746 (63.6 mm), ZUMT 62747 (71.7 mm), ZUMT 62748 (64.5 mm), ZUMT 62749 (59.8 mm),  
ZUMT 62750 (64.7 mm), ZUMT 62851 (61.5 mm; no data)

ZUMT 62375 [55.4 mm; no data; originally stored with ZUMT 46869 (*Caranx ignobilis*; collection data unknown)]

*Caranx sexfasciatus* Quoy & Gaimard, 1825 ギンガメアジ

**JAPAN****IBARAKI PREF.**

ZUMT 8105 (62.0 mm; Hinuma Lake; coll. by S. Kono)

ZUMT 17881 (76.6 mm; Hinuma Lake)

**CHIBA PREF.**

ZUMT 45327 (44.1 mm), ZUMT 45328 (64.1 mm; probably from Chiba Pref.; coll. by M. Yoseri, Chiba Prefectural Naruto Junior High School)

**TOKYO MET.**

ZUMT 35304 (43.1 mm; around Tokyo Met.)

**TOKYO MARKET**

ZUMT 12396 (180.8 mm), ZUMT 12455 (161.3 mm), ZUMT 12456 (157.9 mm), ZUMT 12457 (163.7 mm),  
ZUMT 12479 (167.3 mm), ZUMT 12484 (96.1 mm; obtained at Tokyo Market; 13 Nov. 1914)

ZUMT 12401 (97.2 mm; obtained at Tokyo Market)

**KANAGAWA PREF.**

ZUMT 4176 (72.5 mm; Misaki, Miura City)

ZUMT 18892 (120.5 mm), ZUMT 18914 (47.2 mm; probably from Kanagawa Pref.; coll. by Suka Elementary School, Hiratsuka City, Kanagawa Pref.)

ZUMT 21270 (60.4 mm; Kanagawa Pref.; 20 Sept. 1925; coll. by Kamakura Normal School)

ZUMT 21271 (82.5 mm; Kanagawa Pref.)

ZUMT 22694 (50.7 mm; Ajiro, Misaki, Miura City; Aug. 1913)

ZUMT 27382 (55.7 mm; Aburatsubo, Koajiro, Misaki, Miura City; 27 July 1904; coll. by S. Tanaka)

ZUMT 49111 (145.3 mm; Misaki, Miura City; 1956; coll. by I. Tomiyama)

**SHIZUOKA PREF.**

ZUMT 13513 (72.7 mm; Shizuura, Numazu City; Aug. 1922; coll. by N. Kuroda)

ZUMT 18551 (52.3 mm; Hamana-ko Lake; coll. by S. Ooe)

ZUMT 33843 (63.2 mm), ZUMT 33844 (60.6 mm), ZUMT 33845 (39.3 mm), ZUMT 33846 (47.8 mm; river in Shizuura, Numazu City)

**MIE PREF.**

ZUMT 23200 (59.1 mm), ZUMT 23202 (50.2 mm; Kimoto, Kumano City; 18 May 1930; coll. by Y. Tsuchiga)

**WAKAYAMA PREF.**

ZUMT 8022 (99.9 mm; probably from Wakayama Pref., Japan; donated by I. Hoshino, Hiro, Arida, Wakayama City)

ZUMT 22455 (84.3 mm), ZUMT 22473 (42.9 mm; Tanabe City; coll. by N. Ui)

**KOCHI PREF.**

- ZUMT 9221 (91.6 mm; probably from Kochi Pref., Japan; coll. by E. Yamada, Kochi Normal School)  
ZUMT 34591 (183.3 mm), ZUMT 34592 (202.8 mm; Kochi Pref.)  
ZUMT 39164 (82.8 mm; Ukitsu, Muroto City; probably collected by S. Tanaka)  
ZUMT 40135 (68.8 mm; Urado, Kochi City)

**SAGA PREF.**

- ZUMT 6319 (107.0 mm; probably from Saga Pref.; donated by I. Kanekasu, Ogi Junior High School)  
ZUMT 9728 (127.9 mm; probably from Saga Pref., Japan; donated by K. Kikuchi, Saga Prefectural Saga Junior High School)

**NAGASAKI PREF.**

- ZUMT 2454 (88.4 mm), ZUMT 2556 (178.0 mm; Nagasaki Pref.; 3 Oct. 1909)  
ZUMT 3891 (149.2 mm; Chijiwa, Shimabara City)  
ZUMT 21105 (113.7 mm; off Nagasaki Pref.; coll. by T. Kuraba)  
ZUMT 50437 (185.1 mm; obtained at Aiura Fish Market, Sasebo City; 28 Oct. 1953; coll. by I. Tomiyama)

**OITA PREF.**

- ZUMT 50665 (129.3 mm; obtained at Beppu Fish Market, Beppu City; 11 Sept. 1959; coll. by Y. Tominaga)

**KUMAMOTO PREF.**

- ZUMT 3302 (179.4 mm; Amakusa City; Oct. 1911; coll. by S. Kawakami)

**MIYAZAKI PREF.**

- ZUMT 18834 (75.1 mm), ZUMT 18835 (63.9 mm; Miyazaki Pref.)  
ZUMT 21758 (106.5 mm; Miyazaki City, Miyazaki Pref.; coll. by S. Tanaka)

**KAGOSHIMA PREF.**

- ZUMT 3872 (89.6 mm; Nishikokubu, Kirishima City)  
ZUMT 8970 (61.4 mm; Amami-oshima Island, Amami Islands; 1 July 1919; coll. by H. Kuroiwa)  
ZUMT 9416 (58.6 mm; Amami-oshima Island, Amami Islands; coll. by H. Kuroiwa)  
ZUMT 22239 (124.5 mm; Naze, Amami City, Amami-shima Island, Amami Islands; 3 Feb. 1922; coll. by K. Enokiya)  
ZUMT 23800 (149.2 mm; Taniyama, Kagoshima City; 20 July 1930)  
ZUMT 24019 (72.0 mm), ZUMT 24020 (92.8 mm), ZUMT 24021 (104.1 mm; Shibushi City)  
ZUMT 24061 (96.3 mm), ZUMT 24062 (91.2 mm; Taniyama, Kagoshima City)  
ZUMT 26919 (56.1 mm; Kagoshima Pref.)  
ZUMT 29595 (90.8 mm; probably from Amami-oshima Island, Amami Islands; donation from Amamioshima Junior High School)  
ZUMT 29685 (64.9 mm; Naze, Amami City, Amamio-shima Island, Amami Islands; 10 June 1909)  
ZUMT 41160 (71.4 mm; probably from Amami-oshima Island, Amami Islands; donated by K. Enokiya, Oshima Junior High School, Amami City, Kagoshima Prefecture)  
ZUMT 44438 (76.8 mm; Kominato, Naze, Amami City, Amami-oshima Island, Amami Islands; 29 Aug. 1916; coll. by K. Nagai)

**OKINAWA PREF.**

- ZUMT 5877 (121.1 mm; Okinawa Pref.)  
ZUMT 9799 (63.2 mm; probably from Ryukyu Islands; coll. by H. Kuroiwa)  
ZUMT 14336 (130.6 mm), ZUMT 14337 (130.1 mm), ZUMT 14338 (109.0 mm), ZUMT 14339 (82.7 mm; obtained at Naha Market, Naha City; 6 Feb. 1925; coll. by H. Yashiki)  
ZUMT 14744 (163.0 mm), ZUMT 14745 (189.0 mm), ZUMT 14796 (151.9 mm; Yaeyama Islands; coll. by H. Yashiki)  
ZUMT 16885 (96.5 mm; Unten, Nakijin Village, Okinawa-jima Island; coll. by S. Tanabe)  
ZUMT 16995 (132.2 mm), ZUMT 17009 (120.9 mm; Itoman City, Okinawa-jima Island; coll. by S. Tanabe)  
ZUMT 17162 (110.7 mm; Baten Port, Nanjo City, Okinawa-jima Island; coll. by S. Tanabe)  
ZUMT 19530 (180.4 mm; probably from Okinawa Pref.; 25 May 1928; coll. by Okinawa Fisheries Experimental Station)

ZUMT 60073 (104.1 mm; upper region of tidal area to mountain reach of Urauchi-gawa River, Iriomote-jima Island, Yaeyama Islands, Ryukyu Archipelago; 17 Aug. 1989)

ZUMT 60328 (121.7 mm; Nakama-gawa River estuary, Iriomote-jima Island, Yaeyama Islands, Ryukyu Archipelago; 21 Aug. 1989)

#### TAIWAN

ZUMT 12384 (92.9 mm), ZUMT 12385 (72.4 mm), ZUMT 13552 (125.1 mm), ZUMT 13553 (113.5 mm; Tamsui Port, Tamsui River mouth, Taipei City; coll. by T. Aoki)

ZUMT 14957 (166.2 mm; Tainan; coll. by T. Aoki)

ZUMT 25093 (103.7 mm; lower reach of Tamsui River, Taipei; coll. by N. Imai)

ZUMT 25152 (96.4 mm; Keelung Port, Keelung; 1929; coll. by N. Imai)

ZUMT 62535 (168.0 mm), ZUMT 62536 (192.4 mm; Tamsui, Taipei City; 6 Mar. 1931)

ZUMT 62547 (64.1 mm) ZUMT 62548 (86.2 mm; Tamsui, Taipei City; 19 Oct. 1930)

#### PHILIPPINES

ZUMT 11133 (93.1 mm), ZUMT 12639 (214.0 mm), ZUMT 12643 (218.0 mm; Philippines; coll. by U. Yamamura)

ZUMT 40794 (151.6 mm), ZUMT 40814 (155.1 mm), ZUMT 40843 (161.1 mm; Manila; 11 Feb. 1909; coll. I. Iijima and K. Aoki)

ZUMT 40943 (99.3 mm), ZUMT 40944 (94.7 mm), ZUMT 40990 (101.5 mm; Jolo Island; Feb. 1909; coll. by I. Iijima and K. Aoki)

ZUMT 42120 (117.2 mm) ZUMT 62734 (109.3 mm), ZUMT 62735 (69.8 mm; Basilan; Jan. 1938; coll. by U. Yamamura)

ZUMT 42179 (88.9 mm), ZUMT 42260 (65.3 mm), ZUMT 42261 (62.8 mm; Philippines; 1926; coll. by U. Yamamura)

#### PALAU

ZUMT ABE 2913 (490.0 mm), ZUMT ABE 3003 (171.2 mm), ZUMT ABE 3004 (209.4 mm), ZUMT ABE 3005 (174.9 mm), ZUMT ABE 3419 (133.9 mm), ZUMT ABE 3421 (71.4 mm), ZUMT ABE 4002 (176.1 mm; Palau)

ZUMT 42732 (107.2 mm), ZUMT 42733 (119.1 mm), ZUMT 42734 (84.7 mm), ZUMT 42735 (91.6 mm; Palau; coll. by Y. Haneda)

ZUMT 55301 (56.1 mm), ZUMT 55302 (59.2 mm; Palau; Aug. 1935; coll. by Y. Haneda)

ZUMT 62345 (59.4 mm; probably from Palau) (originally stored with ZUMT ABE 5881 and 5882)

#### LOCALITY UNKNOWN

ZUMT 33744 (137.4 mm), ZUMT 33745 (87.4 mm), ZUMT 40125 (135.0 mm), ZUMT 40126 (137.0 mm), ZUMT 40140 (92.9 mm), ZUMT 43904 (111.9 mm;), ZUMT 46350 (201.8 mm), ZUMT 46351 (200.3 mm), ZUMT 62738 (123.1 mm), ZUMT 62739 (121.9 mm), ZUMT 62740 (103.4 mm), ZUMT 62853 (58.2 mm), ZUMT 62854 (55.4 mm), ZUMT 62855 (56.2 mm), ZUMT 62932 (43.5 mm), ZUMT 63021 (80.9 mm), ZUMT 62243 (223.0 mm), ZUMT 62257 (218.5 mm), ZUMT 62384 (6 specimens, 27.4–40.5 mm), ZUMT 62477 (467.5 mm), ZUMT 63476 (149.9 mm) ZUMT ABE 535 (154.8 mm), ZUMT ABE 538 (115.9 mm), ZUMT ABE 10122 (38.6 mm), ZUMT ABE 61-934 (53.0 mm), ZUMT ABE 61-1046 (52.2 mm; no data)

ZUMT 53008 (69.0 mm; probably from African coast)

ZUMT 40675 [134.0 mm; although the specimen locality was recorded as “Morioka? (盛岡か?)” in the ledger, this species is rare north of Ibaraki Pref. (Senou 2013). Moreover, records of some other specimens similarly registered are also regarded here as erroneous - see ZUMT 40640–40643 (*Trachinotus baillonii*) and ZUMT 40674 (*Carangichthys oblongus*). The record for ZUMT 40675 is probably erroneous]

*Caranx tille* Cuvier, 1833 ミナミギンガメアジ

**JAPAN**

ZUMT 24378 (179.1 mm; Urado Bay, Kochi City, Kochi Pref.; 15 Mar. 1932; coll. by M. Fukutomi)

**Remarks:** Hata and Koeda (2022b) reported ZUMT 24378 as the first record of the species from the Shikoku region.

*Chloroscombrus chrysurus* (Linnaeus, 1766)

**SURINAME**

ZUMT 62497 (139.9 mm; Suriname)

*Craterognathus plagiotaenia* (Bleeker, 1857) インドカイワリ

**JAPAN**

ZUMT 20192 (183.0 mm; Kagoshima Pref.)

**PALAU**

ZUMT ABE 2865 (226.2 mm), ZUMT ABE 3758 (291.8 mm; Palau)

*Decapterus akaadsi* Abe, 1958 アカアジ

**JAPAN**

ZUMT 49749 (150.0 mm; holotype of *Decapterus kurroides akaadsi* Abe, 1958; Hatsushima Island, Sagami Bay, Shizuoka Pref.; 19 April 1956; coll. by H. Isokawa, purchased by T. Abe at the Ito City market, Shizuoka Pref.)

**LOCALITY UNKNOWN**

ZUMT ABE 58-281 (54.8 mm), ZUMT ABE 60-631 (171.6 mm; no data)

**Remarks:** Although Abe (1958) designated two paratypes of *Decapterus kurroides akaadsi* (ZUMT ABE 57-120 and 57-265), neither were found.

*Decapterus macarellus* (Cuvier, 1833) クサヤモロ

**JAPAN**

**IWATE PREF.**

ZUMT 13037 (158.1 mm), ZUMT 13038 (105.2 mm; Miyako Bay; coll. by S. Tanabe)

**TOKYO MARKET**

ZUMT 4131 (152.3 mm), ZUMT 12406 (177.3 mm; obtained at Tokyo Market)

ZUMT 23077 (142.5 mm), ZUMT 23078 (140.1 mm), ZUMT 23079 (140.6 mm), ZUMT 23080 (151.0 mm),  
ZUMT 23081 (136.7 mm; obtained at Tokyo Market; 8 Nov. 1930)

**KANAGAWA PREF.**

ZUMT 34014 (64.3 mm; Yokohama City or Ninomiya Town, Kanagawa Pref.)

**IZU ISLANDS**

ZUMT 19469 (7 specimens, 178.5–193.9 mm; probably from Hachijo-jima Island, Japan; coll. by Y. Oshizu, Hachijo-jima Island)

ZUMT 38878 (206.1 mm), ZUMT 38898 (206.4 mm), ZUMT 40553 (190.8 mm), ZUMT 40561 (178.2 mm), ZUMT 46603 (204.9 mm), ZUMT 46604 (156.3 mm), ZUMT 46605 (207.1 mm), ZUMT 46606 (197.9 mm; Hachijo-jima Island)

ZUMT 41937 (209.0 mm; probably from Hachijo-jima Island, Japan; coll. by Y. Uchiyama, Hachijo-jima Island)

ZUMT 44123 (158.4 mm; Hachijo-jima Island; Sept. 1922; coll. by M. Uchiyama)

ZUMT 47748 (157.8 mm; Mitsune, Hachijo-jima Island; 15 Aug. 1952)

ZUMT 64251 (160.9 mm), ZUMT 64252 (172.6 mm), ZUMT 64253 (175.8 mm), ZUMT 64254 (175.7 mm), ZUMT 64255 (172.5 mm), ZUMT 64256 (168.1 mm), ZUMT 64257 (162.1 mm), ZUMT 64258 (167.4 mm; off Motomachi, Izu-oshima Island; 1 Aug. 1993; coll. with set net)

**OGASAWARA ISLANDS**

ZUMT 45911 (159.3 mm), ZUMT 45912 (166.3 mm; Ogasawara Islands)

**TOYAMA PREF.**

ZUMT 62687 (182.9 mm), ZUMT 62688 (191.0 mm), ZUMT 62689 (195.2 mm), ZUMT 62690 (158.2 mm), ZUMT 62691 (183.6 mm), ZUMT 62692 (192.6 mm), ZUMT 62693 (188.6 mm), ZUMT 62694 (196.5 mm), ZUMT 62695 (186.3 mm; Uozu or Namerikawa City; coll. by I. Tomiyama)

**FUKUI PREF.**

ZUMT 16008 (240.0 mm; Kokonogi, Echizen Town; Sept. 1921; coll. by Fukui Prefectural Fisheries Experimental Station)

**KYOTO PREF.**

ZUMT 24370 (104.3 mm; Miyazu City; Nov. 1931; coll. by Kyoto Prefecture Fisheries Training Center)

**KOCHI PREF.**

ZUMT 21680 (187.6 mm; Kashiwa-jima Island, Otsuki Town; Aug. 1928; coll. by T. Kamohara)

**NAGASAKI PREF.**

ZUMT 2317 (168.3 mm; Nagasaki Pref.; 11 July 1909)

ZUMT 33535 (59.7 mm; Nagasaki Pref.)

ZUMT 47864 (178.4 mm), ZUMT 47865 [181.6 mm; Tamanoura, Tamanoura, Goto City (Fukue-jima Island, Goto Islands); 23 May 1953; coll. by I. Tomiyama]

ZUMT 50045 [192.9 mm; Miiraku, Goto City (Fukue-jima Island, Goto Islands); 10 June 1953; coll. by I. Tomiyama]

ZUMT 62632 (164.1 mm; Nagasaki Pref.; Nov.)

**OKINAWA PREF.**

ZUMT 14077 (194.4 mm), ZUMT 14078 (193.1 mm), ZUMT 14079 (195.8 mm), ZUMT 14101 (203.0 mm; probably from Okinawa Pref.; coll. by H. Yashiro, Okinawa Pref.)

ZUMT 16741 (214.9 mm), ZUMT 16742 (201.2 mm; Onna Village, Okinawa-jima Island, Okinawa Islands; coll. by S. Tanabe)

ZUMT 18496 (222.8 mm), ZUMT 18497 (227.6 mm; probably from Okinawa Pref.; 23 Nov. 1928; coll. by Okinawa Prefectural Fisheries Experimental Station)

ZUMT 19772 (208.0 mm), ZUMT 19773 (228.5 mm; Kume-jima Island, Okinawa Islands; 6 Nov. 1928; coll. by T. Tachikawa)

**TAIWAN**

ZUMT ABE 61-822 (2 specimens, 165.1–179.5 mm; Dongsha Atoll; 7 to 24 July 1961)

**KIRIBATI**

ZUMT 48765 [82.0 mm; approx. 50 km southwest of Banaba (1°16'S 169°14'E); 3 Apr. 1956; coll. by Z. Maekawa and T. Suzuki]

ZUMT 48797 [48.5 mm; approx. 60 km southwest of Banaba (1°15'S 169°09'E); 2 Apr. 1956; coll. by Z. Maekawa and T. Suzuki]

## INDIAN OCEAN

ZUMT 49025 [71.1 mm; Indian Ocean, approx. 1200 km east of Sumatra, Indonesia (3°55'S, 90°49'E); 17 Apr. 1957; coll. by I. Tomiyama]

## LOCALITY UNKNOWN

ZUMT 62486 (131.3 mm), ZUMT 62487 (167.5 mm), ZUMT 62489 [190.7+ mm (head damaged)], ZUMT 62491 [192.5+ mm (head detached)], ZUMT 62492 [199.1+ mm (head damaged)], ZUMT 62493 [208.9+ mm (tail damaged)], ZUMT 62494 [233.8+ mm (tail damaged)], ZUMT ABE 57-256 (body cut), ZUMT ABE 61-875 (99.4 mm; no data)

## *Decapterus macrosoma* Bleeker, 1851 𩚑𩚒

## JAPAN

### IZU ISLANDS

ZUMT 19231 (5 specimens, 62.9–76.2 mm; Hachijo-jima Island; 1 July 1929; coll. by Y. Otsuki)  
ZUMT 19378 (35 specimens, 106.6–156.6 mm), ZUMT 19379 (35 specimens, 114.7–149.8 mm; Hachijo-jima Island; coll. by Y. Oshizu)  
ZUMT 40560 (154.8 mm), ZUMT 40562 (157.4 mm), ZUMT 40570 (157.6 mm), ZUMT 40571 (155.0 mm), ZUMT 40572 (150.6 mm; Hachijo-jima Island)  
ZUMT 62394 (approx. 264.6 mm, poor condition; Habu, Izu-oshima Island)

### IWATE PREF.

ZUMT 13059 (118.9 mm; Miyako Bay; coll. by S. Tanabe)

### CHIBA PREF.

ZUMT 44759 (100.4 mm; Chiba City; 1925)  
ZUMT 62598 (164.0 mm; Koyatsu, Tateyama City; obtained at Tateyama Fish Market; 27 Oct. 1959]

### TOKYO MARKET

ZUMT 12408 (204.4 mm), ZUMT 23082 (145.7 mm; obtained at Tokyo Market, Tokyo Met.)

### KANAGAWA PREF.

ZUMT 19885 (213.7 mm; Oiso Town; 5 Feb. 1930; coll. by A. Suzuki)

### SHIZUOKA PREF.

ZUMT 16489 (35.3 mm; Shizuura, Numazu City; coll. by N. Kuroda)

### MIE PREF.

ZUMT 23398 (192.8 mm; Owase City; coll. by K. Nakahara)

### OSAKA FISH MARKET

ZUMT 41904 (280.2 mm; obtained at Osaka Fish Market)

### YAMAGUCHI PREF.

ZUMT 62915 (163.6 mm; off Futami, Shimonoseki City; 30 Sept. 1991)

### EHIME PREF.

ZUMT 7882 [195.4 mm; probably from Ehime Pref.; coll. by K. Otsuki (Uchiumi, Ainan Town, Ehime Pref.)]

### KOCHI PREF.

ZUMT 21681 (215.4 mm; obtained at Kochi Market; 4 June 1930; coll. by T. Kamohara)  
ZUMT 23271 (153.5 mm; obtained at Kochi Market; 20 Aug. 1930; coll. by T. Kamohara)  
ZUMT 18697 (163.7 mm; Okino-shima Island, Sukumo City; Nov. 1926; coll. by T. Kamohara)

### NAGASAKI PREF.

ZUMT 7235 (280.2 mm; Nagasaki Pref.)  
ZUMT 48126 [212.6 mm; obtained at Fukue Fish Market, Fukue, Goto City (Fukue-jima Island, Goto Islands); 10 June 1953; coll. by I. Tomiyama]  
ZUMT 62533 (159.7 mm; Nagasaki Pref.; Nov.)

**KAGOSHIMA PREF.**

ZUMT 23881 (229.7 mm; Taniyama, Kagoshima City)  
ZUMT 24112 (234.8 mm; Akime, Bonotsu, Minami-satsuma City)

**TAIWAN**

ZUMT 2358 (5 specimens, 94.1–125.9 mm; Keelung)  
ZUMT 12834 (120.4 mm), ZUMT 12835 (91.0 mm) ZUMT 12836 (94.8 mm; Keelung; coll. by T. Aoki)  
ZUMT 13665 (108.1 mm; probably from Taiwan; coll. by T. Aoki at Government-General of Taiwan)

**LOCALITY UNKNOWN**

ZUMT ABE 59-468 (164.9 mm), ZUMT 46563 (118.4 mm), ZUMT 46571 (112.1 mm), ZUMT 62534 (178.5 mm), ZUMT ABE 992 (91.6 mm), ZUMT ABE 9050 (109.4 mm), ZUMT ABE 9051 (105.9 mm), ZUMT ABE 9052 (127.2 mm), ZUMT ABE 9609 (121.6 mm), ZUMT 9902 (85.8 mm), ZUMT ABE 9903 (73.9 mm), ZUMT ABE 10073–10076 (4 specimens, 152.9–158.8 mm, one specimen with damaged head), ZUMT ABE 10706 (221.1 mm), ZUMT ABE 59-465 (209.8 mm), ZUMT ABE 59-467 (177.7 mm; no data)  
ZUMT 63053 [59.3 mm; originally stored with ZUMT ABE 56-193 (*Psenes arafurensis*; collection data unknown)]

*Decapterus maruadsi* (Temminck & Schlegel, 1843) マルアジ

**JAPAN****AOMORI PREF.**

ZUMT 13205 (77.6 mm; Same, Hachinohe City, Aomori Pref.; coll. by S. Tanabe)

**TOKYO MARKET**

ZUMT 6071 (156.6 mm; obtained at Tokyo Market)

**KANAGAWA PREF.**

ZUMT 4166 (151.4 mm; Misaki, Miura City; coll. by I. Oga)  
ZUMT 19886 (236.0 mm; Oiso Town; 5 Feb. 1930; coll. by A. Suzuki)  
ZUMT 19900 (142.7 mm; Chigasaki City; 27 Jan. 1930; coll. by A. Suzuki)  
ZUMT 19901 (145.3 mm; Hashirimizu, Uruga City; 7 May 1929; coll. by A. Suzuki)  
ZUMT 19902 (144.0 mm; Chigasaki City; 27 Jan. 1930; coll. by A. Suzuki)  
ZUMT 49113 (190.3 mm; Misaki, Miura City; 1956; coll. by I. Tomiyama)  
ZUMT 49155 (226.1 mm; Joga-shima Island, Miura City; 16 July 1954; coll. by I. Tomiyama)

**WAKAYAMA PREF.**

ZUMT 7756 (140.5 mm; probably from Wakayama Pref.; donated by I. Hoshino at Hiro, Arida, Wakayama City, Wakayama Pref.)  
ZUMT 20756 (119.2 mm; Wakayama Pref.; Jan. 1920)

**TOYAMA PREF.**

ZUMT 23237 (137.9 mm; Toyama Bay; coll. by K. Kikuchi, Toyama High School)

**OSAKA FISH MARKET**

ZUMT 41903 (239.9 mm), ZUMT 41907 (145.6 mm; Osaka Fish Market)

**OKAYAMA PREF.**

ZUMT 16522 (110.3 mm; Kasaoka City; Oct. 1925)

**YAMAGUCHI PREF.**

ZUMT 26180 (174.7 mm; Yamaguchi Pref.; coll. by M. Nagatomi)

**EHIME PREF.**

ZUMT 3367 (220.7 mm; probably from Ehime Pref.; donated by G. Norie, Ehime Prefectural Yawatahama Girls School)  
ZUMT 7881 (200.2 mm; probably from Ehime Pref.; coll. by K. Otsuki, Uchiumi, Ainan Town, Ehime Pref.)



**KOCHI PREF.**

ZUMT 21938 (148.3 mm), ZUMT 21939 (143.3 mm; Kochi Pref.; Kochi Prefectural Fisheries Experimental Station)

ZUMT 33672 (148.4 mm), ZUMT 33673 (138.5 mm; probably from Kochi Pref.; coll. by Kochi Prefectural Fisheries Experimental Station)

**NAGASAKI PREF.**

ZUMT 2490 (146.0 mm), ZUMT 12476 (158.8 mm; Nagasaki Pref.)

ZUMT 26493 (136.0 mm; Takematsu, Omura City)

ZUMT 50020 [245.0 mm; Fukue, Goto City (Fukue-jima Island, Goto Islands); 10 June 1953; coll. by I. Tomiyama]

**OITA PREF.**

ZUMT 7618 (163.2 mm; Saeki Bay, Saeki City)

**MIYAZAKI PREF.**

ZUMT 20027 (135.4 mm; Miyazaki Pref.)

ZUMT 21164 (150.9 mm), ZUMT 22664 (143.2 mm; Miyazaki Pref.; coll. by Fukushima Fisheries Cooperative Association)

**TAIWAN**

ZUMT 13676 (101.9 mm), ZUMT 13677 (92.4 mm; probably from Taiwan; coll. by T. Aoki at Government-General of Taiwan)

ZUMT 14867 (107.3 mm), ZUMT 14868 (108.4 mm), ZUMT 14869 (112.2 mm), ZUMT 14870 (106.8 mm), ZUMT 14871 (111.9 mm; Tainan; coll. by T. Aoki)

ZUMT 25127 (73.9 mm; Taipei; coll. by N. Imai)

ZUMT 62726 (223.3 mm; obtained at Chitosecho Market, Taipei City; 19 Mar. 1931)

**CHINA**

ZUMT 54488 (148.62 mm), ZUMT 54490 [149.1 mm; East China Sea, east of Nantong, Jiangsu Province, (32°45'N, 122°45'E)]

**LOCALITY UNKNOWN**

ZUMT 46882 (119.1 mm), ZUMT 63164 (147.3 mm), ZUMT 63165 (137.8 mm), ZUMT 62260 (272.4 mm), ZUMT ABE 7767 (60.2 mm), ZUMT ABE 10448 (198.5 mm), ZUMT ABE 10698 (174.5 mm), ZUMT ABE 10699 (174.0 mm), ZUMT ABE 10857 (85.2 mm), ZUMT ABE 20773 (197.7 mm), ZUMT ABE 20774 (201.1 mm), ZUMT ABE 57-120 (169.3 mm), ZUMT ABE 57-265 (body cut), ZUMT ABE 58-240 (226.7 mm), ZUMT ABE 58-371 (224.8 mm), ZUMT ABE 59-627 (171.4 mm), ZUMT ABE 59-628 (167.5 mm), ZUMT ABE 61-943 (48.3 mm)

ZUMT ABE 62-251 (175.8 mm; locality unknown; coll. during Mar. and Apr. 1962)

ZUMT 37582 (108.7 mm; locality unknown; coll. by S. Miyoshi. Mito High School)

ZUMT 62296 [115.6 mm; no data; originally stored with ZUMT 46869 (*Caranx ignobilis*; collection data unknown)]

***Decapterus muroadsi* (Temminck & Schlegel, 1844) ムロアジ**

**JAPAN**

ZUMT 47020 (184.4 mm; probably from Kochi Pref.)

**LOCALITY UNKNOWN**

ZUMT ABE 51-303 (208.9 mm; no data)

*Decapterus russelli* (Rüppell, 1830) インド・マルアジ

**PALAU**

ZUMT 5887 (210.4 mm; probably from Palau) (originally stored with ZUMT ABE 5881 and 5882)

**TANZANIA**

ZUMT 52867 (137.0 mm; Kunduchi)

**LOCALITY UNKNOWN**

ZUMT 63054 [5 specimens, 35.7–41.2 mm; originally stored with ZUMT ABE 56-193 (*Psenes arafurensis*; collection data unknown)]

*Decapterus tabl* Berry, 1968 オアカムロ

**JAPAN**

ZUMT 4712 (230.8 mm), ZUMT 4713 (232.2 mm), ZUMT 4714 (237.6 mm), ZUMT 4715 (228.7 mm), ZUMT 4716 (234.6 mm; obtained at Tokyo Fish Market, Tokyo Met.)

ZUMT 41902 (355.6 mm; obtained at Osaka Fish Market, Osaka Pref.)

ZUMT 54253 [279.8 mm; Miyake-jima Island, Izu Islands (obtained at Tokyo Market, Tokyo Met., Japan); 1 June 1981]

*Elagatis bipinnulata* (Quoy & Gaimard, 1825) ツムブリ

**JAPAN**

**FUKUSHIMA PREF.**

ZUMT 17494 (347.0 mm; probably from Fukushima Pref.; donation from Fukushima Prefectural Onahama Fisheries Experimental Station)

ZUMT 44145 (362.2 mm; Onahama, Iwaki City)

**TOKYO MARKET**

ZUMT 6398 (170.0 mm; obtained at Tokyo Market; 9 Aug. 1915; coll. by I. Kaneko)

ZUMT 12477 (270.3 mm; obtained at Tokyo Market)

**IZU ISLANDS**

ZUMT 46624 (217.6 mm; Hachijo-jima Island)

**OGASAWARA ISLANDS**

ZUMT 62262 (390.0 mm; Ogasawara Islands; Mar. 1913)

**KANAGAWA PREF.**

ZUMT 10408 (182.6 mm; Misaki, Miura City; coll. by K. Aoki)

ZUMT 49134 (144.9 mm), ZUMT 49135 (143.4 mm), ZUMT 49137 (158.4 mm), ZUMT 49138 (186.6 mm; Misaki, Miura City; 1956; coll. by I. Tomiyama)

**WAKAYAMA PREF.**

ZUMT 7996 (218.5 mm; probably from Wakayama Pref.; coll. by N. Ui, Tanabe City, Wakayama Pref.)

**TOYAMA PREF.**

ZUMT 25814 (271.3 mm; probably from Toyama Pref.; coll. by K. Kikuchi, Toyama High School)

**SHIMANE PREF.**

ZUMT 31232 (214.0 mm; Matsue City; coll. by R. Yanai)

**YAMAGUCHI PREF.**

ZUMT 8636 (187.3 mm; Senzaki, Nagato City; 10 Oct. 1918; coll. by T. Kumada)

**PHILIPPINES**

ZUMT 14624 (125.6 mm; Philippines)

**LOCALITY UNKNOWN**

ZUMT 37907 (110.6 mm), ZUMT 62264 (346.9 mm), ZUMT 62391 (223.4 mm), ZUMT 62392 (238.8 mm), ZUMT ABE 61-847 (213.4 mm), ZUMT ABE 61-865 (85.4 mm), ZUMT ABE 61-870 (90.8 mm), ZUMT ABE 61-1082 (88.6 mm), ZUMT ABE 61-1083 (85.9 mm; no data)

*Ferdauia ferdau* (Fabricius, 1775) クロヒラアジ

**JAPAN**

ZUMT 31270 (247.3 mm; Matsue City, Shimane Pref.; coll. by R. Yanai)  
ZUMT 45897 (185.1 mm; Ogasawara Islands)

**LOCALITY UNKNOWN**

ZUMT 61-1076 (144.1 mm), ZUMT 5878 (158.2 mm), ZUMT ABE 59-497 (130.3 mm)

*Ferdauia orthogrammus* (Jordan & Gilbert, 1882) ナンヨウカイワリ

**JAPAN**

ZUMT 4356 (233.5 mm; off Hamada City, Shimane Pref.; 5 Oct. 1914)  
ZUMT 4403 (264.0 mm; probably from Shimane Pref.; donation from Hamada Fisheries Experimental Station, Shimane Pref.)  
ZUMT 12463 (216.4 mm; southern part of coast of Tokyo Bay in Chiba Pref.)  
ZUMT 16743 (185.2 mm; Onna Village, Okinawa Island, Okinawa Pref.; coll. by S. Tanabe), ZUMT 45897 (183.7 mm; Ogasawara Islands)

**TAIWAN**

ZUMT 2523 (208.9 mm; Keelung; coll. by T. Aoki)

**PALAU**

ZUMT ABE 2911 (328.0 mm; Palau)

*Gnathanodon speciosus* (Forsskal, 1775) コガネシマアジ

**JAPAN**

ZUMT 12461 (141.2 mm), ZUMT 12462 (165.7 mm; obtained at Tokyo Market, Tokyo Met.)

**PHILIPPINES**

ZUMT 11140 (105.0 mm), ZUMT 12684 (157.8 mm; Philippines; coll. by U. Yamamura)

**PALAU**

ZUMT ABE 3000 (363.1 mm; Palau)

**LOCALITY UNKNOWN**

ZUMT 62255 (128.8 mm; no data)

*Kaiwarinus equula* (Temminck & Schlegel, 1844) カイワリ

**JAPAN**

**AKITA PREF.** ZUMT 13352 (136.7 mm; approx. 18.5 km off Nyudozaki, Oga City; 28 Nov. 1923; coll. by S. Tanabe)

**CHIBA PREF.** ZUMT 33447 (98.1 mm; Takanoshima, Tateyama City; 5 May 1910)

**TOKYO MARKET** ZUMT 11955 (102.3 mm), ZUMT 12397 (81.3 mm), ZUMT 12458 (160.8 mm), ZUMT 12473 (138.2 mm), ZUMT 26647 (165.0 mm; obtained at Tokyo Market)

**KANAGAWA PREF.** ZUMT 19894 (193.3 mm; Oiso Town; 5 Feb. 1930; coll. by A. Suzuki)

ZUMT 20103 (160.1 mm), ZUMT 20665 (55.3 mm), ZUMT 20666 (73.8 mm), ZUMT 20667 (55.9 mm), ZUMT 20810 (47.2 mm), ZUMT 20811 (43.0 mm), ZUMT 20868 (74.7 mm), ZUMT 20869 (108.9 mm; Misaki, Miura City)

ZUMT 49597 (52.2 mm), ZUMT 49694 (66.8 mm), ZUMT 49712 (59.7 mm), ZUMT 49714 (68.5 mm; Hayama Town; 17 Dec. 1958)

ZUMT 50511 (159.4 mm; Aburatsubo, Misaki, Miura City; 7 July 1959; coll. by Y. Tominaga)

ZUMT 50964 (60.3 mm; Sagami Bay; 13 Feb. 1958)

**SHIZUOKA PREF.** ZUMT 6006 (100.9 mm; Shizuura Bay, Numazu City; Feb. 1915; coll. by K. Hattori)

ZUMT 27159 (46.2 mm; Hamana-ko Lake; 13 Sept. 1934; coll. by S. Ooe)

ZUMT 33377 (87.8 mm; Shizuoka Pref.)

ZUMT 57771 [105.1 mm (body cut); Miho, Shimizu, Shizuoka City; 28 June 1979; coll. by Y. Sato]

**MIE PREF.** ZUMT 3497 (76.6 mm; Hamajima, Shima City; 14 Mar. 1913)

ZUMT 23362 (152.5 mm; Owase City; coll. by K. Nakahara)

**WAKAYAMA PREF.** ZUMT 8082 (39.6 mm), ZUMT 8083 (71.9 mm), ZUMT 9551 (124.1 mm; probably from Wakayama Pref.; coll. by N. Ui, Tanabe City, Wakayama Pref.)

ZUMT 22014 (57.6 mm; Wakayama Pref.)

ZUMT 22491 (51.3 mm; Tanabe City; coll. by N. Ui)

**FUKUI PREF.** ZUMT 4429 (146.1 mm; Obama City)

ZUMT 15999 (64.3 mm; probably from Fukui Pref.; coll. by Fukui Prefectural Fisheries Experimental Center)

**SHIMANE PREF.** ZUMT 31193 (123.1 mm; Matsue City; coll. by R. Yanai)

**YAMAGUCHI PREF.** ZUMT 11407 (153.5 mm; off Shimonoseki City; coll. by T. Kumada)

ZUMT 12395 (188.1 mm; Shimonoseki City; obtained at Tokyo Market, Japan)

**KOCHI PREF.** ZUMT 23276 (48.2 mm; Urado, Kochi City; 20 July 1930; coll. by T. Kamohara)

ZUMT 34611 (40.5 mm; Kochi Pref.)

**FUKUOKA PREF.** ZUMT 49794 (134.9 mm; obtained at Fukuoka Fish Market; July 1959)

ZUMT 50574 (154.6 mm; obtained at Fukuoka Fish Market; 1 Sept. 1959; coll. by Y. Tominaga)

ZUMT 51813 (71.0 mm; obtained at Fukuoka Fish Market)

ZUMT 62539 (144.8 mm), ZUMT 62540 (129.9 mm; obtained at Fukuoka Fish Market; 25 Aug. 1931)

**NAGASAKI PREF.** ZUMT 2275 (108.7 mm; Nagasaki Pref.; 27 June 1909)

ZUMT 2542 (144.0 mm; Nagasaki Pref.; 3 Oct. 1909)

ZUMT 2630 (146.7 mm; Nagasaki Pref.; 23 Jan. 1910)

ZUMT 3825 [183.5 mm; south of Osezaki, Goto City (Fukue-jima Island, Goto Islands)]

ZUMT 32262 (44.8 mm; Nagasaki Pref.; Mar. 1911)

ZUMT 47888 (99.6 mm), ZUMT 47892 [82.6 mm; Tamanoura, Goto City (Fukue-jima Island, Goto Islands; 22 May 1953; coll. by I. Tomiyama]

ZUMT 47935 (150.7 mm), ZUMT 47936 [110.1 mm; Miiraku, Goto City (Fukue-jima Island, Goto Islands); 22 May 1953; coll. by I. Tomiyama]

ZUMT 48145 (63.2 mm), ZUMT 48146 (51.7 mm), ZUMT 48147 (70.5 mm), ZUMT 48148 (62.8 mm), ZUMT 48176 [70.6 mm; obtained at fish market in Fukue, Goto City (Fukue-jima Island, Goto Islands); May 1953; coll. by I. Tomiyama]

ZUMT 50119 (129.8 mm; Tamanoura, Goto City (Fukue-jima Island, Goto Islands); 15 Oct. 1953; coll. by I. Tomiyama)

ZUMT 50402 (163.7 mm), ZUMT 50403 (127.4 mm; Ichibu, Ikitsuki, Hirado City; 23 Oct. 1953; coll. by I. Tomiyama)

**MIYAZAKI PREF.** ZUMT 18826 (128.1 mm; Miyazaki Pref.)

ZUMT 22360 (121.5 mm; Miyazaki City)

**KAGOSHIMA PREF.** ZUMT 20034 (93.6 mm), ZUMT 21835 (81.9 mm), ZUMT 31600 (123.7 mm; Kagoshima Pref.)

ZUMT 23858 (92.3 mm; Naya, Kagoshima City)

ZUMT 24122 (140.3 mm; Arata, Kagoshima City)

#### **EAST CHINA SEA**

ZUMT 3615 [219.7 mm; East China Sea (30°37'N, 127°37'E–30°31'N, 127°35'E)

ZUMT 51046 (170.2 mm), ZUMT 52129 (124.6 mm), ZUMT 52130 (131.5 mm; East China Sea)

#### **CHINA**

ZUMT 54481 (115.0 mm), ZUMT 54482 [117.3 mm; East China Sea, east of Nantong, Jiangsu Province, (32°35'N, 122°40'E)]

#### **TAIWAN**

ZUMT 13700 (187.7 mm), ZUMT 13701 (196.8 mm; north of Taiwan, between Keelung and Pengjia Islet; coll. by T. Aoki)

ZUMT 22617 (138.1 mm; Kaohsiung; coll. by S. Yamada)

ZUMT 25094 (116.7 mm; probably from Taiwan; coll. by M. Imai, Taipei Medical School)

#### **LOCALITY UNKNOWN**

ZUMT 856 (59.0 mm), ZUMT 52216 (168.3 mm), ZUMT 62239 (157.1 mm), ZUMT 62247 (223.7 mm), ZUMT 62252 (168.5 mm), ZUMT 62297 (82.4 mm), ZUMT ABE 1933 (61.7 mm), ZUMT ABE 2123 (52.9 mm), ZUMT ABE 2161 (71.4 mm), ZUMT ABE 60-11 (44.1–48.9 mm; 5 specimens; no data)

ZUMT 62288 (81.6 mm), ZUMT 62289 (87.1 mm), ZUMT 62290 [90.5 mm; no data; originally stored with ZUMT 46869 (*Caranx ignobilis*; collection data unknown)]

### ***Megalaspis cordyla* (Linnaeus, 1758) オニアジ**

#### **JAPAN**

ZUMT 2487 (144.1 mm; Nagasaki Pref.)

ZUMT 18825 (174.1 mm; Miyazaki Pref.)

ZUMT 21924 (95.1 mm; Kochi Pref.)

ZUMT 23987 (148.9 mm; Shibushi City, Kagoshima Pref.)

#### **TAIWAN**

ZUMT 14983 (150.3 mm), ZUMT 15001 (192.4 mm; Tainan; coll. by T. Aoki)

ZUMT 22598 (191.6 mm; Kaohsiung; coll. by S. Yamada)

ZUMT 62590 (175.8 mm), ZUMT 62591 (185.1 mm; Chitosecho Market, Taipei; 4 Feb. 1931)

#### **PHILIPPINES**

ZUMT 14598 (138.6 mm; Philippines)

ZUMT 40770 (185.0 mm), ZUMT 40771 (174.4 mm), ZUMT 40788 (182.7 mm), ZUMT 40799 (169.4 mm),

ZUMT 40819 (192.0 mm), ZUMT 40840 (180.3 mm; Manila, Luzon; 11 Feb. 1909; coll. by I. Iijima and K. Aoki)

**LOCALITY UNKNOWN**

ZUMT 46370 (238.8 mm), ZUMT 46371 (240.0 mm), ZUMT 62399 (151.8 mm) ZUMT ABE 10737 (56.6 mm; no data)

***Naucrates ductor* (Linnaeus, 1758) ブリモドキ****JAPAN****HOKKAIDO**

ZUMT 11713 (200.0 mm; Muroran City, Hokkaido; Aug. 1921; coll. by S. Katsuki)

**FUKUSHIMA PREF.**

ZUMT 25269 (246.2 mm; Onahama, Iwaki City; 12 Dec. 1931, H. Kakuda)

**TOKYO MET.**

ZUMT 40139 (87.4 mm; Okinose, Tokyo Bay; May 1894; coll. by K. Aoki)

**TOKYO MARKET**

ZUMT 12471 (228.1 mm), ZUMT 12472 (235.3 mm; obtained at Tokyo Market)

**KANAGAWA PREF.**

ZUMT ABE 62-355 (234.6 mm; Manazuru Town, Kanagawa Pref.; 17 Mar. to 21 Apr. 1962)

ZUMT ABE 83-492 (106.0 mm; Manazuru Town, Kanagawa Pref.; 2 Oct. 1983)

**WAKAYAMA PREF.**

ZUMT 20221 (181.0 mm), ZUMT 20753 (137.4 mm; Wakayama Pref.; Jan. 1920; coll. by N. Ui)

**HYOGO PREF.**

ZUMT 38067 (195.3 mm; probably from Hyogo Pref.)

**SHIMANE PREF.**

ZUMT 7964 (189.9 mm; probably from Shimane Pref.; coll. by Shimane Prefecture Fisheries Training Center)

**LOCALITY UNKNOWN**

ZUMT ABE 496 (96.6 mm), ZUMT ABE 60-1576 (38.8 mm), ZUMT ABE 60-1577 (89.5 mm), ZUMT ABE 60-1578 (94.2 mm; no data)

***Parastromateus niger* (Bloch, 1795) クロアジモドキ****JAPAN**

ZUMT 7329 (266.6 mm; Nagasaki Pref.; coll. by I. Kaneko)

ZUMT 11396 (155.5 mm; off Shimonoseki City, Yamaguchi Pref.; coll. by T. Kumada)

ZUMT 12760 (167.5 mm; obtained at Tokyo Market, Tokyo Met.)

ZUMT 24312 (88.7 mm; Susaki City, Kochi Pref.; Nov. 1931; coll. by T. Kamohara)

ZUMT 52151 (97.5 mm; Totoro, Nobeoka City, Miyazaki Pref.; 1 Aug. 1960)

**EAST CHINA SEA**

ZUMT 50556 (220.0 mm; East China Sea; 28 July 1959; coll. by Y. Tominaga)

**TAIWAN**

ZUMT 14977 (118.7 mm), ZUMT 14978 (110.6 mm; Tainan; coll. by T. Aoki)

**MALAYSIA**

ZUMT 62319 (148.6 mm), ZUMT 62530 (99.6 mm; probably from Sarawak State, Borneo; donation from Sarawak Museum to I. Tomiyama)

**INDONESIA**

ZUMT 42133 (71.1 mm; Jakarta; 5 Mar. 1909; coll. by I. Iijima and K. Aoki)

**LOCALITY UNKNOWN**

ZUMT 3730 (114.4 mm), ZUMT 63006 (216.1 mm), ZUMT 63007 (207.2 mm; no data)

***Platyvaranx malabaricus* (Bloch & Schneider, 1801) タイワンヨロイアジ****JAPAN**

ZUMT 62256 (194.6 mm; Zaimokuza Beach, Kamakura City, Kanagawa Pref.; 21 Mar. 1954; coll. by T. Abe)

**PHILIPPINES**

ZUMT 39577 (73.5 mm; Philippines; coll. by U. Yamamura)

**Remarks:** Hata and Koeda (2022c) reported ZUMT 62256, collected from Kamakura City, Kanagawa Pref., as the first record of *P. malabaricus* from Sagami Bay and the northernmost record of the species.

***Platyvaranx talamparoides* (Bleeker, 1852)****PHILIPPINES**

ZUMT 42215 (123.3 mm), ZUMT 42241 (128.6 mm; Philippines; 1926; coll. by U. Yamamura)

***Pseudocaranx dentex* (Bloch & Schneider, 1801) シマアジ****JAPAN****TOKYO MARKET**

ZUMT 6682 (159.3 mm), ZUMT 11956 (122.4 mm), ZUMT 12388 (196.5 mm), ZUMT 12390 (192.0 mm),  
ZUMT 12391 (177.7 mm), ZUMT 12392 (199.2 mm), ZUMT 62733 (105.1 mm; obtained at Tokyo Market)

**IZU ISLANDS**

ZUMT 19171 (400.4 mm), ZUMT 19293 (175.2 mm), ZUMT 19294 (167.0 mm), ZUMT 19295 (166.4 mm),  
ZUMT 19296 (173.0 mm), ZUMT 19297 (156.2 mm), ZUMT 19298 (166.9 mm), ZUMT 19299 (165.2 mm),  
ZUMT 19301 (173.5 mm; probably from Hachijo-jima Island; 7 July 1929; coll. by Y. Otsuki, Hachijo-jima  
Island)

ZUMT 62398 (178.0 mm; Hachijo-jima Island)

**SHIZUOKA PREF.**

ZUMT 32901 (148.9 mm; probably from Shizuoka Pref.; donation from Shizuoka Prefectural Fuji High School  
for Girls)

**KOCHI PREF.**

ZUMT 19899 (228.1 mm; Susaki City; coll. by A. Suzuki)

ZUMT 24377 [258.4 mm; Yotsu (currently Okitsu), Shimanto Town; 10 Feb. 1932; coll. by M. Fukutomi]

**NAGASAKI PREF.**

ZUMT 2540 (196.2 mm; Nagasaki Pref.; 3 Oct. 1909)

ZUMT 2629 (198.7 mm; Nagasaki Pref.; 23 Jan. 1910)

**KAGOSHIMA PREF.**

ZUMT 39787 (143.6 mm; Yaku-shima Island, Osumi Islands; coll. by H. Kuroiwa)

**OKINAWA PREF.**

ZUMT 13989 (208.5 mm; probably from Okinawa-jima Island, Okinawa Islands; coll. by S. Sakaguchi,  
Okinawa Prefectural Daiichi Junior High School)

ZUMT 19071 (259.7 mm; probably from Okinawa Pref.; coll. by Okinawa Prefectural Fisheries Experimental Station)

**TAIWAN**

ZUMT 62560 (104.1 mm; Ximending Market Taipei City; 3 Oct. 1929)

**LOCALITY UNKNOWN**

ZUMT 62245 (202.7 mm), ZUMT 62246 (234.9 mm), ZUMT 62248 (237.7 mm), ZUMT 62382 (30.1 mm), ZUMT 62383 (29.0 mm), ZUMT 63168 (27.7 mm), ZUMT 63174 (29.1 mm), ZUMT ABE 533 (199.4 mm), ZUMT ABE 560 (63.0 mm), ZUMT ABE 561 (73.2 mm), ZUMT ABE 562 (82.1 mm), ZUMT ABE 563 (72.2 mm), ZUMT ABE 564 (73.8 mm), ZUMT ABE 565 (64.7 mm), ZUMT ABE 2243 (121.5 mm), ZUMT ABE 2443 (83.7 mm), ZUMT 59-681 (53.8 mm; no data)

*Scomberoides commersonianus* Lacepède, 1801 オオクチイケカツオ

**TAIWAN**

ZUMT 14947 (293.0 mm; Tainan; coll. by T. Aoki)

*Scomberoides lysan* (Fabricius, 1775) イケカツオ

**JAPAN**

**IBARAKI PREF.**

ZUMT 34581 (48.6 mm), ZUMT 34582 (46.7 mm; Hinuma Lake, Ishizaki, Ibaraki Town; 22 May 1935; coll. S. Tanaka)

ZUMT 63181 (40.2 mm; Hitachinaka City)

**TOKYO MARKET**

ZUMT 12465 (90.9 mm), ZUMT 12486 (109.1 mm; obtained at Tokyo Market)

**KANAGAWA PREF.**

ZUMT 46965 (69.5 mm; Ishibashi, Odawara City)

ZUMT 49112 (132.9 mm; Misaki, Miura City; 1956; coll. by I. Tomiyama)

**SHIZUOKA PREF.**

ZUMT 10553 (4 specimens, 23.9–48.4mm; Shizuura, Numazu City, Shizuoka Pref.; Aug. 1922; coll. by N. Kuroda)

ZUMT 34726 (27.2 mm), ZUMT 34727 (28.4 mm; probably from Shizuoka Pref.; donated by S. Yamamoto, Numazu Junior High School)

ZUMT 44893 (32.2 mm), ZUMT 44894 (25.1 mm; probably from Shizuoka Pref.; coll. by N. Onodera, Mitsuke Junior High School)

**WAKAYAMA PREF.**

ZUMT 9639 (99.9 mm; probably from Wakayama Pref.; coll. by N. Ui, Tanabe City, Wakayama Pref.)

ZUMT 20239 (152.8 mm), ZUMT 20525 (106.3 mm), ZUMT 20526 (93.9 mm; Wakayama Pref.)

ZUMT 22036 (101.9 mm; Wakayama Pref.; Jan. 1920)

ZUMT 22562 (54.2 mm), ZUMT 22564 (52.7 mm; Tanabe City; Jan. 1920; coll. by N. Ui)

**YAMAGUCHI PREF.**

ZUMT 6159 (101.8 mm; Hagi City; coll. by I. Tanaka)

**EHIME PREF.**

ZUMT 7108 (174.5 mm; pearl farm in Uchiumi, Ainan Town)

ZUMT 24959 [154.5 mm; Horie Village (currently northern part of Matsuyama City); Oct. 1931; coll. by J. Ishikawa]



**KOCHI PREF.**

ZUMT 34146 (76.7 mm; probably from Kochi Pref.; Sept. 1909; coll. by Kochi Prefectural Fisheries Experimental Station)

**NAGASAKI PREF.**

ZUMT 2544 (150.5 mm; Nagasaki Pref.; 3 Oct. 1909)

**KAGOSHIMA PREF.**

ZUMT 23988 (152.1 mm), ZUMT 23989 (86.4 mm), ZUMT 23990 (83.3 mm), ZUMT 23991 (87.6 mm), ZUMT 23992 (85.9 mm), ZUMT 23993 (102.5 mm), ZUMT 24004 (85.6 mm; Shibushi City)  
ZUMT 24080 (59.2 mm), ZUMT 24081 (72.1 mm), ZUMT 24082 (119.9 mm; Taniyama, Kagoshima City)  
ZUMT 26921 (76.4 mm), ZUMT 40501 (114.8 mm; Kagoshima Pref.)

**OKINAWA PREF.**

ZUMT 11153 (169.1 mm), ZUMT 11154 (169.3 mm), ZUMT 15160 (225.4 mm; probably from Okinawa-jima Island, Okinawa Islands; coll. by S. Sakaguchi, Okinawa Prefectural Daiichi Junior High School)  
ZUMT 14695 (190.2 mm; Yaeyama Islands)  
ZUMT 16889 (67.7 mm; Unten, Nakijin Village, Okinawa-jima Island, Okinawa Islands; coll. by S. Tanabe)  
ZUMT 17084 (103.6 mm; Itoman City, Okinawa-jima Island, Okinawa Islands; coll. by S. Tanabe)  
ZUMT 27360 (40.7 mm; Naha City, Okinawa Pref.)

**TAIWAN**

ZUMT 23629 (69.9 mm; Taiwan; coll. by S. Arakawa)  
ZUMT 40137 (99.4 mm), ZUMT 40138 (49.8 mm; Tamsui, Taipei City)

**PHILIPPINES**

ZUMT 42342 (137.9 mm), ZUMT 42359 (125.7 mm), ZUMT 42390 (128.0 mm; Basilan; 1926; coll. by U. Yamamura)  
ZUMT 62282 (120.9 mm), ZUMT 62283 (122.2 mm), ZUMT 62284 (122.7 mm; Basilan; Jan. 1938; coll. by U. Yamamura)

**PALAU**

ZUMT ABE 3001 (503.5 mm), ZUMT ABE 3013 (403.2 mm; Palau)  
ZUMT 62346 (132.2 mm), ZUMT 62347 (104.7 mm), ZUMT 62348 (96.0 mm), ZUMT 62349 (88.3 mm), ZUMT 62350 (80.5 mm; probably from Palau) (originally stored with ZUMT ABE 5881 and 5882)

**LOCALITY UNKNOWN**

ZUMT 62364 (53.1 mm), ZUMT 63313 (24.7 mm), ZUMT 57763 (168.8 mm), ZUMT 59704 [approx. 170.0 mm (body cut)], ZUMT ABE 531 (75.5 mm), ZUMT ABE 1883 (148.7 mm), ZUMT ABE 61-859 (140.1 mm), ZUMT ABE 61-860 (137.8 mm), ABE 61-861 (114.3 mm; no data)  
ZUMT 7395 (62.1 mm), ZUMT 7404 (55.9 mm; locality unknown; coll. by E. Watanabe)

*Scomberoides tala* (Cuvier, 1832) アキイロイケカツオ

**PHILIPPINES**

ZUMT 40767 (153.5 mm), ZUMT 40772 (147.0 mm; Manila, Luzon; 11 Feb. 1909; coll. by I. Iijima and K. Aoki)

**INDONESIA**

ZUMT 62601 (146.8 mm; Jakarta, Java; 5 Mar. 1909; coll. by K. Aoki and I. Iijima)

*Scomberoides tol* (Cuvier, 1832) ミナミイケカツオ

**JAPAN**

- ZUMT 7993 (97.8 mm), ZUMT 9645 (72.6 mm; probably from Wakayama Pref.; coll. by N. Ui at Tanabe City, Wakayama Pref.)  
ZUMT 18843 (65.0 mm; Miyazaki Pref.)  
ZUMT 20163 (87.9 mm; Kagoshima Pref.)  
ZUMT 23956 (145.8 mm; Naya, Kagoshima City, Kagoshima Pref.)  
ZUMT 24223 (72.7 mm; Maizuru City, Kyoto Pref.; coll. by S. Ushikubo)  
ZUMT 39172 (86.4 mm; Ukitsu, Muroto City, Kochi Pref.; probably collected by S. Tanaka)

**TAIWAN**

- ZUMT 14936 (155.4 mm), ZUMT 14937 (153.6 mm; Taiwan; coll. by T. Aoki)  
ZUMT 18452 (139.3 mm; Keelung; Sept. 1927; coll. by H. Sato)  
ZUMT 19685 (91.6 mm; probably from Taiwan; coll. by H. Sato, Keelung Junior High School)  
ZUMT 25109 (123.8 mm; lower reach of Tamsui River, Taipei City; Aug. 1930; coll. by M. Imai)  
ZUMT 37431 (107.8 mm; Penghu Island; July 1906)

**PHILIPPINES**

- ZUMT 62279 (165.8 mm), ZUMT 62280 (153.1 mm; Basilan; Jan. 1938; coll. by U. Yamamura)

**LOCALITY UNKNOWN**

- ZUMT 57764 (162.5 mm), ZUMT 62372 (62.7 mm), ZUMT ABE 59-487 [165.0 mm (dissected); no data]

*Scyris indica* Rüppell, 1830 ウマヅラアジ

**JAPAN**

- ZUMT 17208 (38.8 mm), ZUMT 17209 (49.5 mm), ZUMT 17216 (44.0 mm; Baten, Nanjo City, Okinawa-jima Island, Okinawa Pref.; coll. by S. Tanabe)  
ZUMT 40379 (33.6 mm; probably from Kagoshima Pref., Japan; donated by K. Ogawa, Kagoshima Women's Normal School)  
ZUMT 40434 (94.5 mm; Okinawa Pref.; coll. by S. Sakaguchi)

**TAIWAN**

- ZUMT 14922 (68.5 mm), ZUMT 14923 (85.6 mm; probably from Taiwan; donated by T. Aoki at Government-General of Taiwan)  
ZUMT 37451 (97.2 mm; Penghu Islands; 3 July 1908)

**PALAU**

- ZUMT 62344 (59.3 mm; probably from Palau) (originally stored with ZUMT ABE 5881 and 5882)

**INDONESIA**

- ZUMT 62240 (200.5 mm; Jakarta, Java)

**LOCALITY UNKNOWN**

- ZUMT 62321 (70.4 mm; no data)

*Selar boops* (Cuvier, 1833) テルメアジ

**PHILIPPINES**

ZUMT 40709 (160.7 mm; Jolo Island; coll. by I. Iijima)  
ZUMT 62281 (38.3 mm; Basilan; Jan. 1938; coll. by U. Yamamura)

**PALAU**

ZUMT ABE 2705 (211.1 mm), ZUMT ABE 2717 (136.9 mm), ZUMT ABE 2718 (128.5 mm), ZUMT ABE 2719 (137.6 mm), ZUMT ABE 2729 (140.1 mm), ZUMT ABE 2799 (126.5 mm; Palau)  
ZUMT 62351 (86.2 mm), ZUMT 62352 (89.3 mm), ZUMT 62353 (84.3 mm), ZUMT 62354 (86.6 mm), ZUMT 62356 (79.8 mm), ZUMT 62357 (78.3 mm), ZUMT 62358 (74.6 mm), ZUMT 62359 (89.3 mm; probably from Palau) (originally stored with ZUMT ABE 5881 and 5882)

**LOCALITY UNKNOWN**

ZUMT 62235 (87.4 mm), ZUMT 62299 (132.5 mm), ZUMT 62300 (127.3 mm; no data)

*Selar crumenophthalmus* (Bloch, 1793) メアジ

**JAPAN**

**IZU ISLANDS**

ZUMT 62997 (4 specimens, 108.1–116.7 mm; Motomachi Port, Izu-oshima Island; 27 July 1991)

**CHIBA PREF.**

ZUMT 33407 (132.5 mm; Katsuura City)

**TOKYO MARKET**

ZUMT 12416 (113.8 mm; obtained at Tokyo Market)

**KANAGAWA PREF.**

ZUMT 5881 (97.6 mm; Misaki, Miura City)  
ZUMT 12464 (170.2 mm), ZUMT 12481 [165.7 mm; Odawara City (obtained at Tokyo Market); 13 Nov. 1914]  
ZUMT 19906 (179.7 mm), ZUMT 19907 (161.5 mm; Nagai, Yokosuka City; 28 Oct. 1929; coll. A. Suzuki)

**SHIZUOKA PREF.**

ZUMT 32645 (103.6 mm), ZUMT 32646 (108.8 mm), ZUMT 32647 (109.3 mm; Shizuura, Numazu City; Jan. 1932)

**EHIME PREF.**

ZUMT 7886 (187.8 mm; Heijo Bay, Ainan Town; 21 Oct. 1916; K. Otsuki)

**KOCHI PREF.**

ZUMT 18692 (89.3 mm), ZUMT 18693 (117.5 mm; Kashiwa-jima Island, Otsuki Town; Aug. 1928; coll. by T. Kamohara)  
ZUMT 47021 (157.4 mm; probably from Kochi Pref.)

**OITA PREF.**

ZUMT 7616 (121.7 mm), ZUMT 7617 (130.1 mm; Saeki Bay, Saeki City; 4 Aug. 1916)

**NAGASAKI PREF.**

ZUMT 2539 (147.2 mm; Nagasaki Pref.)  
ZUMT 50031 [173.8 mm; Miiraku, Goto City (Fukue-jima Island, Goto Islands); 13 Oct. 1953; coll. by I. Tomiyama]  
ZUMT 50178 (198.5 mm; Arikawa, Shinkamigoto Town (Nakadori-jima Island, Goto Islands); 18 Oct. 1953; coll. by I. Tomiyama)

**MIYAZAKI PREF.**

ZUMT 22665 (148.0 mm), ZUMT 22666 (142.8 mm; Miyazaki Pref.)

**KAGOSHIMA PREF.**

ZUMT 29684 (90.8 mm; Naze, Amami City, Amami-oshima Island, Amami Islands; 30 July 1909)

ZUMT 40479 (211.6 mm; Yaku-shima Island, Osumi Islands)  
ZUMT 41159 (106.2 mm), ZUMT 41162 (109.3 mm; probably from Amami-oshima Island, Amami Islands; donated by K. Enokiya, Kagoshima Prefectural Amamioshima Junior High School)  
ZUMT 54067 (209.7 mm; Kuji, Setouchi Town, Amami-oshima Island, Amami Islands; 31 May 1966; coll. by Y. Tominaga)  
ZUMT 54074 (181.0 mm; Kuji, Setouchi Town, Amami-oshima Island, Amami Islands; 20 May 1966; coll. by Y. Tominaga)

#### **OKINAWA PREF.**

ZUMT 11172 (99.8 mm), ZUMT 11173 (106.1 mm), ZUMT 11174 (109.3 mm; probably from Okinawa-jima Island, Okinawa Islands; coll. by S. Sakaguchi, Okinawa Prefectural Daiichi Junior High School)  
ZUMT 14013 (161.4 mm; probably from Okinawa-jima Island, Okinawa Islands; coll. by S. Sakaguchi, Okinawa Prefectural Daiichi Junior High School)  
ZUMT 14461 (131.4 mm; Okinawa Pref.; coll. by S. Sakaguchi)  
ZUMT 17063 (94.2 mm; Itoman City, Okinawa-jima Island, Okinawa Islands; coll. by S. Tanabe)  
ZUMT 39751 (142.4 mm), ZUMT 39756 (136.6 mm; Ryukyu Islands; coll. by S. Sakaguchi)

#### **TAIWAN**

ZUMT 13652 (137.5 mm), ZUMT 13653 (140.2 mm; obtained at Taipei Fish Market; coll. by T. Aoki)  
ZUMT 14966 (175.5 mm; Tainan; coll. by T. Aoki)  
ZUMT 62569 (102.2 mm; Chitosecho Market, Taipei City; 19 Nov. 1930)

#### **CHINA**

ZUMT 54486 (156.2 mm), ZUMT 54487 [160.8 mm; East China Sea, east of Nantong, Jiangsu Province (32°35'N, 122°40'E), 23 m depth; 11 Oct. 1984]

#### **PHILIPPINES**

ZUMT 12640 (149.2 mm), ZUMT 12644 (147.5 mm), ZUMT 12649 (162.3 mm; Philippines; coll. by U. Yamamura)  
ZUMT 42393 (12 specimens, 73.0–80.6 mm; Basilan; 1936; coll. by U. Yamamura)

#### **PALAU**

ZUMT ABE 2720 (144.7 mm), ZUMT ABE 3761 (161.9 mm), ZUMT ABE 5984 (202.7 mm; Palau)  
ZUMT 62338 (183.8 mm), ZUMT 62339 (86.8 mm), ZUMT 62340 (83.0 mm), ZUMT 62341 (79.1 mm; probably from Palau; originally stored with ZUMT ABE 5881 and 5882)

#### **LOCALITY UNKNOWN**

ZUMT 46566 (115.5 mm), ZUMT 46567 (160.5 mm), ZUMT 46568 (110.4 mm), ZUMT 46569 (105.8 mm), ZUMT 46570 (112.4 mm), ZUMT 46881 (132.1 mm), ZUMT 62298 (161.1 mm), ZUMT 62367 (128.7 mm), ZUMT 62368 (114.6 mm), ZUMT 62369 (108.9 mm), ZUMT 62370 (113.0 mm), ZUMT 62371 (111.9 mm), ZUMT ABE 1884 (118.5 mm), ZUMT ABE 10102 (43.8 mm), ZUMT ABE 10736 (83.1 mm), ZUMT ABE 61-864 (80.9 mm), ZUMT ABE 61-866 (75.3 mm), ZUMT ABE 61-867 (68.3 mm), ZUMT ABE 61-868 (72.8 mm), ZUMT ABE 61-869 (49.7 mm), ZUMT ABE 83-223 (124.3 mm; no data)  
ZUMT 62285 [136.4 mm; no data; originally stored with ZUMT 46869 (*Caranx ignobilis*; collection data unknown)]  
ZUMT 63050 (82.3 mm), ZUMT 63051 (87.7 mm), ZUMT 63052 [67.1 mm; originally stored with ZUMT 56-193 (*Psenes arafurensis*; collection data unknown)]

*Selaroides leptolepis* (Cuvier, 1833) ホソヒラアジ

**PHILIPPINES**

ZUMT 42178 (57.1 mm), ZUMT 42201 (65.2 mm; Philippines; 1926; coll. by U. Yamamura),

*Selene setapinnis* (Mitchill, 1815)

**SURINAME**

ZUMT 62496 (113.3 mm; Suriname)

*Seriola aureovittata* Temminck & Schlegel, 1845 ヒラマサ

**LOCALITY UNKNOWN**

ZUMT 64082 (491.0 mm; no data)

**Remarks:** See Martinez-Takeshita et al. (2015) regarding the nomenclature of this species.

*Seriola dumerili* (Risso, 1810) カンパチ

**JAPAN**

**MIYAGI PREF.**

ZUMT 15752 [175.4 mm; around Ishinomaki City (landed at Morioka Market, Iwate Pref.); 22 July 1925; coll. by G. Toba]

**FUKUSHIMA PREF.**

ZUMT 37668 (168.9 mm; Onahama, Iwaki City)

**TOKYO MARKET**

ZUMT 6304 (133.7 mm), ZUMT 6305 (131.2 mm), ZUMT 6306 (121.0 mm), ZUMT 6307 (123.5 mm), ZUMT 6308 (124.8 mm), ZUMT 6309 (124.7 mm), ZUMT 6310 (118.7 mm), ZUMT 6311 (137.74 mm), ZUMT 6312 (129.3 mm), ZUMT 6313 (128.1 mm; obtained at Tokyo Market; 23 July 1915)

ZUMT 6702 (123.9 mm), ZUMT 6703 (132.1 mm), ZUMT 6704 (143.7 mm), ZUMT 6705 (146.1 mm), ZUMT 6706 (138.7 mm), ZUMT 6707 (140.0 mm), ZUMT 6708 (146.4 mm), ZUMT 6709 (124.1 mm), ZUMT 6710 (131.4 mm), ZUMT 12409 (203.7 mm), ZUMT 12410 (181.2 mm), ZUMT 12411 (232.1 mm), ZUMT 12412 (168.8 mm), ZUMT 12414 (138.8 mm), ZUMT 12467 (156.9 mm), ZUMT 22953 (125.8 mm; obtained at Tokyo Market)

**IZU ISLANDS**

ZUMT 19285 (149.2 mm), ZUMT 19286 (141.4 mm), ZUMT 19288 (144.3 mm), ZUMT 19289 (147.8 mm), ZUMT 19290 (136.8 mm), ZUMT 19291 (143.2 mm), ZUMT 19292 (140.6 mm; probably from Hachijo-jima Island; coll. by Y. Oshizu, Hachijo-jima Island)

ZUMT 62592 (165.6 mm; Hachijo-jima Island)

ZUMT 62999 (134.8 mm), ZUMT 63000 (158.4 mm; Motomachi Port, Izu-oshima Island; 27 July 1991)

ZUMT 64244 (151.0 mm), ZUMT 64245 (171.0 mm), ZUMT 64246 (177.0 mm), ZUMT 64247 (186.0 mm; off Motomachi, Izu-oshima Island; 1 Aug. 1993; coll. by set net)

**CHIBA PREF.**

ZUMT 33401 (84.8 mm), ZUMT 33402 (144.6 mm; Katsuura City)

**KANAGAWA PREF.**

ZUMT 45856 (137.2 mm; Misaki, Miura City; 2 May 1911)

ZUMT 49149 (133.1 mm; Koajiro, Misaki, Miura City; 1 Sept. 1954; coll. by I. Tomiyama)

**SHIZUOKA PREF.**

ZUMT 10542 (107.1 mm; Shizuura, Numazu City; Aug. 1922; coll. by N. Kuroda)

ZUMT 15779 (181.5 mm), ZUMT 15780 (187.7 mm; Shimizu, Shizuoka City)

**WAKAYAMA PREF.**

ZUMT 8021 (148.7 mm; probably from Wakayama Pref.; donated by I. Hoshino, Hiro, Arida, Wakayama City, Wakayama Pref.)

ZUMT 20316 (137.7 mm; Tanabe City), ZUMT 22505 (115.3 mm), ZUMT 22510 (90.4 mm; Tanabe City; Jan. 1920; coll. by N. Ui)

**TOYAMA PREF.**

ZUMT 41205 (218.3 mm), ZUMT 41230 (244.6 mm), ZUMT 41231 (232.8 mm; Uozu or Namerikawa City; coll. by I. Tomiyama)

**KYOTO PREF.**

ZUMT 24329 (197.5 mm; Miyazu City; Nov. 1931)

**SHIMANE PREF.**

ZUMT 31203 (128.5 mm; Matsue City; coll. by R. Yanai)

**KOCHI PREF.**

ZUMT 18657 (112.3 mm; Kashiwa-jima Island, Otsuki Town; Aug. 1926; coll. by T. Kamohara)

ZUMT 33674 (130.8 mm; probably from Kochi Pref.; coll. by Kochi Prefectural Fisheries Experimental Station)

ZUMT 34599 (109.6 mm), ZUMT 34642 (134.5 mm; Kochi Pref.)

ZUMT 47088 (111.6 mm; probably from Kochi Pref.)

**SAGA PREF.**

ZUMT 10445 (116.0 mm; Karatsu Bay, Karatsu City; 29 July 1920; coll. by K. Yamashita)

**OITA PREF.**

ZUMT 50668 (179.9 mm; obtained at Beppu Fish Market; 11 Sept. 1959, Y. Tominaga)

**KAGOSHIMA PREF.**

ZUMT 20473 (144.4 mm; Yaku-shima Island, Osumi Islands)

ZUMT 23934 (191.9 mm), ZUMT 23943 (164.7 mm), ZUMT 23944 (165.9 mm; Naya, Kagoshima City)

ZUMT 23994 (158.6 mm; Shibushi City)

**LOCALITY UNKNOWN**

ZUMT 32994 (129.7 mm), ZUMT 32995 (109.3 mm), ZUMT 41083 (107.5 mm), ZUMT ABE 9989 (116.2 mm), ZUMT ABE 10510 (258.2 mm), ZUMT ABE 55-7 (178.5 mm), ZUMT ABE 61-871 (103.3 mm; no data)

*Seriola quinqueradiata* Temminck & Schlegel, 1845 ブリ

**JAPAN**

**HOKKAIDO**

ZUMT 8237 (160.2 mm; Takashima, Otaru City; 25 Oct. 1911; coll. by Hokkaido Prefectural Fisheries Experimental Station)

ZUMT 40603 (249.4 mm; Hokkaido)

**IWATE PREF.**

ZUMT 13083 (197.2 mm), ZUMT 13084 (134.6 mm), ZUMT 13085 (133.4 mm; Miyako Bay; coll. by S. Tanabe)

**MIYAGI PREF.**

ZUMT 15736 [219.1 mm; Ishinomaki City (obtained at Morioka Market, Morioka City, Iwate Pref.); 10 July 1925; coll. by G. Toba]

**TOKYO MARKET**

ZUMT 4325 (166.2 mm), ZUMT 6711 (206.4 mm), ZUMT 6712 (185.0 mm), ZUMT 6713 (180.5 mm), ZUMT 12413 (134.5 mm), ZUMT 12470 (147.3 mm), ZUMT 12475 (128.6 mm) ZUMT 22954 (134.0 mm; obtained at Tokyo Market)

**KANAGAWA PREF.**

ZUMT 24856 (198.3 mm; Koze, Odawara City; July 1932)

ZUMT 50509 (129.3 mm; Aburatubo, Misaki, Miura City; 7 July 1959; coll. by Y. Tominaga)

**SHIZUOKA PREF.**

ZUMT 33374 (44.0 mm; Shizuoka Pref.)

**WAKAYAMA PREF.**

ZUMT 7865 (176.0 mm; probably from Wakayama Pref.; donated by I. Hoshino, Hiro, Arida, Wakayama City, Wakayama Pref.)

ZUMT 20315 (140.2 mm; Tanabe City; coll. by N. Ui)

**NIIGATA PREF.**

ZUMT 21893 (143.9 mm), ZUMT 21894 (138.5 mm; Niigata Pref.; Aug. 1923; coll. by M. Imai)

**KYOTO PREF.**

ZUMT 24328 (320.3 mm; Miyazu City; Nov. 1931; coll. by Kyoto Prefectural Fisheries Training Center)

**SHIMANE PREF.**

ZUMT 31292 (169.0 mm; Matsue City; coll. by R. Yanai)

**KOCHI PREF.**

ZUMT 18768 (97.1 mm; Kashiwa-jima Island, Otsuki Town; Aug. 1926; coll. by T. Kamohara)

ZUMT 21947 (149.2 mm; Kochi Pref.; coll. by Kochi Prefectural Fisheries Experimental Station)

ZUMT 33675 (136.4 mm; probably from Kochi Pref.; coll. by Kochi Prefectural Fisheries Experimental Center)

ZUMT 34600 (122.2 mm; Kochi Pref.)

ZUMT 39169 (48.0 mm; Ukitsu, Muroto Cit; probably collected by S. Tanaka)

**NAGASAKI PREF.**

ZUMT 2486 (190.1 mm; Nagasaki Pref.; Aug. 1909)

**KAGOSHIMA PREF.**

ZUMT 24111 (240.3 mm; Naya, Kagoshima City)

**LOCALITY UNKNOWN**

ZUMT 7943 (230.8 mm), ZUMT 31504 [approx. 493 mm (body cut)], ZUMT 41084 (102.2 mm), ZUMT 41085 (120.4 mm), ZUMT 46572 (148.6 mm), ZUMT 46573 (153.3 mm), ZUMT 62725 (127.6 mm), ZUMT 62856 (68.5 mm), ZUMT 62857 (248.6 mm), ZUMT ABE 6221 (217.9 mm), ZUMT ABE 9941 (152.6 mm), ZUMT ABE 9942 (147.6 mm), ZUMT ABE 9943 (131.9 mm; no data)

*Seriola rivoliana* Valenciennes, 1833 ヒレナガカンパチ

**JAPAN**

ZUMT 31258 (260.1 mm; Matsue City, Shimane Pref.; coll. by R. Yanai)

ZUMT 49139 (226.8 mm; Misaki, Miura City, Kanagawa Pref.; 1956; coll. by I. Tomiyama)

ZUMT 51924 (361.1 mm; Me-shima Island, Danjo Islands, Nagasaki Pref.; 14 May 1954; coll. by Y. Dotsu)

**LOCALITY UNKNOWN**

ZUMT ABE 55-92 (490.0 mm; no data)

*Seriolina nigrofasciata* (Rüppell, 1829) アイブリ

**JAPAN****KANAGAWA PREF.**

ZUMT ABE 62-356 (234.3 mm; Manazuru Town; 17 Mar. to 21 Apr. 1962)

**WAKAYAMA PREF.**

ZUMT 9663 (206.4 mm; probably from Wakayama Pref.; coll. by N. Ui, Tanabe City, Wakayama Pref.)

**EHIME PREF.**

ZUMT 7895 (127.3 mm; Uchiumi, Ainan Town)

**FUKUOKA PREF.**

ZUMT 51792 (182.6 mm), ZUMT 51802 (177.2 mm; obtained at Fukuoka Fish Market; July 1959)

**NAGASAKI PREF.**

ZUMT 6564 (194.0 mm; Nagasaki Pref.; Sept. 1915; coll. by I. Kaneko)

ZUMT 18858 (126.7 mm; Kagoshima Prefecture)

ZUMT 21112 (183.9 mm; off Nagasaki Pref.; coll. by T. Kuraba)

**KAGOSHIMA PREF.**

ZUMT 23774 (147.2 mm), ZUMT 23775 (129.8 mm; Taniyama, Kagoshima City; 20 July 1930)

ZUMT 23947 (150.1 mm; Naya, Kagoshima City)

ZUMT 23974 (109.1 mm), ZUMT 23975 (130.4 mm), ZUMT 23976 (115.3 mm; Shibushi City)

**EAST CHINA SEA**

ZUMT 50996 (255.3 mm; East China Sea, Sept. 1959)

ZUMT 51149 (177.8 mm; East China Sea; Dec. 1959)

**TAIWAN**

ZUMT 62242 (220.3 mm; obtained at Chitosemachi Market, Taipei City; 17 Nov. 1930)

**PHILIPPINES**

ZUMT 40835 (127.8 mm; Manila, Luzon; 11 Feb. 1909)

**LOCALITY UNKNOWN**

ZUMT 31473 (237.5 mm), ZUMT 35245 (96.3 mm), ZUMT 37906 (115.8 mm), ZUMT 62244 (190.0 mm),

ZUMT 62393 (146.3 mm; no data)

ZUMT 62250 (417.7 mm; locality unknown; collected on 21 May 1914)

*Trachinotus baillonii* (Lacepède, 1801) コバンアジ

**JAPAN****TOKYO MARKET**

ZUMT 12466 (135.9 mm), ZUMT 12485 (83.2 mm; obtained at Tokyo Market)

**OGASAWARA ISLANDS**

ZUMT 40303 (126.2 mm; Ogasawara Islands)

**KANAGAWA PREF.**

ZUMT 12469 [130.6 mm; Kurihama, Yokosuka City (obtained at Tokyo Market)]

ZUMT 27708 (31.0 mm), ZUMT 40302 (109.4 mm; Kanagawa Pref.)

ZUMT 62389 (40.7 mm), ZUMT 62390 (41.0 mm; Misaki, Miura City; 16 Aug. 1909)

**SHIZUOKA PREF.**

ZUMT 10177 (130.8 mm; probably from Shizuoka Pref.; coll. by Shizuoka Prefectural Fisheries Experimental Station)

ZUMT 10549 (50.1 mm), ZUMT 10550 (28.7 mm; Shizuura, Numazu City; Aug. 1922; coll. by N. Kuroda)

ZUMT 17803 (41.6 mm), ZUMT 17804 (29.8 mm; Enoura, Numazu City; coll. by N. Kuroda)

ZUMT 33853 (55.0 mm), ZUMT 33854 (57.0 mm; Shizuura, Numazu City)

**MIE PREF.**

ZUMT 7940 (120.1 mm; Shimmei, Shima City; coll. by M. Kobayashi)

**WAKAYAMA PREF.**

ZUMT 8546 (92.6 mm; probably from Wakayama Pref.; coll. by N. Ui, Tanabe City, Wakayama Pref.)

ZUMT 21982 (90.8 mm; Wakayama Pref.; Jan. 1920)



**HYOGO PREF.**

ZUMT 42938 (82.2 mm), ZUMT 44639 (68.2 mm; Sumoto, Awaji-shima Island)

**KOCHI PREF.**

ZUMT 7854 (116.7 mm; Aki City; coll. by S. Tanaka and S. Ueda)

ZUMT 39163 (100.9 mm; Ukitsu, Muroto City; probably collected by S. Tanaka)

**NAGASAKI PREF.**

ZUMT 6552 (75.9 mm), ZUMT 6553 (77.9 mm), ZUMT 6554 (78.4 mm), ZUMT 6555 (67.4 mm), ZUMT 6556 (93.8 mm), ZUMT 6557 (90.6 mm), ZUMT 6558 (85.7 mm), ZUMT 6559 (69.1 mm), ZUMT 6560 (82.7 mm), ZUMT 6561 (98.1 mm), ZUMT 6562 (91.2 mm), ZUMT 6563 (65.8 mm; Nagasaki Pref.; Sept. 1915; coll. by I. Kaneko)

ZUMT 62513 (63.9 mm; Nagasaki Pref.; Nov.)

**KAGOSHIMA PREF.**

ZUMT 23962 (93.3 mm), ZUMT 23963 (68.1 mm), ZUMT 23964 (88.9 mm; Kagoshima City)

ZUMT 23970 (146.3 mm; Shibushi City)

**TAIWAN**

ZUMT 62512 (142.5 mm; obtained at Ximending Market, Taipei City; 9 Nov. 1930)

**PHILIPPINES**

ZUMT 42213 (120.0 mm; Philippines; 1926; coll. by U. Yamamura)

**PALAU**

ZUMT 62342 (110.7 mm; probably from Palau) (originally stored with ZUMT ABE 5881 and 5882)

**LOCALITY UNKNOWN**

ZUMT 33918 (82.9 mm), ZUMT 62258 (287.1 mm), ZUMT 62514 (95.7 mm), ZUMT 62515 (71.4 mm), ZUMT ABE 60-1532 (180.5 mm), ZUMT ABE 60-1533 (195.9 mm; no data)

ZUMT 40640 (104.1 mm), ZUMT 40641 (69.8 mm), ZUMT 40642 (93.3 mm) ZUMT 40643 [98.9 mm; although the specimen locality was recorded as “Morioka? (盛岡か?)” in the ledger, this species has only been recorded from south of Sagami Bay on the Pacific coast of Japan (Senou 2013). The record in the ledger is probably erroneous]

***Trachinotus blochii* (Lacepède, 1801) マルコバン**

**JAPAN**

ZUMT 17164 (111.6 mm; Baten, Nanjo City, Okinawa-jima Island, Okinawa Islands, Okinawa Pref.; coll. by S. Tanabe)

ZUMT 26976 (68.6 mm; tidepool at Shimoda City, Shizuoka Pref.; 1933; coll. by T. Ishida)

ZUMT 27161 (66.1 mm; Hamana-ko Lake, Shizuoka Pref.)

***Trachinotus paitensis* Cuvier, 1832**

**PERU**

ZUMT 57589 (18 specimens, 21.0–74.6 mm; Paita, Peru)

*Trachurus declivis* (Jenyns, 1841)

**LOCALITY UNKNOWN**

ZUMT 63426 (205.1 mm), ZUMT 63427 (189.9 mm; no data)

*Trachurus japonicus* (Temminck & Schlegel, 1844) マアジ

**JAPAN**

**HOKKAIDO**

ZUMT 8254 (78.2 mm; Otaru; Oct. 1903; coll. by Hokkaido Prefectural Fisheries Experimental Station)

ZUMT 14215 (200.3 mm; Muroran City; Sept. 1924; coll. by S. Katsuki)

**AOMORI PREF.**

ZUMT 13197 (94.8 mm), ZUMT 13198 (69.9 mm), ZUMT 13200 (102.3 mm), ZUMT 13201 (92.7 mm),  
ZUMT 13202 (76.7 mm), ZUMT 13203 (95.3 mm), ZUMT 13204 (75.9 mm; Same, Hachinohe City; coll.  
by S. Tanabe)

**IWATE PREF.**

ZUMT 13029 (91.5 mm), ZUMT 13030 (90.0 mm), ZUMT 13031 (105.7 mm), ZUMT 13032 (84.7 mm; Sokei,  
Miyako City; coll. by S. Tanabe)

ZUMT 16295 (83.9 mm), ZUMT 16296 (148.3 mm; Kesen Region; 10 Aug. 1925; coll. by G. Toba)

**MIYAGI PREF.**

ZUMT 15405 [185.2 mm; landed at Ishinomaki Fishing Port (obtained at Morioka Market, Iwate Pref.)]

**FUKUSHIMA PREF.**

ZUMT 32450 (67.2 mm; Onahama, Iwaki City)

**IBARAKI PREF.**

ZUMT 17898 (62.5 mm; Hinuma Lake)

**CHIBA PREF.**

ZUMT 4528 (166.1 mm), ZUMT 4529 [174.2 mm; Chiba Pref. (obtained at Tokyo Market)]

ZUMT 28317 (44.1 mm; Chiba Pref.; 1927; coll. by S. Obama)

ZUMT 40299 (97.2 mm; probably from Chiba Pref.; coll. by K. Nunodome at Sammu City, Chiba Pref.)

**TOKYO MARKET**

ZUMT 3719 (130.0 mm), ZUMT 3979 (130.1 mm), ZUMT 6677 (226.8 mm), ZUMT 6678 (174.1 mm), ZUMT  
6679 (222.5 mm), ZUMT 6680 (212.2 mm), ZUMT 6681 (185.9 mm) ZUMT 11957 (146.7 mm), ZUMT  
12403 (145.1 mm), ZUMT 12404 (155.7 mm), ZUMT 12405 (145.1 mm), ZUMT 12407 (149.7 mm), ZUMT  
26380 (136.1 mm), ZUMT 26381 (170.6 mm), ZUMT 62518 (124.0 mm; obtained at Tokyo Market)]

**IZU ISLANDS**

ZUMT 62998 (5 specimens, 109.1–125.0 mm; Motomachi Port, Izu-oshima Island; 27 July 1991)

**KANAGAWA PREF.**

ZUMT 19889 (243.0 mm), ZUMT 19890 (219.7 mm; Oiso Town; 5 Feb. 1930; coll. by A. Suzuki)

ZUMT 19895 (145.5 mm), ZUMT 19896 (161.6 mm), ZUMT 19897 (143.4 mm), ZUMT 19898 (146.7 mm;  
Iwa, Manazuru Town; 30 Mar. 1930; coll. by A. Suzuki)

ZUMT 19908 (161.6 mm; Fukuura, Yokohama City; 29 Mar. 1929; coll. by A. Suzuki)

ZUMT 19909 (257.8 mm; Fukuura, Yokohama City; 17 Mar. 1929; coll. by A. Suzuki)

ZUMT 19910 (124.9 mm), ZUMT 19911 (143.1 mm; Nagai, Yokosuka City; 7 May 1929; coll. by A. Suzuki)

ZUMT 19912 (128.7 mm; Chigasaki City; 10 May 1929; coll. by A. Suzuki)

ZUMT 19913 (102.8 mm), ZUMT 19914 (248.5 mm), ZUMT 19915 (165.7 mm), ZUMT 19916 (173.9 mm),  
ZUMT 19917 (104.0 mm; Fukuura, Yokohama City; 17 Mar. 1929; coll. by A. Suzuki)

ZUMT 19918 (216.0 mm), ZUMT 19919 (149.1 mm), ZUMT 19920 (117.7 mm; Chigasaki City; 27 Jan. 1930;  
coll. by A. Suzuki)

ZUMT 19921 (158.9 mm; Fukuura, Yokohama City or Chigasaki City; 17 Mar. 1929; coll. by A. Suzuki)

ZUMT 20598 (115.5 mm), ZUMT 20726 (130.7 mm), ZUMT 20852 (109.1 mm), ZUMT 20853 (129.5 mm), ZUMT 20854 (116.5 mm), ZUMT 20855 (109.9 mm), ZUMT 21785 (97.1 mm), ZUMT 21786 (93.4 mm), ZUMT 21787 (89.1 mm), ZUMT 21788 (92.5 mm), ZUMT 21789 (93.0 mm), ZUMT 21790 (85.4 mm), ZUMT 21791 (88.0 mm), ZUMT 21792 (84.4 mm), ZUMT 21793 (96.6 mm), ZUMT 21794 (97.1 mm), ZUMT 43383 (98.5 mm), ZUMT 43638 (47.4 mm; Misaki, Miura City)

ZUMT 21303 (150.9 mm; Kanagawa Pref.)

ZUMT 26708 (46.7 mm; Aburatsubo, Misaki, Miura City; Oct. 1930)

ZUMT 27377 (89.1 mm; Koajiro, Misaki, Miura City; 27 July 1940; coll. by S. Tanaka)

ZUMT 28033 (36.4 mm; Misaki, Miura City; May 1918; coll. by S. Tanaka)

ZUMT 28872 (29.1 mm; Misaki, Miura City; May 1918)

ZUMT 62498 (137.3 mm), ZUMT 62499 (138.3 mm), ZUMT 62500 (154.2 mm), ZUMT 62501 (95.0 mm), ZUMT 62502 (101.8 mm), ZUMT 62503 (138.8 mm; Zaimokuza Beach, Kamakura City; 1 May 1932; coll. by T. Abe)

#### **SHIZUOKA PREF.**

ZUMT 16232 (56.4 mm), ZUMT 16233 (38.8 mm), ZUMT 16234 (75.5 mm), ZUMT 16235 (53.4 mm), ZUMT 16236 (59.0 mm), ZUMT 16237 (52.2 mm), ZUMT 16238 (43.0 mm), ZUMT 16239 (59.5 mm), ZUMT 16240 (56.9 mm; Kakizaki, Shimoda City; coll. by T. Yoneyama)

ZUMT 33520 (21.0 mm; Shizuura, Numazu City; May 1935; coll. by N. Kuroda)

ZUMT 40301 (65.1 mm; Sagara, Makinohara City; July 1891)

ZUMT 62697 (16 specimens, 45.2–78.1 mm; off Yazu, Kawazu Town)

#### **MIE PREF.**

ZUMT 23135 (92.7 mm), ZUMT 23136 (101.3 mm; Kada Bay, Owase City; 1 Aug. 1922; coll. by Y. Tsuchiga)  
ZUMT 23208 (75.2 mm), ZUMT 23209 (89.4 mm), ZUMT 23210 (57.3 mm; Kimoto, Kumano City; 18 May 1930; coll. by Y. Tsuchiga)

#### **WAKAYAMA PREF.**

ZUMT 7755 (152.1 mm), ZUMT 7757 (143.8 mm), ZUMT 7758 (158.2 mm; probably from Wakayama Pref.; donated by I. Hoshino at Hiro, Arida, Wakayama City, Wakayama Pref.)

#### **OSAKA FISH MARKET**

ZUMT 41905 (112.9 mm), ZUMT 41906 (114.7 mm; obtained at Osaka Fish Market)

#### **HYOGO PREF.**

ZUMT 2224 (54.7 mm; Fukura, Awaji City, Awaji-shima Island; coll. by R. Uchiyama)

ZUMT 2608 (77.6 mm; Fukura, Awaji City, Awaji-shima Island; 1909; coll. by R. Uchiyama)

#### **AKITA PREF.**

ZUMT 13323 (198.4 mm; Akita Pref.; coll. by S. Tanabe)

#### **NIIGATA PREF.**

ZUMT 3382 (200.6 mm; probably from Niigata Pref.; coll. by Niigata Prefectural Fisheries School)

ZUMT 21590 (116.6 mm), ZUMT 34695 (113.1 mm; Niigata Pref.; Aug. 1923)

ZUMT 24413 (107.2 mm), ZUMT 24414 (97.7 mm), ZUMT 24415 (109.7 mm; Niigata Pref.)

#### **TOYAMA PREF.**

ZUMT 41329 (110.0 mm), ZUMT 41423 (120.8 mm), ZUMT 45711 (86 specimens, 23.5–81.7 mm), ZUMT 46220 (147.1 mm), ZUMT 46221 (130.7 mm), ZUMT 46222 (127.8 mm), ZUMT 46226 (123.3 mm), ZUMT 46286 (98.5 mm), ZUMT 46300 (141.0 mm), ZUMT 46339 (87.4 mm; Uozu or Namerikawa City; coll. by I. Tomiyama)

#### **FUKUI PREF.**

ZUMT 55830 (128.8 mm; Hayase, Mihama Town; 1 Nov. 1986; coll. by M. Aizawa et al.)

#### **KYOTO PREF.**

ZUMT 24369 (129.9 mm; Miyazu City; Nov. 1931; coll. by Kyoto Prefectural Fisheries Training Center)

#### **SHIMANE PREF.**

ZUMT 19905 (214.9 mm; Taishamachi, Izumo City; 20 Oct. 1929; coll. by A. Suzuki)

ZUMT 31190 (112.2 mm; Matsue City; coll. by R. Yanai)

**EHIME PREF.**

ZUMT 7887 (163.4 mm; probably from Ehime Pref.; coll. by K. Otsuki, Uchiumi, Ainan Town, Ehime Pref.)

**KOCHI PREF.**

ZUMT 19891 (226.9 mm), ZUMT 19892 (124.9 mm), ZUMT 19893 (132.1 mm; Susaki City; 15 Feb. 1930; coll. by A. Suzuki)

ZUMT 19903 (227.8 mm), ZUMT 19904 (144.4 mm; Muroto Point, Muroto City; 23 May 1938; coll. by A. Suzuki)

ZUMT 23270 (147.9 mm; obtained at Kochi Market; 20 Aug. 1930; coll. by T. Kamohara)

**KYUSHU**

ZUMT 3619 [291.3 mm; East China Sea, approx. 250 km southwest of Kyushu, Japan (30°37'–30°31'N, 127°37'–127°35'E)]

ZUMT 19640 (137.7 mm; Genkai-nada Sea, north of Kyushu, Japan; coll. by T. Matsumoto)

**FUKUOKA PREF.**

ZUMT 35037 (57.4 mm), ZUMT 35038 (31.2 mm), ZUMT 35039 (44.0 mm), ZUMT 35040 (30.9 mm), ZUMT 35041 (32.7 mm; Okinohata, Yanagawa City; 28 May 1931)

ZUMT 49832 (227.8 mm; obtained at Fukuoka Fish Market; 28 July 1959)

ZUMT 51853 (66.8 mm), ZUMT 51854 (61.9 mm), ZUMT 51855 (62.6 mm), ZUMT 51856 (66.5 mm; obtained at Fukuoka Fish Market; 1959)

ZUMT 62587 (89.3 mm; obtained at Fukuoka Fish Market; 25 Aug. 1931)

ZUMT 62588 (105.0 mm; obtained at Fukuoka Fish Market; 24 Aug. 1931)

**NAGASAKI PREF.**

ZUMT 5954 (92.5 mm; Izuhara, Tsushima City, Tsushima Island; 29 Sept. 1903; coll. by S. Watase and S. Yasuda)

ZUMT 27079 (25.7 mm; Nagasaki Pref.)

ZUMT 48021 (63.5 mm; Hirado; 29 May 1953; coll. by I. Tominaga)

ZUMT 48182 (64.8 mm), ZUMT 48183 (56.1 mm), ZUMT 48184 (62.2 mm), ZUMT 48185 (72.6 mm), ZUMT 48186 (47.2 mm), ZUMT 48187 (51.9 mm), ZUMT 48188 (56.8 mm), ZUMT 48189 [63.9 mm; Arikawa, Shinkamigoto Town (Nakadori-jima Island, Goto Islands); 25 May 1953; coll. by I. Tomiyama]

ZUMT 48220 (72.9 mm), ZUMT 48221 (53.1 mm), ZUMT 48222 (49.2 mm), ZUMT 48223 (48.7 mm), ZUMT 48224 [30.0 mm; Tamanoura, Goto City (Fukue-jima Island, Goto Islands); 23 May 1953; coll. by I. Tomiyama]

ZUMT 48289 (63.0 mm), ZUMT 48290 (54.0 mm; Ojika-jima Island, Goto Islands; 10 June 1953)

ZUMT 49937 [145.5 mm; Fukue, Goto City (Fukue-jima Island, Goto Islands); 10 June 1953; coll. by I. Tomiyama]

ZUMT 49985 (130.1 mm), ZUMT 49986 (139.0 mm), ZUMT 49987 [136.5 mm; Arikawa, Shinkamigoto Town (Nakadori-jima Island, Goto Islands); 10 June 1953; coll. by I. Tomiyama]

ZUMT 50019 [97.9 mm; Fukue, Goto City (Fukue-jima Island, Goto Islands); 12 Oct. 1953; coll. by I. Tomiyama]

ZUMT 50330 (102.6 mm; Hirado City; 10 June 1953; coll. by I. Tomiyama)

**OITA PREF.**

ZUMT 16546 (65.2 mm; Oita City; col. by Y. Yamamoto)

**MIYAZAKI PREF.**

ZUMT 21170 (64.8 mm), ZUMT 21171 (58.1 mm), ZUMT 21177 (65.9 mm; probably from Miyazaki Pref.; coll. by Fukushima Fisheries Cooperative Association)

ZUMT 22663 (124.4 mm; Miyazaki Pref.; coll. by Fukushima Fisheries Cooperative Association)

**KAGOSHIMA PREF.**

ZUMT 24037 (161.3 mm), ZUMT 24038 (126.1 mm), ZUMT 24039 (151.2 mm; Taniyama, Kagoshima City)

ZUMT 26920 (66.2 mm; Kagoshima Pref.)

OKINAWA PREF. ZUMT 42765 (91.3 mm), ZUMT 42766 (89.5 mm), ZUMT 42767 (86.8 mm; Okinawa-jima Island, Okinawa Islands; 8 July 1935; coll. by S. Inuo)

#### **PRESICE LOCALITY UNKNOWN**

ZUMT 27443 (63.5 mm; Chiba or Ibaraki Pref.)

ZUMT 45658 (30.1 mm), ZUMT 45659 (30.0 mm), ZUMT 45660 (39.0 mm), ZUMT 45661 (29.9 mm; Japan)

#### **EAST CHINA SEA**

ZUMT 51257 [158.9 mm; East China sea (obtained at Fukuoka Fish Market, Japan); 24 Dec. 1959; coll. by Y. Tominaga]

ZUMT 51322 (113.3 mm; East China Sea; coll. by Y. Tominaga)

ZUMT 51347 (79.6 mm), ZUMT 51348 (158.8 mm), ZUMT 51372 (115.3 mm; East China Sea)

ZUMT 57635 (159.4 mm), ZUMT 57641 (155.1 mm; East China Sea; 9 May 1988)

#### **CHINA**

ZUMT 54491 (135.4 mm), ZUMT 54492 [137.6 mm (body cut)], ZUMT 54493 (137.9 mm), ZUMT 54494 (136.9 mm), ZUMT 54495 (133.7 mm), ZUMT 54496 (134.0 mm), ZUMT 54497 [123.3 mm; East China Sea, east of Nantong, Jiangsu Province (32°35'N, 122°40'E), 23 m depth; 11 Oct. 1984]

#### **TAIWAN**

ZUMT 12837 (84.9 mm), ZUMT 12838 (78.8 mm; Keelung; coll. by T. Aoki)

ZUMT 22608 (142.1 mm; Kaohsiung; coll. by S. Yamada)

#### **LOCALITY UNKNOWN**

ZUMT 40217 (95.3 mm), ZUMT 40218 (92.9 mm), ZUMT 40300 (76.5 mm), ZUMT 46564 (104.5 mm), ZUMT 46565 (121.2 mm), ZUMT 62395 (131.0 mm), ZUMT 62396 (155.9 mm), ZUMT 62397 (230.7 mm), ZUMT 62507 (147.7 mm), ZUMT 62508 (132.1 mm), ZUMT 62509 (151.2 mm), ZUMT 62516 (140.3 mm), ZUMT 62517 (146.7 mm), ZUMT 62698 (149.7 mm), ZUMT 62699 (151.9 mm), ZUMT 62700 (148.9 mm), ZUMT 62713 (158.9 mm), ZUMT 62714 (155.0 mm), ZUMT 62715 (152.8 mm), ZUMT 62716 (152.4 mm), ZUMT 62717 (131.1 mm), ZUMT 62718 (109.1 mm), ZUMT 62719 (156.2 mm), ZUMT 62720 (115.6 mm), ZUMT 62721 (115.1 mm), ZUMT 62722 (144.8 mm), ZUMT 62723 (112.8 mm), ZUMT 62858 (91.7 mm), ZUMT 63019 (109.6 mm), ZUMT 63022 (23.8 mm), ZUMT 63023 (28.5 mm), ZUMT 63024 (29.5 mm), ZUMT 63239 (288.0 mm) ZUMT ABE 1647 (42.4 mm), ZUMT ABE 1649 (30.5 mm), ZUMT ABE 1845 (78.5 mm), ZUMT ABE 1893 (103.2 mm), ZUMT ABE 1940 (133.8 mm), ZUMT ABE 1958 (39.9 mm), ZUMT ABE 1959 (7 specimens, 22.3–33.6 mm), ZUMT ABE 1981 (42.3 mm), ZUMT ABE 2007 (40.8 mm), ZUMT ABE 2039 (26.4 mm), ZUMT 2040 (22.8 mm), ZUMT ABE 2043 (24.2 mm), ZUMT ABE 2044 (28.2 mm), ZUMT ABE 2099 (80.6 mm), ZUMT ABE 2100 (126.5 mm), ZUMT ABE 2133 (108.6 mm), ZUMT ABE 2198 (83.8 mm), ZUMT ABE 2199 (3 specimens, 57.9–74.5 mm), ZUMT ABE 2298 (4 specimens, 53.4–72.4 mm), ZUMT ABE 2373 (80.3 mm), ZUMT ABE 2397 (3 specimens, 67.0–73.1 mm), ZUMT ABE 7765 (47.4 mm), ZUMT ABE 10077 (110.7 mm; no data)

ZUMT 37772 (112.6 mm; locality unknown; coll. by T. Saito)

ZUMT 62259 (308.6 mm), ZUMT 62261 (319.5 mm), ZUMT 62286 (107.8 mm), ZUMT 62287 [105.2 mm; no data; originally stored with ZUMT 46869 (*Caranx ignobilis*; collection data unknown)]

ZUMT 62610 (109.3 mm), ZUMT 62611 (150.8 mm), ZUMT 62612 (115.3 mm), ZUMT 62613 (150.3 mm), ZUMT 62614 (152.4 mm), ZUMT 62615 (117.0 mm), ZUMT 62616 (108.7 mm), ZUMT 62617 [126.3 mm; no data; stained]

#### ***Trachurus novaezelandiae* Richardson, 1843**

#### **LOCALITY UNKNOWN**

ZUMT 63428 (202.1 mm), ZUMT 63429 (193.8 mm; no data)

*Trachurus symmetricus* (Ayres 1855)

**UNITED STATES**

ZUMT 17667 (264.8 mm; California State, U.S.A.; 1926–1927; coll. by S. Tanaka)

*Turrum coeruleopinnatum* (Rüppell, 1830) マルヒラアジ

**JAPAN**

ZUMT 2541 (112.1 mm; Nagasaki Pref.; 3 Oct. 1909)

ZUMT 3749 (100.2 mm; obtained at Tokyo Market, Tokyo Met.)

ZUMT 20757 (76.4 mm; Wakayama Pref.; Jan. 1920)

ZUMT 22474 (72.7 mm; probably from Wakayama Pref.; collected by N. Ui, Tanabe City, Wakayama Pref.)

ZUMT 23799 (140.6 mm; Taniyama, Kagoshima City, Kagoshima Pref.; 20 July 1930)

ZUMT 33013 (71.8 mm; probably from Shizuoka Pref.; donation from Usami Elementary School, Ito City, Shizuoka Pref.)

ZUMT 33840 (56.9 mm; Shizuura, Numazu City, Shizuoka Pref.; donated by N. Kuroda)

ZUMT 35302 (47.6 mm; Kamakura City, Kanagawa Pref.)

ZUMT 42417 (109.3 mm; probably from Nagasaki Pref.)

ZUMT 44060 (109.3 mm; Tanabe City, Wakayama Pref.)

ZUMT 44760 (89.1 mm; Chiba City, Chiba Pref.)

ZUMT 53408 (126.5 mm; Ishigaki-jima Island, Yaeyama Islands, Okinawa Pref.)

**PHILIPPINES**

ZUMT 12637 (168.7 mm), ZUMT 12638 (167.2 mm; Philippines; coll. by U. Yamamura)

**PALAU**

ZUMT ABE 3767 (260.6 mm; Palau)

ZUMT 62343 (131.6 mm; probably from Palau) (originally stored with ZUMT ABE 5881 and 5882)

**MALAYSIA**

ZUMT 62528 (170.6 mm), ZUMT 62529 (183.5 mm), ZUMT 62531 (63.0 mm), ZUMT 62532 (73.0 mm; from Sarawak State, Borneo; donation from Sarawak Museum to I. Tomiyama)

**LOCALITY UNKNOWN**

ZUMT ABE 61-1049 (41.4 mm), ZUMT ABE 61-1073 (142.3 mm), ZUMT ABE 61-1077 (44.1 mm), ZUMT 62541 (164.9 mm; no data)

*Turrum fulvoguttatum* (Forsskål, 1775) ホシカイワリ

**PHILIPPINES**

ZUMT 12636 (205.7 mm), ZUMT 12648 (203.0 mm; Philippines; coll. by U. Yamamura)

**PALAU**

ZUMT ABE 2910 (331.6 mm; Palau)

*Uraspis helvola* (Forster, 1801) オキアジ

**JAPAN**

- ZUMT 4399 (175.1 mm; probably from Shimane Pref.; coll. by Hamada Fisheries Experimental Station, Shimane Pref.)  
ZUMT 7706 (182.8 mm; probably from Mie Pref.; donation from Yokkaichi Elementary School)  
ZUMT 12459 (237.1 mm; obtained at Tokyo Market)  
ZUMT 23983 (184.2 mm; Shibushi City, Kagoshima Pref.)  
ZUMT 28267 (120.4 mm; Chiba Pref.; 1927; coll. by S. Obama)  
ZUMT 50569 (209.4 mm; obtained at Fukuoka Fish Market)

**LOCALITY UNKNOWN**

- ZUMT 39322 (146.3 mm), ZUMT 62253 (206.0 mm), ZUMT 62254 (206.0 mm), ZUMT 62400 (135.0 mm),  
ZUMT ABE 4358 (229.2 mm), ZUMT ABE 6457 (252.2 mm), ZUMT ABE 59-601 (193.3 mm; no data)

*Uraspis uraspis* (Günther, 1860) インドオキアジ

**JAPAN**

- ZUMT 3474 (154.8 mm; obtained at Tokyo Market)

**CHINA**

- ZUMT 51453 [191.2 mm; East China Sea, east of Zhoushan, Zhejiang Province (29°45'N, 123°45'E)]

**LOCALITY UNKNOWN**

- ZUMT 62365 (73.6 mm), ZUMT ABE 10094 (44.9 mm; no data)

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**References**

- Abe, T. 1958. Two new subspecies of fishes from the path of the "Kuro-Shiwo". Records of Oceanographic Works in Japan Spec, 2: 175–180.  
Girard, M. G., Davis, M. P. and Smith, W. L. 2020. The phylogeny of carangiform fishes: morphological and genomic investigations of a new fish clade. Copeia, 108 (2): 265–298.  
Gunn, J. S. 1990. A revision of selected genera of the family Carangidae (Pisces) from Australian waters. Record of the Australian Museum Supplement, 12: 1–77.  
Gushiken, S. 1983. Revision of the carangid fishes of Japan. Galaxea, 2: 135–264.  
Gushiken, S. 1988. Phylogenetic relationships of the perciform genera of the family Carangidae. Japanese Journal of Ichthyology, 34 (4): 443–461

- Harrington, R. C., Faircloth, B. C., Eytan, R. I., Smith, W. L., Near, T. J., Alfaro, M. E. and Friedman, M. 2016. Phylogenomic analysis of carangimorph fishes reveals flatfish asymmetry arose in a blink of the evolutionary eye. *BMC Evolutionary Biology*, 16: 224.
- Hata, H. 2019. Carangidae. Pp. 725–755. In: Koeda, K. and Ho, H.-C. (eds) *Fishes of southern Taiwan*. National Museum of Marine Biology & Aquarium, Pingtung, Taiwan.
- Hata, H. and Koeda, K. 2022a. *Atropus atropus* (Teleostei: Carangidae) from Sagami Bay based on a specimen collected from Zaimokuza Beach, Kamakura City. *Natural History Report of Kanagawa*, 43: 61–66. (In Japanese)
- Hata, H. and Koeda, K. 2022b. First record of *Caranx tille* (Teleostei: Carangidae) from Shikoku, southern Japan. *Kuroshio Biosphere*, 19 (1): 1–12.
- Hata, H. and Koeda, K. 2022c. Northernmost record of *Platy-caranx malabaricus* (Teleostei: Carangidae) from Sagami Bay, Kanagawa Prefecture, Japan. *Taxa*, in press. (In Japanese)
- Hata, H., Koeda, K., Aizawa, M., Sakamoto, K. and Ueshima, R. 2022a. List of specimens of the families Echeineidae and Rachycentridae (Actinopterygii: Teleostei: Perciformes) deposited in the Department of Zoology, The University Museum, The University of Tokyo. *The University Museum, The University of Tokyo Material Reports*, 128: 89–102.
- Hata, H., Koeda, K., Aizawa, M., Sakamoto, K. and Ueshima, R. 2022b. List of specimens of the families Coryphaenidae and Menidae (Actinopterygii: Teleostei) deposited in the Department of Zoology, The University Museum, The University of Tokyo. *The University Museum, The University of Tokyo Material Reports*, in press.
- Kijima, A., Taniguchi, N. and Ochiai, A. 1988. Genetic divergence and relationship among fifteen species of genera *Trachurus*, *Decapterus*, *Selar* and *Selaroides*. *Japanese Journal of Ichthyology*, 35 (2): 167–175.
- Kimura, S. 2017. Carangidae. Pp. 104–121. In: Motomura, H., Alama, U. B., Muto, N., Babaran, R. P. and Ishikawa, S. (eds) *Commercial and bycatch market fishes of Panay Island, Republic of the Philippines*. The Kagoshima University Museum, Kagoshima, University of the Philippines Visayas, Iloilo, and Research Institute for Humanity and Nature, Kyoto.
- Kimura, S. 2022. Standard Japanese names for some carangid genera. *Japanese Journal of Ichthyological Society*, 69 (1): 116–119. (In Japanese)
- Kimura, S., Katahira K. and Kuriwa, K. 2013. The red-fin *Decapterus* group (Perciformes: Carangidae) with the description of a new species, *Decapterus smithvanizi*. *Ichthyological Research*, 60: 363–379.
- Kimura, S., Takeuchi, S. and Yadome, T. 2022. Generic revision of the species formerly belonging to the genus *Carangoides* and its related genera (Carangiformes: Carangidae). *Ichthyological Research*, doi: 10.1007/s10228-021-00850-1.
- Koeda, K., Hata, H., Aizawa, M., Sakamoto, K. and Ueshima, R. 2022. History of the fish collection of the Department of Zoology, The University Museum, The University of Tokyo. *The University Museum, The University of Tokyo Material Reports*, 129: 1–24.
- Martinez-Takeshita, N., Purcell, C. M., Chabot, C. L., Craig, M. T., Paterson, C. N., Hyde, J. R. and Allen, L. G. 2015. A tale of three tails: cryptic speciation in a globally distributed marine fish of the genus *Seriola*. *Copeia*, 103 (2): 357–368.
- Matsubara, K. 1955. *Fish morphology and hierarchy*. Ishizaki-shoten, Tokyo. 789 pp. (In Japanese)
- Senou, H. 2013. Carangidae, jacks. Pp. 878–899, 1991–1995. In: Nakabo, T. (ed) *Fishes of Japan with pictorial keys to the species third edition*. Tokai University, Press, Hadano. (In Japanese)
- Smith-Vaniz, W. F. 1984. Carangidae: relationships. Pp. 522–530. In: Moser, H. G., Richards, W. J., Cohen, D. M., Fahay, M. P., Kendall Jr., A. W. and Richardson, S. L. (eds) *Ontogeny and systematics of fishes*. American Society of Ichthyology and Herpetology, Special Publication, no. 1. American Society of Ichthyologists and Herpetologists, New York.
- Smith-Vaniz, W. F. 1995. Carangidae. Pp. 940–986. In: Fischer, W., Krupp, F., Schneider, W., Sommer, C., Carpenter, K. and Niem, V. H. (eds), *Guía FAO para la identificación para los fines de la pesca. Pacífico centro-oriental. Volumen II. Vertebrados Parte 1*. FAO, Rome. (In Spanish)



- Smith-Vaniz, W. F. 1999. Carangidae, jacks and scads (also trevallies, queenfishes, runners, amberjacks, pilotfishes, pampanos, etc.). Pp. 2659–2756. In: Carpenter, K. E. and Niem, V. H. (eds), FAO species identification guide for fishery purposes. The living marine resources of the western central Pacific. Vol. 5. Bony fishes part 2 (Mugilidae to Carangidae). FAO, Rome.
- Smith-Vaniz, W. F. 2002. Carangidae, jacks and scads (bumpers, pompanos, leatherjackets, amberjacks, pilotfishes, rubberfishes). Pp. 1426–1468. In: Carpenter, K. E. (ed), FAO species identification guide for fishery purposes and American Society of Ichthyologists and Herpetologists Special Publication no. 5. The living marine resources of the western central Atlantic. Vol. 3. Bony fishes part 2 (Opisthognathidae to Molidae), sea turtles and marine mammals. FAO, Rome.
- Statistics Department of Ministry of Agriculture, Forestry and Fisheries, Japan. 2022. 2021 fishery and aquaculture production statistics. Statistics Department of Ministry of Agriculture, Forestry and Fisheries, Japan, Tokyo. 54 pp. (In Japanese)
- Talwar, P. K. and Kacker, R. K. 1984. Commercial sea fishes of India. Zoological Survey of India, Calcutta. 997 pp.
- Tan, H.-H. 2009. Observations on the black pomfret, *Parastromateus niger* (Teleostei: Perciformes: Carangidae). Nature in Singapore, 2: 167–169.