

# Caprellids (Amhpipoda, Crustacea) from Niigata Prefecture, Japan

Ishitaro ARIMOTO

Risho Wemen's University\*

## Preface

Niigata Prefecture (Western seacoast of main Island of Japan) is situated on the Sea of Japan side and includes the Sado Island. The seawater temperatures range from 9.2 to 25.1°C on the surface and from 9.30 to 16.42°C at a depth of 100 m (Fish. Agency, Table 1). As compared with those of the waters off the western of the Kyushu Island, the difference between seawater temperatures on the surface and between the from surface to depths are extremely greater. That, one reason is presumably attributable to snow-falls in the winter-time and the flows of cold riparian water into the Sea of Japan. Another, insignificantly small flows of seawater in and out of the Sea of Japan, which takes on the character of an arm of the sea, and some structural features of the Sea of Japan.

As the western seacoast of the Japanese archipelago is influenced by Tsushima warm currents, the distribution of caprellids is such that the warm water species are more propagated in the south but that they gradually decrease as they go to the north, whereas the cold water species increase.

The caprellids in the waters adjacent to Niigata Prefecture include 9 warm species (No. 1, 2, 4, 8, 10, 12, 15, 16, 17) and 8 cold water species (No. 3, 5, 6, 7, 9, 11, 13, 14), suggesting that the distribution is considerably identical with that of the western seacoast of Aomori Prefecture in terms of species. Thus, the waters adjacent to Niigata Prefecture may be looked upon as forming one and the same region with the waters off the western seacoast of Aomori Prefecture. In the waters adjacent to Niigata Prefecture, however, the warm water species are 9 and the cold water species are 8, indicating that both species are almost identical in number. In so far as the present stock is concerned, the warm species are greater in propagation. Consequently, the waters adjacent to Niigata Prefecture are a region of much significance, as they may be regarded as being situated in a somewhat nor-

Table. 1. Water's temperature  
of Niigata coast (Fish,  
Agency, 1968)

	high	low
lat.	37-54	39-06
long.	138-05	136-03
dat.	9 IX, 1965	9 IX, 1965
0m	25.10	9.20
10	24.99	9.98
20	24.90	9.98
30	24.95	9.92
50	22.35	9.96
100	16.42	9.30
200	6.95	5.51
300	3.35	1.64

\* 3-2-17, Hatanodai, Shinagawa-ku, Tokyo 141 Japan

therly part of the intermediate region in which the warm water species hand over their predominance to the cold water species.

In conducting this study, the author stayed at the Sado Marine Laboratory of Niigata University for four days from May 2, 1970, during which the collection was made with the cooperation of the director of the Sado Marine Laboratory, Dr. Yoshiharu HONMA, Professor of Niigata University, and members of the Sado Marine Laboratory, including Takehiko KITAMI, Hirotoshi YAMAMOTO and Kiichi IWAMI. The author expresses his deep appreciation to these members, and many thanks are also due to all the gentlemen of the following laboratories for their cordial aid in the collection jointly with me: Toshihiko TONE (Sado Branch of Niigata Fisheries

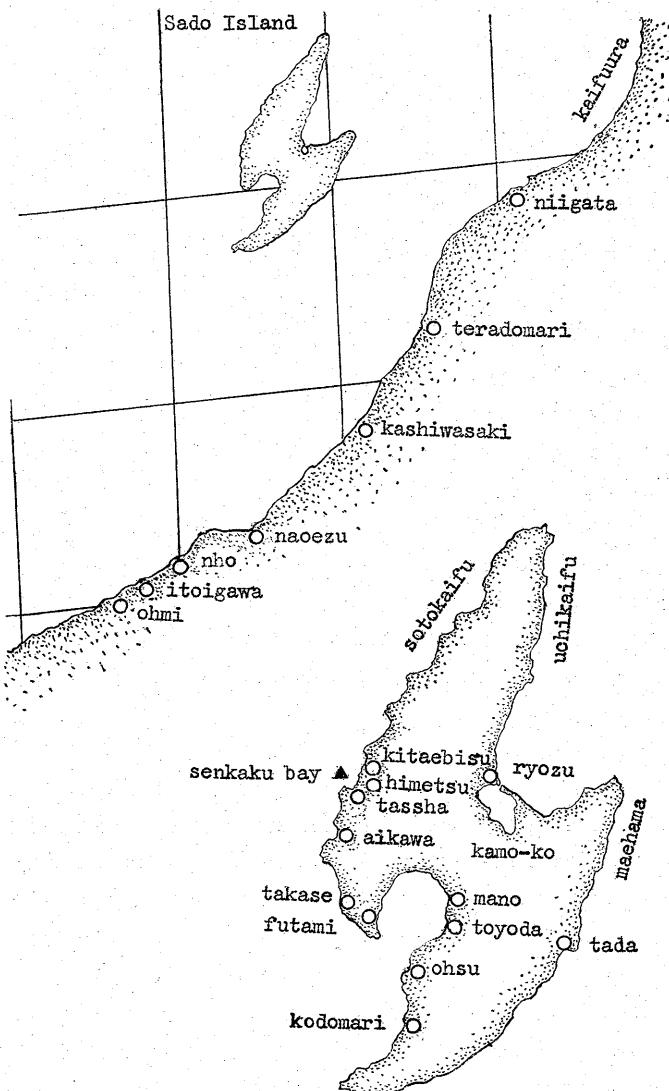


Fig. 1. Seacoast of Niigata Prefecture and Sado Island

Caprellids (Amphipoda, Crustacea) from Niigata Prefecture, Japan

Experimental Station), Shizuo SHOYAMA (Murakami Branch of Niigata Fisheries Experimental Station), Takeji YAMAGISHI, Katsuo SANO, Okimoto MORITA, (an instructor of Fisheries of Niigata Prefecture), Rokuro MIZUZAWA (Nho High School of Fisheries).

1. *Paracaprella crassa* MAYER, 1903

*Ikubi-warekara* (UTINOMI)

*Type localities* : 34°15' N 128°51' E; 33°10' N 129°18' E 33°18' N; 33°05' N 128°22' E; 33°N 129°25' E; 33°N 129°24' E; 33°N 129° E; 23°57' N 118°33' E; and China Sea (MAYER, 1903 : 66).

Kashiwasaki (Syohichi ITO, Yoshiharu HONMA and Hiroshi KAKIMOTO, 1970 : 26).

2. *Paracaprella tenuis* MAYER, 1903

*Togenashi-warekara* (ARIMOTO)

*Type Locality* : Woods Hole, Massachusetts (MAYER, 1903 : 68).

Tassha Bay, (new record, on hemp-palm rope, depth 17-18 m, 2 males, 2-V-70, Takehiko KITAMI, Hiroshi YAMAMOTO and I. ARIMOTO coll., coll. no. 400); Mano Bay (S. ITO, Y. HONMA and H. KAKIMOTO, 1970 : 26).

3. *Caprella decipiens* MAYER, 1890

*Magire-warekara* (UTINOMI)

*Type locality* : Kadsiyama (=Katsuyama), (MAYER, 1890 : 87).

Tassha Bay, (new record, on *Sargassum*, 5 males and 7 females, 4-V-70, I. ARIMOTO coll., coll. 392); off Toyoda, (new record, 3 males, 3-V-70, T. KITAMI, H. YAMAMOTO, Kiichi IWAMI and I. ARIMOTO coll., coll. no. 618); off Futami, (new record, on *Sargassum*, 3 males, and 1 female, 3-V-70, T. KITAMI, K. IWAMI and I. ARIMOTO coll., coll. no. 632).

4. *Caprella monoceros* MAYER, 1890

*Koshitoge-warekara* (ARIMOTO)

*Type locality* : Kadosiyama (=Katsuyama), (MAYER, 1890 : 87).

off Futami, (new record, on *Sargassum*, 12 males and 2 females, 3-V-70, T. KITAMI, K. IWAMI and I. ARIMOTO coll., coll. no. 634); Teradomari and Izumozaki, (S. ITO, Y. HONMA and H. KAKIMOTO, 1972 : 26).

5. *Caprella kroyeri* DE HAAN, 1849

*Oh-warekara* (UTINOMI)

*Type locality* : Japan (MAYER, 1890 : 75).

Teradomari (S. ITO, 1970 : 29); Mano Bay and Teradomari (S. ITO, Y. HONMA and H. KAKIMOTO, 1972 : 26).

6. *Caprella bispinosa* MAYER, 1890

*Kita-warekara* (UTINOMI)

*Type localities* : 45°40' N 139° E; west of Sakhalin (MAYER, 1890 : 83).

Tassha Bay, (3 males, 2 females and 4 youngs, 18-III-56, Y. HONMA coll., coll. no.

386; off Toyoda, (new record, on *Sargassum*, 17 males and 18 females, 3-V-70, T. KITAMI, H. YAMAMOTO, K. IWAMI and I. ARIMOTO coll., coll. 616); off Futami, (new record, on *Sargassum*, 29 males and 15 females, 3-V-70, T. KITAMI, K. IWAMI and I. ARIMOTO coll., coll. 630); Tassha Bay, (Y. HONMA coll., UTINOMI, 1973 : 32); Soto-Kaifu and Teradomari (S. ITO, Y. HONMA and H. KAKIMOTO, 1972 : 26).

7. *Caprella verrucosa* BOECK, 1871

*Kobu-warekara* (UTINOMI)

Type locality: California.

Tassha Bay, (new record, on *Sargassum*, 1 female, 2-V-70, T. KITAMI, K. IWAMI, H. YAMAMOTO and I. ARIMOTO, coll., coll. 409; on *Undaria* 1 m depth, 1 male, coll. no. 430; on *Undaria*, 5 m depth, 1 male, coll. no. 436; on Red Algae, 1 female, coll. no. 451; on Algae, 2 males, coll. no. 467); Senkaku-ikkei, (new record, on *Sargassum*, 1 male and 1 female, 2-V-70, T. KITAMI, K. IWAMI and I. ARIMOTO coll., coll. no. 498; on *Sargassum*, 4 males and 2 females, coll. no. 605); off Toyoda, (new record, on *Sargassum*, 2 males, 3-V-70, T. KITAMI, H. YAMAMOTO, K. IWAMI and I. ARIMOTO coll., coll. no. 621); off Futami, (new record, on *Sargassum*, 11 males and 5 females, 3-V-70, T. KITAMI, K. IWAMI and I. ARIMOTO coll., coll. no. 638); Soto-Kaifu (S. ITO, Y. HONMA, H. KAKIMOTO, 1972 : 26); Aikawa Bay, (21-VII-70, ITO, 1974 : 22).

8. *Caprella californica* Stimpson, 1856

*Neocalifornia-warekara* (ARIMOTO, nov.)

*Caprella scaura scauroides* MAYER

Type locality: California.

Itoigawa, (18-IV-68, Murakami Branch of Niigata Fisheries Experimental Station coll., coll. no. 203, ARIMOTO, 1971 : 45; many males and females, 26-V-68, Takeji YAMAGISHI coll. coll. no. 240, ARIMOTO, 1971 : 45); Tada, Sado Island (many males and females, 22-V-68, Katsuo SANO coll., coll. no. 242, ARIMOTO, 1971 : 45); Naoezu, (many males and females, Okimoto MORITA coll., coll. no. 256, ARIMOTO, 1971 : 45); Sado Island, (many males and females, 21-III-68, Toshihiko TONE coll., coll. no. 125, ARIMOTO, 1971 : 45); Tassha Bay, (new Record, VII-69, T. KITAMI coll., coll. no. 385; on *Sargassum*, T. KITAMI and I. ARIMOTO coll., coll. no. 408); Tada Bay, (22-V-68, Katsuo SANO coll., coll. no. 242); Sado Island, (21-III-68, T. TONE coll., coll. no. 125); Tassha Bay, (1 male and 3 females, 12-VII-69, T. KITAMI coll., coll. no. 385; 7 males and 5 females, T. KITAMI coll., coll. no. 393; on hemp-palm rope, 17-18 m depth, 1 male and 2 females, 2-V-70, T. KITAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 396; on *Sargassum*, 1 male, 2-V-70, T. KITAMI, K. IWAMI and I. ARIMOTO coll., coll. no. 402; on *Undaria* 1 m depth, 3 males and 2 females, 2-V-70, T. KITAMI, K. IWAMI and I. ARIMOTO coll., coll. no. 430; on *Undaria*, 5 m depth, 227 males and 125 females, 2-V-70, T. KITAMI, K. IWAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 435; on red algae, 5 m depth, 36 males and 19 females, 2-V-70, T. KITAMI, K. IWAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 440; on hemp-palm rope, 5 m depth, 371 males and 356 females, coll. no. 446; on red algae, 5 m depth, coll. no. 450;

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9 males and 4 females, coll. no. 455; 11 males and 9 females, coll. no. 460; 1400 males and 1364 females, coll. no. 465 and 466; on Sponge, 17-18 m depth, 1 male and 1 female, 2-V-70, T. KITAMI, K. IWAMI and I. ARIMOTO coll., coll. no. 471; on red algae, 4 males and 3 females, 17-18 m depth, coll. no. 476; 2 females coll. no. 479; on *Sargassum*, 1 female, coll. no. 485; on *Sargassum*, 10m depth, 1 male and 1 female, coll. no. 494; Senkaku-ikkei, (new record, on *Sargassum*, 1 male, 2-V-70, T. KITAMI, K. IWAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 604); off Ko-hama, (new record, on *Sargassum*, 52 males and 35 females, 2-V-70, T. KITAMI, K. IWAMI and I. ARIMOTO coll., coll. no. 613); off Himetus, (new record, on *Sargassum*, 1 female, 2-V-70, T. KITAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 627); off Futami Bay, (new record, on *Sargassum*, 2 males, 3-V-70, T. KITAMI, K. IWAMI and I. ARIMOTO coll., coll. no. 637); Soto-kaifu, Maehama, Ryozu and Kamo-ko, (S. ITO, Y. HONMA and H. KAKIMOTO, 1972 : 26); Kamo-ko, (19-X-72, S. ITO, 1974 : 22).

9. Caprella scaura hamata UTINOMI, 1947

*Sekagitoge-warekara* (UTINOMI)

Type locality: Nanao Bay. (UTINOMI, 1947 : 77).

Ryozu Bay (S. ITO, Y. HONMA, and H. KAKIMOTO, 1972 : 26).

10. Caprella scaura diceros MAYER, 1890

*Toge-warekara* (IWASE)

Type locality: Japan (MAYER, 1890 : 71).

Teradomari? (S. ITO, 1970 : 27); Kamo-ko, (4 males, 11-V-66, T. KITAMI coll., coll. no. 375, ARIMOTO, 1971 : 42; 4 males and 2 females, 13-III-67, T. KITAMI coll., coll. no. 376, ARIMOTO, 1971 : 42; 28 males and 31 females, young 50 males and 81 females, 19 larvae, 9-V-67, T. KITAMI coll., coll. no. 377, ARIMOTO, 1971 : 42; 7 males and 6 females, young 13 males and 2 females, T. KITAMI coll., coll. no. 378, ARIMOTO, 1971 : 43; 4 males and 5 females, 3 young males and 2 young females, 4-VII-67, T. KITAMI coll., coll. no. 379, ARIMOTO, 1971 : 42; 3 males and 2 females, 8-VII-67, T. KITAMI coll., coll. no. 380, ARIMOTO, 1971 : 42; on *Sargassum*, 14 amles and 18 females, 227 young males and 209 young females, 15 larvae, 4-V-70, T. TONE, K. IWAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 382, ARIMOTO, 1971 : 42; on Oyster farming nets, 15 males and 14 females, 45 young males and 43 young femsles, 2 larvae, 4-V-70, T. TONE, H. YAMAMOTO, K. IWAMI and I. ARIMOTO coll., coll. no. 381, ARIMOTO, 1971 : 42); Tassha Bay, (on Hemp-palm rope, 17-18 m depth, 123 males and 161 females, 2-V-70, T. KITAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 395, ARIMOTO, 1971 : 42; on *Saragassum*, T. KITAI, K. IWAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 407; on *Sargassum* 1 m depth, T. KITAMI, K. IWAMI, H. YAMAMTO and I. ARIMOTO coll., coll. no. 425; 1 male and 3 females, on *Undaria*, 1m depth, 2-V-70, T. KITAMI, K. IWAMI, H. YAMOTO and I. ARIMOTO coll., coll. no. 429; on sponge, 17-18 m depth, 3 males and 1 female, 2-V-70, T. KITAMI, K. IWAMI and I. ARIMOTO coll., coll. no. 470; on red algae, 17-18 m depth, 218 males and 198 females, 2-V-70, T. KITAMI, K. IWAMI and I. ARIMOTO coll., coll.

no. 475; 90 males and 70 females coll. no. 478; on *Sargassum*, 1 male and 2 females coll. no. 484); Aikawa Bay, (new record, on *Sargassum*, 1 female, 4-V-70, K. IWAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 488); Senkaku-ikkei, (new record, on *Sargassum*, 1 female, 2-V-70, T. KITAMI, K. IWAMI and I. ARIMOTO coll., coll. no. 603); off Ko-hama, (new record, on *Sargassum*, 3 males, 2-V-70, T. KITAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 609); off Toyoda, (new record, on *Sargassum*, 8 females, 3-V-70, T. KITAMI, K. IWAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 620); off Himetsu, (new record, on *Sargassum*, 3 males and 2 females, 2-V-70, T. KITAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 626); off Futami, (new record, on *Sargassum*, 19 males and 14 females, 3-V-70, T. KITAMI, K. IWAMI and I. ARIMOTO coll., coll. no. 636); Soto-kaifu, Maehama, Ryozu, Mano, and Kamo-ko, (S. ITO, Y. HONMA and H. KAKIMOTO, 1972 : 26).

11. *Caprella gigantochir* MAYER, 1903

*Tenaga-warekara* (UTINOMI)

Type localities: Enoura and Nagasaki (MAYER, 1903 : 103).

Maehama and Ryozu Bay (S. ITO, Y. HONMA and H. KAKIMOTO, 1972 : 26).

12. *Caprella simia* MAYER, 1903

*Kamate-warekara* (UTINOMI)

Type localities: Enoura and Nagasaki (MAYER, 1903 : 124).

Maehama and Ryozu Bay, (S. ITO, Y. HONMA, H. KAKIMOTO, 1972 : 26).

13. *Caprella acanthogaster* MAYER, 1890

*Ibara-warekara* (UTINOMI)

Type localities: China: deCastries Bay, Sakhalin, 52°N or Lemaire Strait, South America (MAYER, 1890 : 80).

Soto-kaifu, Ryozu Bay and Kashiwasaki (S. ITO, Y. HONMA and H. KAKIMOTO, 1972 : 26).

14. *Caprella polyacantha* UTINOMI, 1969

*Iga-warekara* (UTINOMI)

Type locality: Asamushi Bay (UTINOMI, 1947 : 76).

off Futami, (new record, on *Sargassum*, 2 males, 3-V-70, T. KITAMI, K. IWAMI and I. ARIMOTO coll., coll. no. 639); Soto-kaifu (S. ITO, Y. HONMA and H. KAKIMOTO 1972 : 26).

15. *Caprella danilevskii* CZERNIAVSKI, 1868

*Hoso-warekara* (UTINOMI)

Type locality: Black Sea.

Tassha Bay, (new record, on *Sargassum*, 78 males and 70 females and 1 larva, 4-V-70, I. ARIMOTO coll., coll. no. 391; 14 males and 6 females, 2-V-70, T. KITAMI, K. IWAMI, H. YAMAMTO and I. ARIMOTO coll., coll. no. 404; on hemp-palm rope, 1 m depth, 1 male, 2-V-70, T. KITAMI, K. IWAMI and I. ARIMOTO coll., coll. no. 421); Senkaku-sankei, (new record, on *Sargassum*, 10 males and 9 females, 2-V-70, T.

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KITAMI, K. IWAMI and I. ARIMOTO coll., coll. no. 481); Aikawa Bay, (new record, on *Sargassum*, 6 males and 1 female, 4-V-70, K. IWAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 486); Tassha Bay, (on *Sargassum*, 10 m depth, 2 males, 2-V-70, T. KITAMI, K. IWAMI and I. ARIMOTO coll., coll. no. 490); Senkaku-ikkei, (new record, on *Sargassum*, 14 males and 10 females, T. KITAMI, K. IWAMI and I. ARIMOTO coll., coll. no. 496; 16 males and 2 females coll. no. 601); off Ko-hama, (new record, on *Sargassum*, 3 females, T. KITAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 607; 11 males and 2 females coll. no. 610); off Toyoda, (new record, on red algae, 4 males and 4 females, 3-V-70, T. KITAMI, K. IWAMI, H. YAMAMOTO and I. ARIMOTO, coll., coll. no. 614; on *Sargassum*, 10 males and 10 females, 3-V-70, T. KITAMI, K. IWAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 614); off Ko-hama, (new record, on *Sargassum*, 34 males and 25 females, 3-V-70, T. KITAMI, K. IWAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 622); off Himetsu, (new record, on *Sargassum*, 2 males and 6 females, 2-V-70, T. KITAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 624); off Futami, (new record, on *Sargassum*, 11 males and 17 females, T. KITAMI, K. IWAMI and I. ARIMOTO coll., coll. no. 631); off Sado, Maehama, Soto-kaifu, Ryozu and Kashiwasaki (S. ITO, Y. HONMA and H. KAKIMOTO, 1972 : 26).

16. *Caprella equilibra* SAY, 1818

*Kubinaga-warekara* (UTINOMI)

*Type locality* : South Calrolina.

Off Itoigawa, (18-IV-68, Shizuo SHOYAMA coll., coll. no. 202, ARIMOTO, 1971 : 16); Ryozu Bay, (21-III-68, Toshihiko TONE coll., coll. no. 129, ARIMOTO, 1971 : 16); Tera-domari (S. ITO, 1970 : 29); Ryozu Bay, (21-III-68, T. TONE coll., coll. no. 129, ARIMOTO, 1971 : 30); Tassha Bay, (new record, on hemp-palm rope, 1 male, 2-V-70, T. KITAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 399; on *Sargassum* 1m depth, 1 male, 2-V-70, T. KITAMI, K. IWAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 422; on *Undaria*, 6 males and 3 females coll. no. 426; on *Undaria*, 5m depth, 9 males, coll. no. 432; on red algae, 5m depth, 5 males and 3 females, coll. no. 438; on hemp-palm rope, 5m depth, 6 males and 7 females, coll. no. 444; on red algae, 5m depth, 2 males, coll. no. 453; 2 males, coll. no. 457; 73 males and 52 females, coll. no. 462; on sponge, 1 male, coll. no. 469; on red algae, 17-18m depth, 2 males, coll. no. 473; on *Sargassum*, 10m depth, 1 female, coll. no. 491); off Futami, (new record, on *Sargassum*, 1 male, 3-V-70, T. KITAMI, K. IWAMI and I. ARIMOTO coll., coll. no. 633); Soto-kaifu, Maehama and Ryozu (S. ITO, Y. HONMA and H. KAKIMOTO, 1972 : 26).

17. *Caprella penantis* LEACH, 1814

*Maruera-warekara* (UTINOMI)

*C. acutifrons* Var. *neglecta* MAYER

*C. neglecta* (VASSILENKO)

*Type locality* : Devonshire Coast, England.

Itoigawa, (many males and females, 18-IV-68, S. SHOYAMA coll., coll. no. 204, ARIMOTO, 1971 : 19); Ryozu Bay, (many males and females, 21-III-68, T. TONE coll.,

coll. no. 126, ARIMOTO, 1971 : 14); off Nho-machi, (many males and females, 19-VII-68, Rokuro MISUZAWA coll., coll. no. 319, ARIMOTO, 1971 : 20; many males and females, 30-V-69, R. MISUZAWA coll., coll. no. 345); Teradomari, (S. ITO, 1970 : 29); Ryozu Bay, (21-III-68, T. TONE, coll., coll. no. 126, ARIMOTO, 1971 : 36); Tassha Bay, (6 males, 12-VII-69, T. KITAMI coll., coll. no. 383; 3 males and 2 females, 4 youngs, 18-III-56, Y. HONMA coll., coll. no. 386; 1 male and 3 females, 12-VII-69, T. KITAMI coll., coll. no. 384; on *Sargassum (Umioranoo)* 1 male, 4-V-70, I. ARIMOTO coll., coll. no. 388; 1 male and 5 females, I. ARIMOTO coll., coll. no. 387; on *Sargassum*, 3 males and 6 females, 4-V-70, I. ARIMOTO coll., coll. no. 389; 5 males and 12 females coll. no. 390; on hemp-palm rope, 8 males and 4 females, 2-V-70, T. KITAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 397; 2 females coll. no. 398; 9 males and 87 females, 5-V-70, I. ARIMOTO coll., coll. no. 417; on *Sargassum*, 900 males and 275 females, 2-V-70, T. KITAMI, K. IWAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 403; on hemp-palm rope, 1m depth, 24 males and 12 females, coll. no. 423; 63 males and 32 females, coll. no. 424; on *Undaria*, 1m depth, 22 males and 6 females, coll. no. 427; 24 males and 9 females, coll. no. 428; 3 males and 6 females, coll. no. 433; 11 males and 4 females, coll. no. 434; on red algae, 5 males and 2 females, coll. no. 439; on hamp-palm rope, 5m depth, 6 males and 7 females, coll. no. 444; 1 male and 1 female, coll. no. 445; on red algae, 1 male, coll. no. 448; 6 males and 1 female, coll. no. 449; 2 males, coll. no. 454; 3 males and 2 females, coll. no. 458; 1 female, coll. no. 459; 99 males and 68 females, coll. no. 463; 73 males and 49 females, coll. no. 464; 17-18m depth, 10 males and 9 females, coll. no. 474); Senkaku-sankei, (new record, on *Sargassum*, 7 males and 7 females, 2-V-70, T. KITAMI, K. IWAMI and I. ARIMOTO, coll., coll. no. 482; 45 males and 98 females, coll. no. 483); Aikawa Bay, (on *Sargassum*, 3 males and 1 female, 4-V-70, K. IWAMI, H. YAMAMOTO and I. ARIMOTO, coll., coll. no. 487); Tassha bay, (on *Sargassum*, 10m depth, 4 males, coll. no. 492; 1 male, coll. no. 493); Senkaku-ikkei, (new record, 553 males and 475 females, coll. no. 497; 680 males and 673 females, coll. no. 602); off Ko-hama, (new record, on *Sargassum*, 294 males and 307 females, 2-V-70, T. KITAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 608; 9 males and 6 females, coll. no. 611; 71 males and 73 females, coll. no. 612); off Toyoda, (new record, on *Sargassum*, 1 male and 3 females, coll. no. 619); Ohsu, (new record, on *Sargassum*, 1 female, 2-V-70, T. KITAMI, K. IWAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 623); off Himetsu, (new record, on *Sargassum*, 1 male, 2-V-70, T. KITAMI, H. YAMAMOTO and I. ARIMOTO coll., coll. no. 625); off Kitaebisu, (new record, on *Sargassum*, 335 males and 510 females, 2-V-70, T. KITAMI, K. IWAMI and I. ARIMOTO coll., coll. no. 629); off Futami, (new record, on *Sargassum*, 5 males and 6 females, 3-V-70, T. KITAMI, K. IWAMI and I. ARIMOTO coll., coll. no. 635); Tassha Bay, (30-X-55, Y. HONMA, coll. UTINOMI, 1973 : 32; 10-IV-64, T. KITAMI coll. UTINOMI, 1973 : 32); Sado Island every plase (S. ITO, Y. HONMA and H. KAKIMOTO, 1972 : 26); Aikawa Bay, (21-VII-70, S. ITO, 1974 : 22).

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