

## A Preliminary List of Marine Fishes Found in the Nemuro Strait between Hokkaido and Kunashiri Islands

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**Abstract** Marine fishes inhabiting the Nemuro Strait between Hokkaido and Kunashiri islands were investigated based on collected specimens and underwater photographs. The fishes found in this strait were classified into 138 species of 99 genera belonging to 40 families in 14 orders. The fish fauna of this strait can be characterized by the dominance of Subarctic species (78% of all recorded species). Deep-sea species are recorded in the northern part of the Strait. Previous studies and historical specimens collected from the Strait and the adjacent waters were also reviewed.

**Key words:** Fish fauna, Kunashiri, Nemuro, Shiretoko, Southern Kuril Strait.

### Introduction

The Nemuro Strait is located between the eastern part of Hokkaido Island (from the Shiretoko Peninsula to the Nemuro Peninsula) and Kunashiri Island (Fig. 1). This Strait is connected to the Sea of Okhotsk and the Pacific Ocean; the narrowest and shallowest part of the Strait is off the Notsuke Peninsula, ca. 16 km distance to the southern part of the Kunashiri Island and shallower than 20 m. The north side of the Strait is very steep and deep, reaching to 2,000 m, and the south side (Nemuro Peninsula) is shallower than 100 m with mainly sandy or muddy bottoms. This Strait is almost covered by drifting ice from the Amur River in winter time (Yoshida, 1988; fig. 1). The Soya Warm Current, a branch of the Tsushima Current running northward from the

Sea of Japan goes into the Strait between the northern tip of Hokkaido Island and the southern edge of Sakhalin, but flows down from north to south in summer and autumn. Water temperatures at 50 m depth around the Shiretoko Peninsula range between  $-1.7^{\circ}\text{C}$  and  $20.5^{\circ}\text{C}$  year round (Nobetsu *et al.*, 1998).

After the Armistice at the end of World War II, a territorial dispute known as the Northern Territories dispute or the Kuril Islands dispute arose between Japan and Russia over the sovereignty of the South Kuril Islands. This dispute has made it difficult for scientists to conduct scientific research in the South Kuril Islands over the past 50 years.

The Shiretoko Peninsula was registered as a World Heritage Site in 2005. The Nemuro Strait off the Peninsula is known to be an important

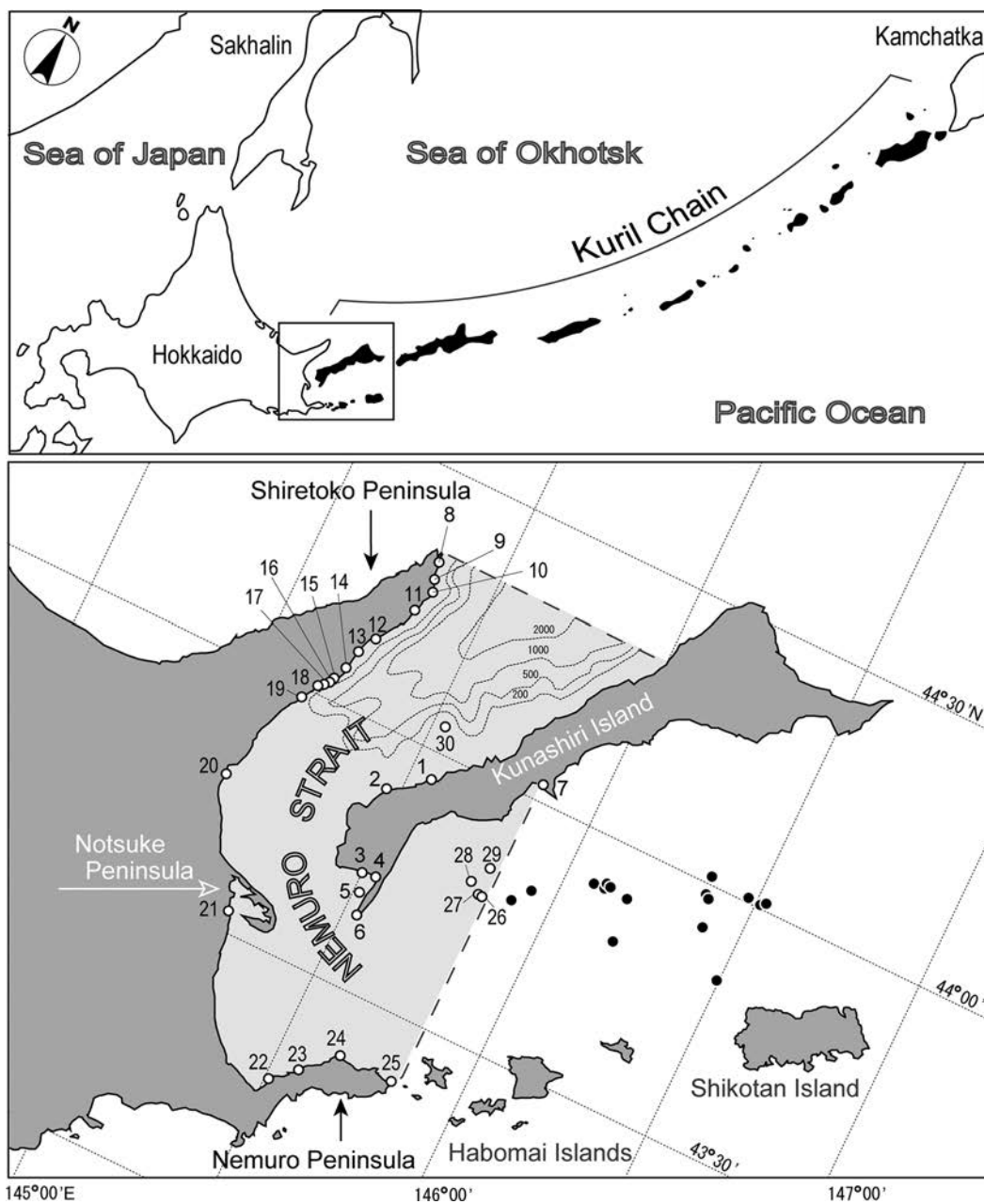


Fig. 1. Locations of the Kuril Chain (top) and the Nemuro Strait (bottom).—1, Alechino Cordon; 2, Puzanova Cape; 3, Golovnino settlement; 4, Rikorda River mouth; 5, Izmeni Bay; 6, Veslo Cape; 7, Yuzhno-Kuril'sk; 8, Kabuto-iwa; 9, Nihondaki; 10, Funadomari; 11, Kaseki-hama; 12, Aidomari; 13, Seseki-hama; 14, Okkabake Fishing Port; 15, Sashirui-hama; 16, Rōsoku-iwa; 17, Kyouei-cho; 18, Rausu-cho including Rausu Fishing Port; 19, Matsunori; 20, Kumbetsu; 21, Odaitou; 22, On'netou; 23, Nemuro; 24, Nokkamappu; 25, Nossappu; 26, Toporok St. 112/88; 27, Toporok St. 32–33; 28, Toporok St. 32; 29, Toporok St. 30; Albatross St. 5031. Black circles indicate other stations where the FV *Toporok* surveyed in 1948–1949.

migration route and/or reproduction site for Killer Whales, Sperm Whales, Steller Sealions, Ribbon and Spotted Seals, etc. (e.g., Mitani, 2012). Dietary habits of these carnivorous mammals are supported by the biodiversity and resources of fishes and marine invertebrates in the Strait.

Yoshida (1988) reviewed the fishery importance of Walleye Pollock (*Theragra chalcogramma*) in the Strait. Nagasawa and Torii (1991) documented fishing grounds of several fishes and invertebrates there.

Although the freshwater fish faunas of the Kuril Chain were well investigated recently (Pietsch *et al.*, 2001), the marine fauna has been poorly studied. There are some reports on local fish specimens or faunas in the Nemuro Strait. For example, Sato (1935) suggested that *Squalus acanthias* (Squalidae) migrates into and stays in the Strait in August and September. Bolin (1936) originally described *Rucuzenius nudithorax* (Cottidae) based on a single 61.3 mm specimen collected from off the western region of Kunashiri Island by the United States Fisheries Commission Steamer *Albatross*. Some Russian ichthyologists collected fishes between 1881 and 1974, and deposited the specimens in the Zoological Institute, RAS (see Appendix 1). Hikida (1981) listed 130 species that occur in the eastern side of the Shiretoko Peninsula, based on his private collection and personal communications with the local fishermen. Nobetsu *et al.* (1998) reported 201 species belonging to 63 families in 23 orders from the same peninsula, based on specimens and photographs deposited in the Shiretoko Museum, but registration numbers for the specimens were not published. Matsuura *et al.* (1993) collected 17 species from Nemuro Peninsula and registered the voucher specimens in the National Museum of Nature and Science. Recently, Tsuruoka *et al.* (2008) and Machi *et al.* (2012) described *Icelus sekii* (Cottidae) and *Careproctus rausuensis* (Liparidae) from the Shiretoko Peninsula, respectively.

In order to clarify the marine fish fauna of Nemuro Strait, we examined fish collections at

the museums shown below, and underwater photographs (available in FishPix: <http://fishpix.kahaku.go.jp/fishimage-e/index.html>), and newly collected specimens. Our survey resulted in records of 138 species from the Strait. The list shows not only the species diversity of fishes in the southern end of the Kuril Chain but also provides valuable information for conservation of marine mammals and environmental assessment in the Strait.

## Materials and Methods

All specimens are deposited in the following institutions: Hokkaido University Museum, Hakodate (HUMZ), National Museum of Nature and Science, Tsukuba (NSMT), Shiretoko Museum, Shari (SM), National Museum of Natural History, Smithsonian Institution, Washington, D.C. (USNM) and Zoological Institute, Russian Academy of Sciences, Saint Petersburg (ZIN). All digital images of underwater photographs are registered in Kanagawa Prefectural Museum of Natural History, Odawara (KPM)

Standard length (SL) and total length (TL) are used throughout. Systematic arrangements follow Nelson (2006) and Japanese names follow Nakabo (2002). Detailed collection dates are not available for specimens with an asterisk.

All Kunashiri Island fish specimens were collected and recorded by Russian scientists, hence the collection localities are listed by their Russian names.

The Southern Kuril Strait and the Nemuro Strait are sometimes confused. The former is wider and includes an area surrounded by Kunashiri, Shikotan and Habomai islands. The Nemuro Strait of present study is shown in Fig. 1.

## Results

### Order Rajiformes

#### Family Rajidae

1. *Raja pulchra* Liu, 1932 [Japanese name:

Megane-kasube]

Matsunori: SMP 0032, 26.3 cm TL, 24 July 1995; SMP 0104, 43.2 cm TL, 15 June 1996.

Order Clupeiformes

Family Engaulidae

2. *Engraulis japonicus* Temminck and Schlegel, 1846 [Japanese name: Katakuchi-iwashi]

Matsunori: SMP 0039, 12.6 cm SL, 21 July 1995.

Family Clupeidae

3. *Clupea pallasii* Valenciennes, 1847 [Japanese name: Nishin]

Matsunori: SMP 0038, 1 specimen, 23.4 cm SL, 20 July 1995.

Nemuro: NSMT-P 123, 2 specimens, 12.4–16.2 cm SL, date unknown (before 1889).

Order Cypriniformes

Family Cyprinidae

4. *Tribolodon brandti* (Dybowski, 1872) [Japanese name: Maruta]

Matsunori: SMP 0069, 28.6 cm SL, 16 June 1996.

5. *Tribolodon hakonensis* (Günther, 1877) [Japanese name: Ugui] (Fig. 2A)

Yuzho-Kuril'sk: ZIN 54519, 2 specimens, 16.9 cm SL (another specimen: head only, probably eaten by birds), 2 Sep. 2008.

Kunbetsu: NSMT-P 101720, 1 specimen, 23.4 cm SL, 7 July 2010; NSMT-P 101721, 1 specimen, 18.5 cm SL, 7 July 2010.

Order Osmeriformes

Family Osmeridae

6. *Hypomesus japonicus* (Brevoort, 1856) [Japanese name: Chika]

Golovino settlement: ZIN 53759, 5 specimens, 10.0–11.6 cm SL, 28 Nov. 2005.

Nemuro: NSMT-P 109773, 1 specimen, 18.0 cm SL, 15–18 Aug. 1980.

7. *Osmerus mordax* (Mitchill, 1814) [Japa-

nese name: Kyūriuo]

Matsunori: SMP 0008, 1 specimen, 25.0 cm SL, 16 June 1995.

Nemuro: NSMT-P 109772, 1 specimen, 18.3 cm SL, 15–18 Aug. 1980.

Order Salmoniformes

Family Salmonidae

8. *Salvelinus leucomaenis* (Pallas, 1814) [Japanese name: Ame-masu]

Yuzho-Kuril'sk: ZIN 42841, 1 specimen, 23.3 cm SL, \*Aug. 1974.

Order Gadiformes

Family Macrouridae

9. *Albatrossia pectoralis* (Gilbert, 1892) [Japanese name: Mune-dara]

Rausu-cho: SMP 0118, 1 specimen, 62.5 cm TL, 16 June 1995.

Family Moridae

10. *Laemonema longipes* Schmidt, 1938 [Japanese name: Itohikidara]

Rausu Fishing Port: SMP 0122, 1 specimen, 33.5 cm SL, 16 June 1996.

Family Gadidae

11. *Eleginus gracilis* (Tilesius, 1810) [Japanese name: Komai]

Rōsoku-iwa: KPM-NR0087651, 1 shot at 17 m deep, 6 May 2000; KPM-NR0087741, 1 shot at 5 m depth, 27 Aug. 2005.

Matsunori: SMP 0029, 1 specimen, 29.0 cm SL, 16 June 1995.

Kunbetsu: NSMT-P 101716, 1 specimen, 17.6 cm SL, 7 July 2010; NSMT-P 101717, 3 specimens, 14.3–16.8 cm SL, 7 July 2010.

Nemuro: NSMT-P 109768, 1 specimen, 24.3 cm SL, 15–18 Aug. 1980.

12. *Theragra chalcogramma* (Pallas, 1814) [Japanese name: Suketō-dara]

Rausu Fishing Port: SMP 0122, 1 specimen, 33.5 cm SL, 7 Nov. 1995.

Matsunori: SM0046, 1 specimen, 17.2 cm SL,

21 July 1995.

Rausu Fishing Port: SMP 0072, 1 specimen, 36.7 cm SL, 7 Nov. 1995.

Order Lophiiformes

Family Lophiidae

**13. *Lophius litulon*** (Jordan, 1902) [Japanese name: Ki-ankō]

Matsunori: SMP 0075, 1 specimen, 15.9 cm SL, 7 Nov. 1995; SMP 0085, 1 specimen, 18.5 cm SL, 7 Nov. 1995.

Order Mugiliformes

Family Mugilidae

**14. *Chelon haematocheilus*** (Temminck and Schlegel, 1845) [Japanese name: Menada] (Fig. 2B)

Rikorda River mouth: ZIN 53758, 15 specimens, 4.8–9.9 cm SL, 21 Sep. 2005.

Order Beloniformes

Family Hemiramphidae

**15. *Hyporhamphus sajori*** (Temminck and Schlegel, 1846) [Japanese name: Sayori]

Matsunori: SMP 0010, 1 specimen, 21.5 cm SL, 16 June 1995.

Family Scomberesocidae

**16. *Cololabis saira*** (Brevoort, 1856) [Japanese name: Sanma]

Matsunori: SMP 0080, 1 specimen, 25.2 cm SL, 6 Nov. 1995.

Order Gasterosteiformes

Family Hypoptychidae

**17. *Hypoptychus dybowskii*** Steindachner, 1880 [Japanese name: Shiwa-ikanago]

Seseki-hama: NSMT-P 102981, 1 specimen, 6.4 cm SL, 18 June 2008.

Family Gasterosteidae

**18. *Pungitius pungitius*** (Linnaeus, 1758) [Japanese name: Ibara-tomiyo]

Rikorda River mouth: ZIN 53756, 2 specimens, 3.4–3.7 cm SL, 21 Sep. 2005.

Family Syngnathidae

**19. *Syngnathus schlegeli*** Kaup, 1856 [Japanese name: Yōjiuo] (Fig. 2C)

Izmeni Bay: ZIN 55079, 1 specimen, 17.9 cm SL, 17 Oct. 2005.

Rōsoku-iwa: KPM-NR0087757, 1 shot at 6 m depth, 28 Aug. 2005.

Order Scorpaeniformes

Family Scorpaenidae

**20. *Sebastes glaucus*** Hilgendorf, 1880 [Japanese name: Kuro-menuke]

Nemuro: NSMT-P 109761, 1 specimen, 25.2 cm SL, 15–18 Aug. 1980.

**21. *Sebastes minor*** Barsukov, 1970 [Japanese name: Aka-gaya]

Aidomari: HUMZ 199017, 1 specimen, 6.8 cm SL, 3 June 2007; HUMZ 199019, 1 specimen, 3.8 cm SL, 3 June 2007.

Rōsoku-iwa: KPM-NR0087649, 1 shot at 18 m depth, 5 May 2000; KPM-NR0087612, 1 shot at 18 m depth, 2 May 2000; KPM-NR0087634, 1 shot at 18 m depth, 4 May 2000.

Matsunori: SMP 0007, 1 specimen, 17.0 cm SL, 16 June 1995.

**22. *Sebastes schlegelii*** Hilgendorf, 1880 [Japanese name: Kurosoi] (Fig. 2D)

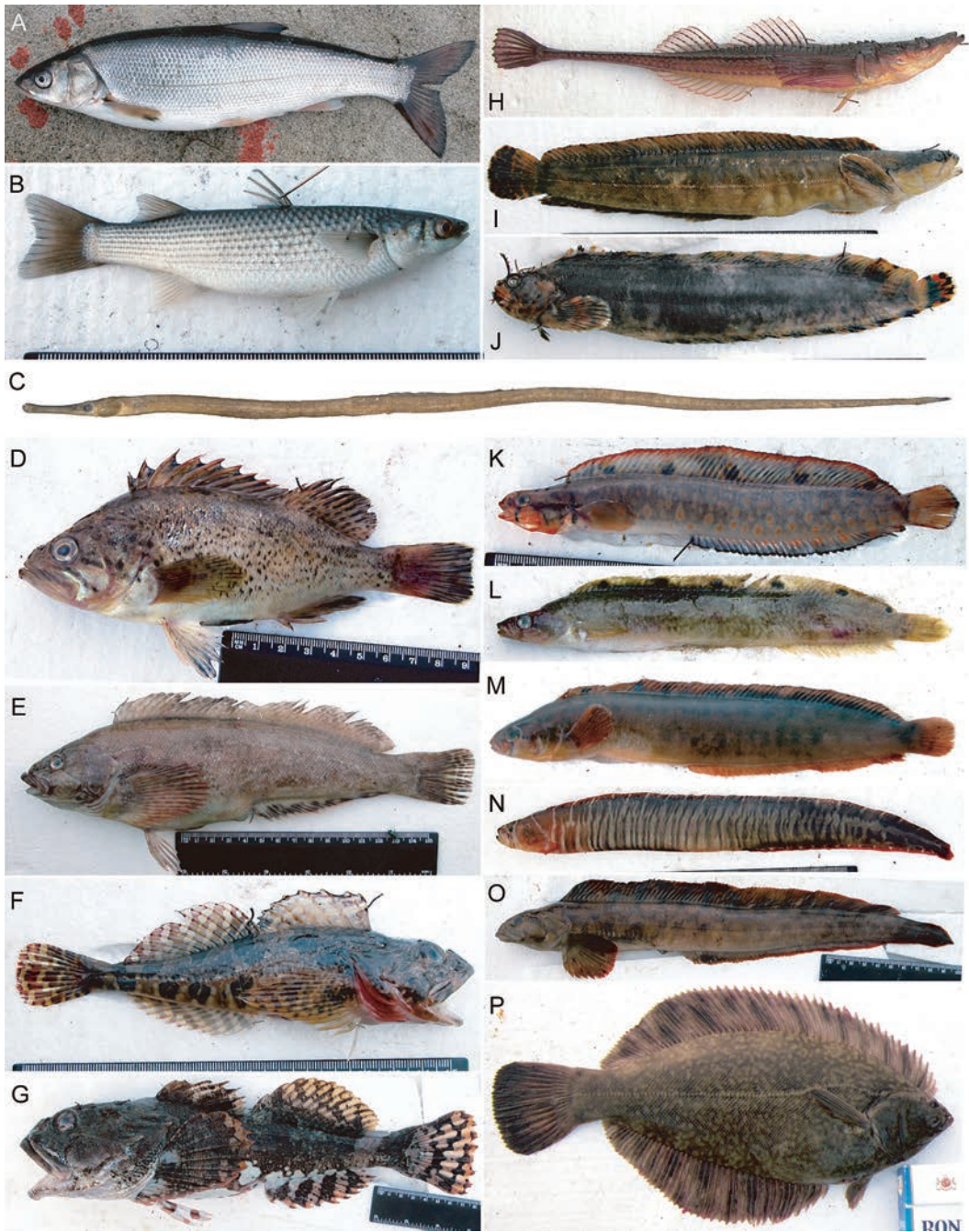
Izmeni Bay: ZIN 54223, 8 specimens, 9.0–14.0 cm SL, 30 Sep. 2005.

Rōsoku-iwa: KPM-NR0087727, 1 shot at 6 m depth, 27 Aug. 2005.

Matsunori: SMP 0034, 1 specimen, 17.5 cm SL, 6 July 1995.

Nemuro: NSMT-P 101701, 1 specimen, 16.6 cm SL, 9 July 2010; NSMT-P 101702, 3 specimens, 7.6–11.2 cm SL, 9 July 2010; ZIN 6156, 2 specimens, 7.0–7.1 cm SL, 1881.

**23. *Sebastes taczanowskii*** Steindachner, 1880



[Japanese name: Ezo-mebaru]

Alechino settlement: ZIN 42571, 2 specimens, 17.8–18.5 cm SL, 23 July 1951.

Kaigan-cho: NSMT-P 102213, 1 specimen, NSMT-P 102214, 2 specimens, NSMT-P 102215, 3 specimens, 10.4–16.4 cm SL, 6 July 2010.

Rōsoku-iwa: KPM-NR0087748, 1 shot at 4 m depth, 27 Aug. 2005; KPM-NR0087718, 1 shot at 17 m depth, 27 Aug. 2005; KPM-NR0087631, 1 shot at 20 m depth, 3 May 2000.

Rausu-cho: KPM-NR0028782, 1 shot, \*Sep. 2009.

Matsunori: SMP 0027, 1 specimen, 19.2 cm SL, 16 June 1995.

Nemuro: NSMT-P 101703, 1 specimen, 11.6 cm SL, 9 July 2010; NSMT-P 101704, 4 specimens, 8.4–10.5 cm SL, 9 July 2010; NSMT-P 102234, 1 specimen, 17.8 cm SL, 9 July 2010; NSMT-P 102235, 1 specimen, 18.5 cm SL, 9 July 2010; NSMT-P 102236, 2 specimens, 10.2–13.4 cm SL, 9 July 2010; NSMT-P 102237, 2 specimens, 14.7–15.6 cm SL, 9 July 2010.

**24. *Sebastes trivittatus*** Hilgendorf, 1880 [Japanese name: Shimazoi]

Rōsoku-iwa: KPM-NR0087695, 1 shot at 25 m depth, 7 July 2001; KPM-NR0087720, 1 shot at 20 m depth, 27 Aug. 2005.

Matsunori: SMP 0036, 1 specimen, 14.2 cm SL, 6 Nov. 1995; SMP 0078, 1 specimen, 12.0 cm SL, 15 June 1996.

**25. *Sebastes vulpes*** Döderlein, 1884 [Japanese name: Kitsunemebaru]

Rausu-cho: SMP 0111, 1 specimen, 18.5 cm SL, 27 June 1995.

**26. *Sebastolobus macrochir*** (Günther, 1880)

[Japanese name: Kichiji]

Rausu-cho: HUMZ 200239, 1 specimen, 25.3 cm SL, 24 Aug. 2007.

Family Anoplopomatidae

**27. *Anoplopoma fimbria*** (Pallas, 1814) [Japanese name: Gindara]

Rausu-cho: SMP 0300, 1 specimen, 26.5 cm SL, 6 Aug. 2011.

Family Hexagrammidae

**28. *Hexagrammos lagocephalus*** (Pallas, 1810) [Japanese name: Usagi-ainame] (Fig. 2E)

Izmeni Bay: ZIN 54221, 2 specimens, 16.6–22.5 cm SL, 16 Oct. 2005.

Kaseki-hama: HUMZ 196694, 1 specimen, 28.6 cm SL, 23 July 2006.

**29. *Hexagrammos octogrammus*** (Pallas, 1810) [Japanese name: Suji-ainame]

Izmeni Bay: ZIN 54222, 12 specimens, 7.5–15.7 cm SL, 30 Sep. 2005.

Yuzhno-Kuril'sk: ZIN 43299, 2 specimens, 14.8–20.0 cm SL, \*1974.

Aidomari: HUMZ 196586, 1 specimen, 21.0 cm SL, 22 July 2006.

Kaseki-hama: HUMZ 196700, 1 specimen, 20.5 cm SL, 23 July 2006.

Kaigan-cho: NSMT-P 102212, 1 specimen, 20.0 cm SL, 6 July 2010.

Rōsoku-iwa: KPM-NR0087717, 1 shot at 17 m depth, 27 Aug. 2005; KPM-NR0087762, 1 shot at 5 m depth, 28 May 2005.

Rausu-cho: KPM-NR0028799, 1 shot, \*Sep. 1997.

Matsunori: SMP 0028, 1 specimen, 20.9 cm

Fig. 2. Freshly dead specimens of coastal fishes collected from Kunashiri Island.—A, *Tribolodon hakonensis* (Cyprinidae), ZIN 54519, 169 mm SL; B, *Chelon haematocheilus* (Mugilidae), ZIN 53758, 99 mm SL; C, *Syngnathus schlegelii* (Syngnathidae), ZIN 55079, 179 mm SL; D, *Sebastes schlegelii* (Scorpaenidae), ZIN 54223, 140 mm SL; E, *Hexagrammos lagocephalus* (Hexagrammidae), ZIN 54221, 225 mm SL; F, *Bero elegans* (Cottidae), ZIN 54210, 130 mm SL; G, *Myoxocephalus stelleri* (Cottidae), ZIN 54225, 319 mm SL; H, *Brachyopsis segaliensis* (Agonidae), ZIN 54213, 200 mm SL; I, *Stichaeopsis epallax* (Stichaeidae), ZIN 54218, 210 mm SL; J, *Chirolophis japonicus* (Stichaeidae), ZIN 54219, 200 mm SL; K, *Opisthocentrus ocellatus* (Stichaeidae), ZIN 54216, 143 mm SL; L, *Opisthocentrus tenuis* (Stichaeidae), ZIN 54217, 152 mm SL; M, *Pholidapus dybowskii* (Stichaeidae), ZIN 54244, 155 mm SL; N, *Pholis picta* (Pholidae), ZIN 54215, 235 mm SL; O, *Zoarces elongatus* (Zoaridae), ZIN 53981, 351 mm SL; P, *Pleuronectes obscurus* (Pleuronectidae), ZIN 54229, 220 mm SL.

SL, 16 June 1995.

Nokkamappu: NSMT-P 45307, 3 specimens, 5.0–5.5 cm SL, 17 July 1992.

**30. *Hexagrammos otakii*** Jordan and Starks, 1895 [Japanese name: Ainame]

Rōsoku-iwa: KPM-NR0087632, 1 shot at 20 m depth, 3 May 2000; KPM-NR0087636, 1 shot at 18 m depth, 4 May 2000.

Rausu-cho: SMP 0062, 1 specimen, 25.0 cm SL, 7 Nov. 1995; SMP 0063, 1 specimen, 26.0 cm SL, 7 Nov. 1995.

**31. *Hexagrammos stelleri*** Tilesius, 1810 [Japanese name: Ezo-ainame]

Alechino settlement: ZIN 43453, 1 specimen, 15.7 cm SL, 29 July 1951.

Izmeni Bay: ZIN 54220, 2 specimens, 20.0–21.5 cm SL, 30 Sep. 2005.

Rausu-cho: SMP 0092, 1 specimen, 22.5 cm SL, 15 June 1996.

Nokkamappu: NSMT-P 45324, 3 specimens, 5.3–6.8 cm SL, 17 July 1992.

Nemuro: ZIN 6158, 4 specimen, 13.7–14.5 cm SL, \*1881.

Toporok St. 32: ZIN 41690, 1 specimen, 12.2 cm SL, 3 Sep. 1948.

**32. *Pleurogrammus azonus*** Jordan and Metz, 1913 [Japanese name: Hokke]

Alechino settlement: ZIN 43293, 1 specimen, 23.2 cm SL, 23 July 1951.

Yuzhno-Kuril'sk: ZIN 43294, 1 specimen, 29.7 cm SL, \*Aug. 1974.

Rausu-cho: NSMT-P 46962, 14 specimens, 27.3–31.5 cm SL, 20 Oct. 1994.

Matsunori: SMP 0060, 1 specimen, 29.2 cm SL, 7 Nov. 1995.

Nemuro: NSMT-P 109757, 1 specimen, 28.1 cm SL, 15–18 Aug. 1980.

**33. *Pleurogrammus monopterygius*** (Pallas, 1810) [Japanese name: Kitano-hokke]

Rausu-cho: NSMT-P 46963, 16 specimens, 26.9–30.1 cm SL, 20 Oct. 1994; NSMT-P 46964, 16 specimens, 25.8–31.4 cm SL, 20 Oct. 1996.

Matsunori: SMP 0093, 1 specimen, 20.9 cm SL, 15 June 1996.

## Family Cottidae

**34. *Aleichthys alicornis*** (Herzenstein, 1890) [Japanese name: Niji-kajika]

Aidomari: HUMZ 199021, 1 specimen, 12.2 cm SL, 3 June 2007.

Seseki-hama: HUMZ 199682, 1 specimen, 14.4 cm SL, 4 June 2007.

Okkabake Fishing Port: HUMZ 199683, 1 specimen, 16.2 cm SL, 5 June 2007.

Sashirui-hama: HUMZ 200934, 1 specimen, 5.8 cm SL, 28 Aug. 2007.

Kyouei-cho: HUMZ 198878, 1 specimen, 17.5 cm SL, 4 June 2007.

Rōsoku-iwa: KPM-NR0087693, 1 shot at 7 m depth, 6 July 2001.

Rausu-cho: SMP 0067, 1 specimen, 18.1 cm SL, 7 Nov. 1995.

Matsunori: SM 0023, 1 specimen, 18.4 cm SL, 16 June 1995.

**35. *Argyrocottus zanderi*** Herzenstein, 1892 [Japanese name: Itohiki-kajika]

Alechino Cordon: ZIN 54490, 2 specimens, 27–34 mm SL, 6 Sep. 2008.

Kabuto-iwa: HUMZ 201144, 1 specimen, 2.7 cm SL, 26 Aug. 2007.

Rōsoku-iwa: HUMZ 200634, 2 specimens, 3.0–3.8 cm SL, 24 Aug. 2007; KPM-NR0087730, 1 shot at 4 m depth, 27 Aug. 2005.

**36. *Artediellus ochotensis*** Gilbert and Burke, 1912 [Japanese name: Ohōtsuku-kajika]

Toporok St. 32–33: ZIN 44552, 1 specimen, 5.8 cm SL, 3 Sep. 1949.

**37. *Bero elegans*** (Steindachner, 1881) [Japanese name: Bero] (Fig. 2F)

Izmeni Bay: ZIN 54210, 2 specimens, 10.4–13.0 cm SL, 30 Sep. 2005.

Aidomari: HUMZ 203906, 1 specimen, 9.8 cm SL, 14 Aug. 2008.

Rausu-cho: KPM-NR0028800, 1 shot, Sep. 1997; KPM-NR0028801, 1 shot, \*Sep. 1997.

Nemuro: NSMT-P 101705, 1 specimen, 11.2 cm SL, 9 July 2010; NSMT-P 101706, 1 specimen, 7.7 cm SL, 9 July 2010; NSMT-P 102241, 3 specimens, 13.1–15.3 cm SL, 9 July 2010; NSMT-P 102242, 5 specimens, 6.9–10.2 cm SL,



9 July 2010.

**38. *Enophrys diceraus*** (Pallas, 1787) [Japanese name: Oni-kajika]

Veslo Cape: ZIN 40061, 8 specimens, 0.8–1.4 cm SL, 6 July 1969; ZIN 40062, 29 specimens, 0.7–1.8 cm SL, 6 July 1969; ZIN 40064, 9 specimens, 0.8–1.5 cm SL, 10 July 1969.

Sashirui-hama: HUMZ 200938, 1 specimen, 6.9 cm SL, 28 Aug. 2007.

Aidomari: HUMZ 196625, 1 specimen, 12.5 cm SL, 22 July 2006.

Rōsoku-iwa: HUMZ 200638, 1 specimen, 13.8 cm SL, 24 Aug. 2007; HUMZ 200641, 1 specimen, 5.5 cm SL, 24 Aug. 2007; KPM-NR0087659, 1 shot at 18 m depth, 6 May 2000; KPM-NR0087662, 1 shot at 16 m depth, 5 May 2000; KPM-NR0087682, 1 shot at 7 m depth, 6 July 2001; KPM-NR0087683, 1 shot at 6 m depth, 6 July 2001; KPM-NR0087719, 1 shot at 17 m depth, 27 Aug. 2005.

Rausu-cho: SMP 0066, 1 specimen, 16.0 cm SL, 7 Nov. 1995; KPM-NR0028798, 1 shot, \*Sep. 1997; KPM-NR0028806, 1 shot, \*Sep. 1997.

Matsunori: SMP 0049, 1 specimen, 16.4 cm SL, 21 July 1995.

Nemuro: NSMT-P 109758, 1 specimen, 15.0 cm SL, 15–18 Aug. 1980.

**39. *Gymnocanthus detrisus*** Gilbert and Burke, 1912 [Japanese name: Sebiro-kajika]

Rausu Fishing Port: SMP 0098, 1 specimen, 22.2 cm SL, 15 June 1996.

**40. *Gymnocanthus herzensteini*** Jordan and Starks, 1904 [Japanese name: Tsumaguro-kajika]

Kyouei-cho: HUMZ 198886, 1 specimen, 5.8 cm SL, 4 June 2007; HUMZ 198887, 1 specimen, 6.1 cm SL, 4 June 2007.

Rausu Fishing Port: SMP 0119, 1 specimen, 24.7 cm SL, 27 June 1996.

**41. *Gymnocanthus intermedius*** (Temminck and Schlegel, 1843) [Japanese name: Ai-kajika]

Rōsoku-iwa: KPM-NR0087663, 1 shot at 16 m depth, 5 May 2000; KPM-NR0087665, 1 shot at 7 m depth, 5 July 2001.

Rausu-cho: SMP 0021, 1 specimen, 15.5 cm

SL, 16 June 1995; SMP 0048, 1 specimen, 16.3 cm SL, 21 July 1995.

**42. *Hemilepidotus gilberti*** Jordan and Starks, 1904 [Japanese name: Yokosujikajika]

Veslo Cape: ZIN 44631, 1 specimen, 3.4 cm SL, 6 July 1969.

Rausu-cho: SMP 0021, 1 specimen, 15.3 cm SL, 16 June 1995; SMP 0065, 1 specimen, 18.0 cm SL, 7 Nov. 1995.

Nemuro: NSMT-P 109759, 1 specimen, 20.7 cm SL, 15–18 Aug. 1980.

**43. *Icelinus pietschi*** Yabe, Soma and Amaoka, 2001 [Japanese name: Hime-futasuji-kajika]

Nihondaki: HUMZ 196995, 1 specimen, 5.0 cm SL, 25 July 2006.

**44. *Icelus cataphractus*** (Pavlenko, 1910) [Japanese name: Kōrikajika]

Rausu-cho: SMP 0003, 1 specimen, 15.8 cm SL, 16 June 1995; SM, 1 specimen, 17.7 cm SL, 27 June 1996.

**45. *Icelus mororanis*** (Jordan and Seale, 1906) [Japanese name: Usujiri-kajika]

Kyouei-cho: HUMZ 198877, 1 specimen, 3.7 cm SL, 4 June 2007.

**46. *Icelus sekii*** Tsuruoka, Munehara and Yabe, 2006 [Japanese name: Rausu-kajika]

Rausu-cho: HUMZ 179901, 1 specimen, 6.2 cm SL, 22 Apr. 2000; HUMZ 179902, 1 specimen (paratype), 4.9 cm SL, 30 Oct. 2000; HUMZ 187896, 1 specimen (holotype), 4.1 cm SL, 8 Dec. 2003; HUMZ 187897, 188573, 2 specimens (paratypes), 8 Dec. 2003.

Rōsoku-iwa: HUMZ 198892–198893, 2 specimens, 4.2–6.2 cm SL, 5 June 2007.

**47. *Myoxocephalus brandtii*** (Steindachner, 1867) [Japanese name: Shimofuri-kajika]

Izmeni Bay: ZIN 54225, 8 specimens, 7.9–13.1 cm SL, 25 Nov. 2005.

Aidomari: HUMZ 199022, 1 specimen, 5.9 cm SL, 3 June 2007.

Rausu Fishing Port: SMP 0068, 1 specimen, 22.1 cm SL, 7 Nov. 1995.

Matsunori: SMP 0005, 1 specimen, 19.8 cm SL, 16 June 1995.

Odaitou: NSMT-P 102230, 1 specimen, 19.2 cm SL, 7 July 2010; NSMT-P 102231, 3 speci-

mens, 12.2–15.7 cm SL, 7 July 2010; NSMT-P 102232, 3 specimens, 14.0–14.4 cm SL, 7 July 2010; NSMT-P 102233, 3 specimens, 14.2–17.0 cm SL, 7 July 2010.

On'netou: NSMT-P 45332, 2 specimens, 8.3–13.4 cm SL, 17 July 1992.

Nemuro: NSMT-P 101699, 1 specimen, 20.6 cm SL, 8 July 2010; NSMT-P 101700, 1 specimen, 16.9 cm SL, 8 July 2010; NSMT-P 102243, 1 specimen, 14.4 cm SL, 9 July 2010; ZIN 6415, 1 specimen, 17.8 cm SL, \*1881; ZIN 6416, 1 specimen, 16.2 cm SL, \*1881.

**48. *Myoxocephalus jaok*** (Cuvier, 1829) [Japanese name: Oku-kajika]

Nemuro: NSMT-P 109760, 1 specimen, 19.3 cm SL, 15–18 Aug. 1980.

**49. *Myoxocephalus polyacanthocephalus*** (Pallas, 1814) [Japanese name: Toge-kajika]

Rausu Fishing Port: SMP 0115, 1 specimen, 17.9 cm SL, 27 June 1996.

Toporok St. 32–33: ZIN 44414, 1 specimen, 10.0 cm SL, 3 Sep. 1948.

**50. *Myoxocephalus stelleri*** Tilesius, 1811 [Japanese name: Gisu-kajika] (Fig. 2G)

Alechino Cordon: ZIN 41120, 3 specimens, 6.7–8.0 cm SL, 26 July 1972.

Izmeni Bay: ZIN 54210, 2 specimens, 10.4–13.0 cm SL, 12 Oct. 2005.

Yuzhno-Kuril'sk: ZIN 42875, 1 specimen, 22.1 cm SL, \*Aug. 1974; ZIN 45407, 1 specimen, 1.7 cm SL, 17 July 1951.

Kaseki-hama: NSMT-P 102989–102990, 2 specimens, 8.1–11.5 cm SL, 20 June 2008.

Aidomari: HUMZ 197684, 1 specimen, 12.1 cm SL, 7 Nov. 2006.

Rausu Fishing Port: SMP 0069, 1 specimen, 22.9 cm SL, 7 Nov. 1995.

Rōsoku-iwa: KPM-NR0087722, 1 shot at 6 m depth, 27 Aug. 2005.

Odaïtou: NSMT-P 102207, 1 specimen, 14.0 cm SL, 6 June 2010; NSMT-P 102220, 1 specimen, 3.9 cm SL, 6 June 2010.

On'netou: NSMT-P 45333, 2 specimens, 2.4–10.2 cm SL, 17 July 1992.

Nokkamappu: NSMT-P 45311, 10 specimens, 7.7–15.5 cm SL, 17 July 1992; NSMT-P 45312,

20 specimens, 1.8–3.6 cm SL, 17 July 1992.

**51. *Ocynectes maschalis*** Jordan and Starks, 1904 [Japanese name: Idaten-kajika]

Kasekihama: NSMT-P 102995, 1 specimen, 6.6 cm SL, 20 June 2008.

Aidomari: NSMT-P 102987, 1 specimen, 8.2 cm SL, 17 June 2008.

**52. *Porocottus allisi*** (Jordan and Starks, 1904) [Japanese name: Fusakajika]

Alechino settlement: ZIN 38268, 1 specimen, 2.0 cm SL, 20 July 1951.

Kaseki-hama: NSMT-P 102989, 1 specimen, 11.5 cm SL, 20 June 2008.

Aidomari: HUMZ 200252, 1 specimen, 5.2 cm SL, 28 Aug. 2007.

Sashirui-hama: HUMZ 200232, 1 specimen, 3.0 cm SL, 24 Aug. 2007.

Nokkamappu: NSMT-P 45303, 1 specimen, 5.0 cm SL, 17 July 1992; NSMT-P 45304, 1 specimen, 2.3 cm SL, 17 July 1992.

**53. *Porocottus tentaculatus*** (Kner, 1868) [Japanese name: Ito-fusakajika]

Nihondaki: HUMZ 196904, 5.7 cm SL, 25 July 2006; HUMZ 199037, 1 specimen, 4.7 cm SL, 4 June 2007.

**54. *Radulinopsis derjavini*** Soldatov and Lindberg, 1930 [Japanese name: Yasekajika]

Veslo Cape: ZIN 44164, 2 specimens, 2.3–3.0 cm SL, 6 July 1969.

Rōsoku-iwa: KPM-NR0087706, 1 shot at 6 m depth, 8 July 2001; KPM-NR0087608, 1 shot at 3 m depth, 1 May 2000; KPM-NR0087628, 1 shot at 11 m depth, 3 May 2000.

**55. *Ricuzenius nudithorax*** Bolin, 1936 [Japanese name: Munehada-kajika]

Albatross St. 5031: USNM 102104, 1 specimen (holotype), 6.1 cm SL, 30 Sep. 1906.

**56. *Taurocottus bergi*** Soldatov and Pavlenko, 1915 [Japanese name: Kiri-kajika]

Rausu-cho: SMP 0050, 1 specimen, 12.6 cm SL, 21 July 1995; SMP 0089, 1 specimen, 18.1 cm SL, 11 Dec. 1995.

**57. *Triglops scepticus*** Gilbert, 1896 [Japanese name: Nirami-kajika]

Rausu-cho: SMP 0002, 1 specimen, 18.3 cm SL, 16 June 1995.

## Family Hemitripterae

- 58. *Blepsias bilobus*** Cuvier, 1829 [Japanese name: Hokake-anahaze]  
Veslo Cape: ZIN 44637, 19 specimens, 2.8–3.5 cm SL, 6 July 1969.  
Rōsoku-iwa: KPM-NR0087630, 20 m depth, 3 May 2000; KPM-NR0087738, 1 shot at 17 m depth, 27 Aug. 2005; KPM-NR0087752, 1 shot at 17 m depth, 28 Aug. 2005.  
Matsunori: SMP 0033, 1 specimen, 20.0 cm SL, 6 July 1995.
- 59. *Blepsias cirrhosus*** (Pallas, 1814) [Japanese name: Isobatengu]  
Alechino Cordon: ZIN 54518, 1 specimen, 4.9 cm SL, 6 Sep. 2008.  
Izmeni Bay: ZIN 54211, 13 specimens, 6.5–16.0 cm SL, 12 Oct. 2005.  
Veslo Cape: ZIN 44637, 3 specimens, 2.8–3.5 cm SL, 6 July 1969.  
Aidomari: HUMZ 196583, 1 specimen, 4.2 cm SL, 22 July 2006; NSMT-P 102982, 1 specimen, 2.4 cm SL, 17 June 2008.  
Kaseki-hama: HUMZ 196675, 1 specimen, 4.4 cm SL, 23 July 2006.  
Rausu-cho: SMP 0074, 1 specimen, 16.1 cm SL, 7 Nov. 1995.  
Nokkamappu: NSMT-P 45302, 1 specimen, 4.9 cm SL, 17 July 1992; NSMT-P 45322, 19 specimens, 3.6–5.2 cm SL, 17 July 1992.
- 60. *Hemitripterus villosus*** (Pallas, 1814) [Japanese name: Kemushi-kajika]  
Veslo Cape: ZIN 44631, 1 specimen, 3.4 cm SL, 6 July 1969; ZIN 44639, 3 specimens, 3.2–4.1 cm SL, 6 July 1969.  
Rausu-cho: SMP 0041, 1 specimen, 21.9 cm SL, 21 July 1995; SMP 0117, 1 specimen, 18.0 cm SL, 27 June 1996.  
Nemuro: ZIN 6153, 1 specimen, 11.8 cm SL, \*1881; ZIN 6154, specimen, 9.7 cm SL, \*1881.  
Toporok St. 32: ZIN 44182, 1 specimen, 5.7 cm SL, 3 Sep. 1948.
- 61. *Nautichthys pribilovius*** (Jordan and Gilbert, 1898) [Japanese name: Okoze-kajika]  
Sashirui-hama: HUMZ 200257, 1 specimen, 6.9 cm SL, 28 Aug. 2007.

## Family Agonidae

- 62. *Bothragonus occidentalis*** Lindberg, 1935 [Japanese name: Sai-tokubire]  
Nihondaki: HUMZ 196996, 1 specimen, 4.9 cm SL, 25 July 2006.  
Funadomari: HUMZ 195741, 1 specimen, 5.4 cm SL, 24 July 2006.  
Sashirui-hama: NSMT-P 102980, 1 specimen, 3.0 cm SL, 18 June 2008.  
Rōsoku-iwa: KPM-NR0087653, 1 shot at 20 m depth, 6 May 2000; KPM-NR0087725–0087726, 2 shots at 4 m depth, 27 Aug. 2005; KPM-NR0087733, 1 shot at 4 m depth, 27 Aug. 2005.
- 63. *Brachyopsis segaliensis*** (Tilesius, 1809) [Japanese name: Shichirō-uo] (Fig. 2H)  
Izmeni Bay: ZIN 43475, 1 specimen, 14.3 cm SL, 11 Aug. 1951; ZIN 54213, 4 specimens, 12.0–20.0 cm SL, 30 Sep. 2005.  
Yuzhno-Kuril'sk: ZIN 54212, 1 specimen, 7.9 cm SL, 11 Sep. 2005.  
Rausu Fishing Port: SMP 0134, 1 specimen, 24.7 cm SL, 27 June 1996.  
Nemuro: NSMT-P 109762, 2 specimens, 20.8–23.7 cm SL, 15–18 Aug. 1980.
- 64. *Hypsogonus corniger*** Taranetz, 1933 [Japanese name: Tongari-shachi-uo]  
Rausu-cho: SMP 0135, 1 specimen, 8.4 cm SL, 27 June 1996.  
Nokkamappu: NSMT-P 45320, 1 specimen, 15.2 cm SL, 17 July 1992; NSMT-P 45321, 4 specimens, 4.0–4.7 cm SL, 17 July 1992.
- 65. *Hypsogonus jordani*** (Jordan and Starks, 1904) [Japanese name: Kumagai-uo]  
Rōsoku-iwa: KPM-NR0087627, 30 m depth, 3 May 2000.  
Rausu-cho: SMP 0031, 1 specimen, 10.6 cm SL, 24 July 1995.
- 66. *Hypsogonus proboscoidalis*** (Valenciennes, 1858) [Japanese name: Atsumori-uo]  
Rōsoku-iwa: KPM-NR0028803, NR0028804, 2 shots, \*Sep. 1997; KPM-NR0087656, 1 shot at 23 m depth, 6 May 2000; KPM-NR0087661, 1 shot at 20 m depth, 5 May 2000; KPM-NR0087685–0087687, 3 shots at 19 m depth, 6 July 2001; KPM-NR0087690–0087692, 3 shots

at 17 m depth, 6 July 2001; KPM-NR0087713, 1 shot at 5 m depth, 8 July 2001.

Nokkamappu: NSMT-P 45329, 1 specimen, 11.4 cm SL, 17 July 1992.

**67. *Freemanichthys thompsoni*** (Jordan and Gilbert, 1898) [Japanese name: Yase-tokubire]  
Matsunori: SMP 0100, 1 specimen, 12.9 cm SL, 15 June 1996.

**68. *Ocella kasawai*** (Jordan and Hubbs, 1925)  
[Japanese name: Yase-saburō]  
Yuzhno-Kuril'sk: ZIN 42883, 1 specimen, 19.9 cm SL, \*Aug. 1974; ZIN 54214, 1 specimen, 13.2 cm SL, 11 Sep. 2005.

Nemuro: ZIN 24292, 1 specimen, 17.0 cm SL, \*1881.

**69. *Pallasina barbata*** (Steindachner, 1876)  
[Japanese name: Yagi-uo]  
Puzanova Cape: ZIN 39725, 7 specimens, 8.5–11.7 cm SL, 4 July 1969.

Rōsoku-iwa: KPM-NR0087668, 1 shot at 7 m depth, 5 July 2001; KPM-NR0087742, 1 shot at 5 m depth, 27 Aug. 2005; KPM-NR0087747, 1 shot at 5 m depth, 27 Aug. 2005; KPM-NR0087756, 1 shot at 6 m depth, 28 Aug. 2005; KPM-NR0087613, 1 shot at 27 m depth, 2 May 2000.

Nokkamappu: NSMT-P 45323, 7 specimens, 3.9–5.2 cm SL, 17 July 1992.

**70. *Percis japonica*** (Pallas, 1769) [Japanese name: Inugochi]  
Rausu Fishing Port: SMP 0133, 1 specimen, 15.1 cm SL, 27 June 1996.

**71. *Podothecus hamlini*** Jordan and Gilbert, 1898 [Japanese name: Chishima-tokubire]  
Rausu-cho: SMP 0114, 1 specimen, 16.4 cm SL, 27 June 1996.

**72. *Podothecus sachi*** (Jordan and Snyder, 1901)  
[Japanese name: Tokubire]  
Rausu Fishing Port: SMP 0101, 1 specimen, 15.8 cm SL, 15 June 1995; SMP 0103, 1 specimen, 32.1 cm SL, 15 June 1996; SMP 0132, 1 specimen, 19.0 cm SL, 27 June 1996.

**73. *Podothecus sturioides*** (Guichenot, 1869)  
[Japanese name: Same-tokubire]  
Veslo Cape: ZIN 44810, 2 specimens, 2.7–2.8 cm SL, 18 Aug. 1947.

Rausu-cho: SMP 0051, 1 specimen, 19.1 cm SL, 21 July 1995.

**74. *Tilesina gibbosa*** Schmidt, 1904 [Japanese name: Oni-shachi-uo]  
Matsunori: SMP 0079, 1 specimen, 23.0 cm SL, 6 Nov. 1995; SMP 0131, 1 specimen, 27.3 cm SL, 27 June 1996.

Nemuro: KPM-NR0087657, 1 shot at 24 m depth, 6 May 2000.

#### Family Psychrolutidae

**75. *Dasycottus setiger*** Bean, 1890 [Japanese name: Ganko]  
Rausu Fishing Port: SMP 0126, 1 specimen, 14.7 cm SL, 27 June 1996.

**76. *Eurymen gyrinus*** Gilbert and Burke, 1912 [Japanese name: Yagishiri-kajika]  
Rausu-cho: SMP 0025, 1 specimen, 23.9 cm SL, 16 June 1995.

**77. *Malacocottus zonurus*** Bean, 1890 [Japanese name: Kobushi-kajika]  
Rausu Fishing Port: SMP 0026, 1 specimen, 16.7 cm SL, 16 June 1995; SMP 0125, 1 specimen, 14.3 cm SL, 27 June 1996.

#### Family Cyclopteridae

**78. *Aptocyclus ventricosus*** (Pallas, 1769) [Japanese name: Hotei-uo]  
Nihondaki: HUMZ 196978, 1 specimen, 0.9 cm SL, 25 July 2006.

Kaseki-hama: HUMZ 197936, 1 specimen, 0.8 cm SL, 23 July 2006.

Matsunori: SMP 0011, 1 specimen, 19.1 cm SL, 16 June 1995.

**79. *Eumicrotremus taranetzi*** Perminov, 1936 [Japanese name: Name-dango]  
Rausu-cho: NSMT-P 66509, 1 specimen, 2.4 cm SL, date unknown.

#### Family Liparidae

**80. *Careproctus rausuensis*** Machi, Nobetsu and Yabe, 2012 [Japanese name: Tama-kon'nyaku-uo]  
Rausu-cho: HUMZ 202085, 1 specimen (holotype), 14.6 cm SL, 29 Sep. 2007; HUMZ 202086, 1 specimen (paratype), 10.6 cm SL, 2 Oct. 2007;

HUMZ 202110, 1 specimen (paratype), 7.3 cm SL, 7 Jan. 2008; HUMZ 203619, 1 specimen (paratype), 6.0 cm SL, 25 Feb. 2008; HUMZ 203635, 1 specimen (paratype), 13.8 cm SL, 5 Feb. 2008; HUMZ 203638, 1 specimen (paratype), 9.3 cm SL, 22 June 2008; HUMZ 203640, 1 specimen (paratype), 16.4 cm SL, 21 July 2008; HUMZ 203644, 1 specimen (paratype), 8.8 cm SL, 14 Feb. 2008; HUMZ 203647, 1 specimen (paratype), 13.6 cm SL, 1 Aug. 2008; HUMZ 203783, 1 specimen (paratype), 5.6 cm SL, 5 Dec. 2008; HUMZ 203786, 1 specimen (paratype), 10.7 cm SL, 26 Sep. 2008; HUMZ 203804, 1 specimen (paratype), 7.5 cm SL, 12 Feb. 2008; HUMZ 203815, 1 specimen (paratype), 16.1 cm SL, 20 Oct. 2008; HUMZ 203822, 1 specimen (paratype), 10.8 cm SL, 13 Nov. 2008; HUMZ 203828, 1 specimen (paratype), 13.5 cm SL, 27 Oct. 2008; HUMZ 203839, 1 specimen (paratype), 8.4 cm SL, 19 Aug. 2008; HUMZ 203840, 1 specimen (paratype), 8.0 cm SL, 10 Sep. 2008; HUMZ 203850, 1 specimen (paratype), 5.4 cm SL, 4 Sep. 2008; HUMZ 203855, 1 specimen (paratype), 9.7 cm SL, 19 Sep. 2008; HUMZ 204741, 1 specimen (paratype), 10.7 cm SL, 19 Sep. 2008; HUMZ 204747, 1 specimen (paratype), 11.2 cm SL, 16 Jan. 2009; HUMZ 204756, 1 specimen (paratype), 8.1 cm SL, 14 April 2009; HUMZ 204768, 1 specimen (paratype), 6.2 cm SL, 18 Jan. 2009; HUMZ 204776, 1 specimen (paratype), 11.2 cm SL, 10 Jan. 2009; HUMZ 204791, 1 specimen (paratype), 5.9 cm SL, 31 Dec. 2008; HUMZ 205645, 1 specimen (paratype), 7.1 cm SL, 3 June 2008; HUMZ 205764, 1 specimen (paratype), 9.2 cm SL, 11 June 2009; NSMT-P 106564, 1 specimen (paratype), 12.1 cm SL, 20 Nov. 2007; NSMT-P 106565, 1 specimen (paratype), 11.5 cm SL, 7 Jan. 2008; NSMT-P 106566, 1 specimen (paratype), 9.1 cm SL, 19 Nov. 2007; NSMT-P 106567, 1 specimen (paratype), 5.9 cm SL, 28 Sep. 2007; NSMT-P 106568, 1 specimen (paratype), 15.1 cm SL, 20 Feb. 2008; USNM 404475, 1 specimen (paratype), 11.5 cm SL, 4 Sep. 2008; USNM 404476, 1 specimen (paratype), 12.5 cm SL, 15 Jan. 2008.

**81. *Liparis agassizii*** Putnam, 1874 [Japanese

name: Ezo-kusauo]

Izmeni Bay: ZIN 55129, 20 specimens, 85–195 mm SL, 12 Oct. 2005.

Rausu Fishing Port: SMP 0087, 1 specimen, 29.0 cm SL, 7 Nov. 1995.

Nokkamappu: NSMT-P 45305, 1 specimen, 5.8 cm SL, 17 July 1992; NSMT-P 45306, 1 specimen, 5.6 cm SL, 17 July 1992.

**82. *Liparis miostomus*** Matsubara and Iwai, 1954 [Japanese name: Kokuchi-kusauo]

Kasekihama: HUMZ 198978, 1 specimen, 7.2 cm SL, 3 June 2007; NSMT-P 102991, 1 specimen, 6.3 cm SL, 20 June 2008.

**83. *Liparis tessellatus*** (Gilbert and Burke, 1912) [Japanese name: Bikunin]

Nemuro: NSMT-P 109774, 1 specimen, 10.5 cm SL, 15–18 Aug. 1980.

#### Order Perciformes

##### Family Carangidae

**84. *Trachurus japonicus*** (Temminck and Schlegel, 1844) [Japanese name: Ma-aji]

Matsunori: SMP 0054, 1 specimen, 23.0 cm SL, 6 July 1995.

##### Family Bathymasteridae

**85. *Bathymaster derjugini*** Lindberg, 1930 [Japanese name: Sumitsuki-medamauo]

Rōsoku-iwa: KPM-NR0028725, 1 shot, \*Sep. 1997; KPM-NR0087658, 1 shot at 23 m depth, 6 May 2000; KPM-NR0087696, 1 shot at 22 m depth, 7 July 2001; HUMZ 200234, 1 specimen, 15.6 cm SL, 24 Aug. 2007; HUMZ 200235, 1 specimen, 5.5 cm SL, 24 Aug. 2007.

##### Family Zoarcidae

**86. *Bothrocara zestum*** Jordan and Fowler, 1902 [Japanese name: Shiro-genge]

Rausu Fishing Port: SMP 0129, 1 specimen, 43.6 cm SL, 27 June 1996.

**87. *Bothrocarina microcephala*** (Schmidt, 1938) [Japanese name: Kamuchakka-genge]

Rausu Fishing Port: SMP 0105, 1 specimen, 36.7 cm SL, 15 June 1996; SMP 0123, 1 specimen, 36.4 cm SL, 27 June 1996.

- 88. *Petroschmidtia albonotata*** (Taranez and Andriashev, 1934) [Japanese name: Hana-ge] Rausu-cho: SMP 0108, 1 specimen, 49.1 cm SL, 27 June 1995.
- 89. *Zoarces elongatus*** Kner, 1868 [Japanese name: Naga-gaji] (Fig. 2O) Alechino Cordon: ZIN 41655, 1 specimen, 33.5 cm SL, 23 July 1951; ZIN 54484, 2 specimens, 13.3–14.6 cm SL, 6 Sep. 2008. Izemeni Bay: ZIN 46774, 1 specimen, 7.7 cm SL, 4 July 1951; ZIN 46775, 1 specimen, 14.6 cm SL, 5 July 1951; ZIN 53981, 4 specimens, 21.4–39.5 cm SL, 30 Sep. 2005. Aidomari: HUMZ 196606, 1 specimen, 9.3 cm SL, 22 July 2006; HUMZ 198938, 1 specimen, 6.3 cm SL, 2 June 2007. Okkabake Fishing Port: HUMZ 199148, 1 specimen, 7.8 cm SL, 5 June 2007; HUMZ 199151, 1 specimen, 7.9 cm SL, 5 June 2007. Rausu-cho: SMP 0043, 1 specimen, 33.4 cm SL, 21 July 1995. Kunbetsu: NSMT-P 101714–101715, 2 specimens, 30.1–35.8 cm SL, 7 July 2010. Odaitou: NSMT-P 102203, 1 specimen, 20.8 cm SL, 6 July 2010; NSMT-P 102227–102229, 3 specimens, 23.3–34.1 cm SL, 7 July 2010. On'netou: NSMT-P 45334, 2 specimens, 11.1–11.2 cm TL, 17 July 1992. Nemuro: NSMT-P 109756, 1 specimen, 32.5 cm SL, 15–18 Aug. 1980. Nokkamappu: NSMT-P 45314, 1 specimen, 8.6 cm TL, 17 July 1992; NSMT-P 45317, 1 specimen, 27.8 cm TL, 17 July 1992; NSMT-P 45318, 3 specimens, 9.6–10.0 cm TL, 17 July 1992. Nosappu: NSMT-P 80263, 2 specimens, 8.0–8.5 cm SL, 1 July 1984.
- Family Stichaeidae
- 90. *Acantholumpenus mackayi*** (Gilbert, 1896) [Japanese name: Nuime-gaji] Rausu-cho: SMP 0009, 1 specimen, 41.3 cm SL, 16 June 1995.
- 91. *Alectrias alectrolophus*** (Pallas, 1814) [Japanese name: Kita-mushaginpo] Nihondaki: HUMZ 196982, 4 specimens, 8.9–10.7 cm SL, 25 July 2006. Funadomari: HUMZ 196881, 18 specimens, 5.0–9.1 cm SL, 24 July 2006. Kaseki-hama: HUMZ 196662, 6 specimens, 6.2–8.5 cm SL, 23 July 2007. Nokkamappu: NSMT-P 45316, 4 specimens, 5.7–10.1 cm SL, 17 July 1992.
- 92. *Alectrias benjamini*** Jordan and Snyder, 1902 [Japanese name: Mushaginpo] Nihondaki: HUMZ 196983, 16 specimens, 5.3–9.9 cm SL, 25 July 2006. Aidomari: HUMZ 196602, 1 specimen, 9.4 cm SL, 22 July 2006. Rausu-cho: NSMT-P 102985, 1 specimen, 9.3 cm SL, 17 June 2008.
- 93. *Chirolophis japonicus*** Herzenstein, 1892 [Japanese name: Fusaginpo] (Fig. 2J) Izemeni Bay: ZIN 54219, 6 specimens, 14.0–21.1 cm SL, 12 Oct. 2005. Rōsoku-iwa: KPM-NR0028726, \*Sep. 1997; KPM-NR0087721, 1 shot at 16 m depth, 27 Aug. 2005; KPM-NR0087723, KPM-NR0087728, KPM-NR0087750, 3 shots at 4 m depth, 27 Aug. 2005; KPM-NR0087753, 1 shot at 8 m depth, 28 Aug. 2005; KPM-NR0087614, 1 shot at 27 m depth, 2 May 2000. Rausu Fishing Port: SMP 0076, 1 specimen, 33.5 cm SL, 7 Nov. 1995; SMP 0107, 1 specimen, 30.3 cm SL, 15 June 1996. Odaitou: NSMT-P 102226, 1 specimen, 35.8 cm SL, 7 July 2010. Nemuro: NSMT-P 102239, 1 specimen, 29.9 cm SL, 9 July 2010. Nokkamappu: NSMT-P 45308, 1 specimen, 20.8 cm SL, 17 July 1992.
- 94. *Ernogrammus hexagrammus*** (Schlegel, 1845) [Japanese name: Musuji-gaji] Golovnino settlement: ZIN 39873, 1 specimen, 9.8 cm SL, 11 Aug. 1951. Izemeni Bay: ZIN 39871, 2 specimens, 7.9–10.7 cm SL, 28 July 1951; ZIN 39872, 18 specimens, 6.6–10.1 cm SL, 8 Aug. 1951.
- 95. *Gymnoclinus cristulatus*** Gilbert and Burke, 1912 [Japanese name: Kemushi-ginpo] Nihondaki: HUMZ 199070, 1 specimen, 3.0

cm SL, 4 June 2007.

Aidomari: HUMZ 199192, 1 specimen, 3.1 cm SL, 2 June 2007.

**96. *Lumpenus sagitta*** Wilimovsky, 1956 [Japanese name: Unagi-gaji]

Nemuro: NSMT-P 109771, 1 specimen, 21.4 cm SL, 15–18 Aug. 1980.

**97. *Opisthocentrus ocellatus*** (Tilesius, 1811) [Japanese name: Gaji] (Fig. 2K)

Izmeni Bay: ZIN 54216, 19 specimens, 13.0–16.6 cm SL, 30 Sep. 2005.

Odaitou: NSMT-P 102216, 1 specimen, 4.0 cm SL, 6 July 2010; NSMT-P 102217, 1 specimen, 4.1 cm SL, 6 July 2010; NSMT-P 102218, 5 specimens, 2.0–3.6 cm SL, 6 July 2010.

Nokkamappu: NSMT-P 45330, 106 specimens, 2.9–4.6 cm SL, 17 July 1992.

**98. *Opisthocentrus tenuis*** Bean and Bean, 1897 [Japanese name: Hanajiro-gaji] (Fig. 2L)

Izmeni Bay: ZIN 54217, 3 specimens, 13.2–15.2 cm SL, 12 Oct. 2005.

Rōsoku-iwa: KPM-NR0087671, 1 shot at 7 m depth, 5 July 2001; KPM-NR0087755, 1 shot at 2 m depth, 28 Aug. 2005.

**99. *Opisthocentrus zonope*** Jordan and Snyder, 1902 [Japanese name: Oki-kazunagi]

Rōsoku-iwa: KPM-NR0087701–0087702, 2 shots at 8 m depth, 7 July 2001; KPM-NR0087715, 1 shot at 10 m depth, 27 Aug. 2005.

**100. *Pholidapus dybowskii*** (Steindachner, 1880) [Japanese name: Muroran-ginpo] (Fig. 2M)

Alechino Cordon: ZIN 54506, 6 specimens, 4.6–5.6 cm SL, 6 Sep. 2008.

Izmeni Bay: ZIN 54244, 9 specimens, 12.0–15.5 cm SL, 5 Oct. 2005.

Rōsoku-iwa: KPM-NR0087673, 1 shot at 7 m depth, 5 July 2001.

Sashirui-hama: HUMZ 200611, 1 specimen, 5.9 cm SL, 24 Aug. 2007.

Rausu Fishing Port: SMP 0045, 1 specimen, 29.5 cm SL, 21 July 1995; SMP 0077, 1 specimen, 33.8 cm SL, 7 Nov. 1995.

Kunbetsu: NSMT-P 101713, 1 specimen, 18.6 cm SL, 7 July 2010.

Odaitou: NSMT-P 102204, 1 specimen, 21.3 cm SL, 6 July 2010; NSMT-P 102219, 1 speci-

men, 2.2 cm SL, 6 July 2010; NSMT-P 102224, 1 specimen, 21.1 cm SL, 7 July 2010; NSMT-P 102225, 1 specimen, 20.4 cm SL, 7 July 2010.

Nemuro: NSMT-P 101707, 1 specimen, 20.6 cm SL, 9 July 2010; NSMT-P 101708, 10 specimens, 2.3–3.1 cm SL, 9 July 2010; NSMT-P 102238, 1 specimen, 21.2 cm SL, 9 July 2010; NSMT-P 109769–109770, 2 specimens, 16.0–27.5 cm SL, 15–18 Aug. 1980.

Nokkamappu: NSMT-P 45300, 5 specimens, 10.4–15.2 cm SL, 17 July 1992; NSMT-P 45325, 4 specimens, 8.1–12.2 cm SL, 17 July 1992.

**101. *Pseudalectrias tarasovi*** (Popov, 1933) [Japanese name: Nise-kitanotosaka]

Kabuto-iwa: HUMZ 200730, 19 specimens, 6.6–14.8 cm SL, 26 Aug. 2007.

Funadomari: HUMZ 196756, 1 specimen, 13.3 cm SL, 24 July 2006.

Kaseki-hama: HUMZ 198982, 1 specimen, 14.2 cm SL, 3 June 2007; HUMZ 198983, 1 specimen, 13.4 cm SL, 3 June 2007; NSMT-P 102993, 1 specimen, 15.0 cm SL, 20 June 2008; NSMT-P 102994, 1 specimen, 9.8 cm SL, 20 June 2008.

**102. *Stichaeopsis epallax*** (Jordan and Snyder, 1902) [Japanese name: Ame-gaji] (Fig. 2I)

Golovinino settlement: ZIN 39835, 1 specimen, 14.9 cm SL, 11 Aug. 1951.

Izmeni Bay: ZIN 54218, 3 specimens, 20.0–21.0 cm SL, 25 Sep. 2005.

Veslo Cape: ZIN 40051, 1 specimen, 19.8 cm SL, 30 Apr. 1969.

**103. *Stichaeopsis nana*** Kner, 1870 [Japanese name: Goma-ginpo]

Yuzhno-Kuril'sk: ZIN 39883, 1 specimen, 7.1 cm SL, 20 Aug. 1951; ZIN 39884, 5 specimens, 8.2–10.5 cm SL, 19 Aug. 1951.

Nihondaki: HUMZ 199072, 1 specimen, 10.3 cm SL, 4 June 2007.

Kaseki-hama: HUMZ 198991, 1 specimen, 13.7 cm SL, 3 June 2007; NSMT-P 102992, 1 specimen, 7.7 cm SL, 20 June 2008.

Aidomari: HUMZ 198948, 1 specimen, 7.0 cm SL, 2 June 2007.

Okkabake Fishing Port: HUMZ 199162, 1 specimen, 15.8 cm SL, 5 June 2007.

Rausu-cho: NSMT-P 102983, 1 specimen, 6.2 cm SL, 17 June 2008.

Nokkamappu: NSMT-P 45309, 5 specimens, 15.1–17.0 cm SL, 17 July 1992; NSMT-P 45310, 9 specimens, 7.6–13.1 cm SL, 17 July 1992; NSMT-P 45319, 3 specimens, 12.3–17.8 cm SL, 17 July 1992.

**104. *Stichaeus grigorjewi*** Herzenstein, 1890 [Japanese name: Nagaduka]

Rausu-cho: SMP 0040, 1 specimen, 26.3 cm SL, 21 July 1995.

**105. *Stichaeus nozawae*** Jordan and Snyder, 1902 [Japanese name: Tauegaji]  
Toporok St. 112: ZIN 39818, 2 specimens, 19 Sep. 1949.

**106. *Stichaeus punctatus*** (Fabricius, 1780) [Japanese name: Nise-tauegaji]  
Rōsoku-iwa: KPM-NR0087684, 1 shot at 12 m depth, 6 July 2001; KPM-NR0087711, 1 shot at 6 m depth, 8 July 2001.

**107. *Lumpenella longirostris*** (Evermann and Goldsborough, 1907) [Japanese name: Nezumi-ginpo]  
Rausu-cho: SMP 0037, 1 specimen, 30.3 cm SL, 6 July 1995.

**108. *Neozarces pulcher*** Steindachner, 1880 [Japanese name: Hana-itoginpo]  
Rōsoku-iwa: KPM-NR0087672, 1 shot at 7 m depth, 5 July 2001; KPM-NR0087734, 1 shot at 9 m depth, 27 Aug. 2005.

Rausu-cho: NSMT-P 102984, 1 specimen, 7.8 cm TL, 17 June 2008.

#### Family Pholidae

**109. *Pholis crassispina*** (Temminck and Schlegel, 1845) [Japanese name: Take-ginpo]  
Alechino Cordon: ZIN 41640, 1 specimen, 11.0 cm SL, 19 July 1951; ZIN 54520, 1 specimen, 12.0 cm SL, 6 Sep. 2008.

Odaitou: NSMT-P 102205–102206, 2 specimens, 9.0–12.6 cm SL, 6 July 2010.

Onnetou: NSMT-P 45335, 1 specimen, 11.4 cm SL, 17 July 1992.

Nokkamappu: NSMT-P 45315, 7 specimens, 16.0–19.2 cm SL, 17 July 1992; NSMT-P 45331, 7 specimens, 13.2–18.0 cm SL, 17 July 1992.

**110. *Pholis nebulosus*** (Temminck and Schlegel, 1845) [Japanese name: Ginpo]

Izmeni Bay: ZIN 41650, 1 specimen, 9.7 cm SL, 28 July 1951; ZIN 41651, 3 specimens, 10.4–14.2 cm SL, 7 July 1951; ZIN 41652, 1 specimen, 9.9 cm SL, 8 July 1951.

**111. *Pholis nea*** Peden and Hughes, 1984 [Japanese name: Aya-ginpo]

Funadomari: HUMZ 197016, 1 specimen, 10.5 cm SL, 24 July 2006.

**112. *Pholis picta*** (Kner, 1868) [Japanese name: Nishiki-ginpo] (Fig. 2N)

Izmeni Bay: ZIN 54215, 3 specimens, 21.5–23.5 cm SL, 25 Sep. 2005.

Kabuto-iwa: HUMZ 201152, 1 specimen, 5.1 cm SL, 26 Aug. 2006.

Aidomari: HUMZ 201180, 1 specimen, 5.3 cm SL, 28 Aug. 2007.

**113. *Rhodymenichthys dolichogaster*** (Pallas, 1814) [Japanese name: Hakodate-ginpo]

Alechino settlement: ZIN 41640, 1 specimen, 11.0 cm SL, 19 July 1951.

Kabuto-iwa: HUMZ 200768, 14 specimens, 5.0–13.1 cm SL, 26 Aug. 2007.

Kaseki-hama: NSMT-P 102996, 1 specimen, 10.0 cm SL, 20 June 2008; NSMT-P 102997, 1 specimen, 9.4 cm SL, 20 June 2008.

Aidomari: HUMZ 196621, 10 specimens, 8.5–10.6 cm SL, 22 July 2006; HUMZ 196665, 21 specimens, 3.7–17.0 cm SL; NSMT-P 102986, 1 specimen, 8.6 cm SL, 17 June 2008.

Nokkamappu: NSMT-P 45298, 5 specimens, 9.8–15.3 cm SL, 17 July 1992.

#### Family Anarhichadidae

**114. *Anarhichas orientalis*** Pallas, 1814 [Japanese name: Ōkamiuo]

Rōsoku-iwa: KPM-NR0028739, 1 shot, \*Sep. 1997; KPM-NR0087652, 1 shot at 20 m depth, 6 May 2000; KPM-NR0087716, 1 shot at 21 m depth, 27 Aug. 2005.

Matsunori: SMP 0030, 1 specimen, 30.7 cm SL, 24 July 1995.

#### Family Trichodontidae

**115. *Arctoscopus japonicus*** (Steindachner,



1881) [Japanese name: Hatahata]

Rausu Fishing Port: SMP 0070, 1 specimen, 20.0 cm SL, 7 Nov. 1995.

Rausu-cho: KPM-NR0025626, 1 shot, \*Sep. 1997.

Matsunori: SMP 0127, 1 specimen, 19.2 cm SL, 27 June 1996.

#### Family Ammodytidae

**116. *Ammodytes personatus*** Girard 1856 [Japanese name: Ikanago]

Nemuro: NSMT-P 109775, 1 specimen, 18.4 cm SL, 15–18 Aug. 1980.

#### Family Tripterygiidae

**117. *Springerichthys bapturnus*** (Jordan and Snyder, 1902) [Japanese name: Hime-ginpo]

Rausu: KPM-NR0028728–0028731, 4 shots, \*Sep. 1997.

#### Family Gobiidae

**118. *Luciogobius guttatus*** Gill, 1859 [Japanese name: Mimizuhaze]

Golovnino settlement: ZIN 39724, 11 specimens, 5.5–5.8 cm SL, 28 June 1969.

Kaseki-hama: HUMZ 196690–196691, 2 specimens, 4.8–5.3 cm SL, 23 July 2006.

Aidomari: HUMZ 196608–196610, 3 specimens, 4.9–7.6 cm SL, 22 July 2006; HUMZ 201181–201187, 7 specimens, 4.4–6.9 cm SL, 28 Aug. 2007.

#### Family Trichiuridae

**119. *Trichiurus lepturus*** Temminck and Schlegel, 1844 [Japanese name: Tachiuo]

Matsunori: SMP 0109, 1 specimen, 51.5 cm SL, 27 June 1996.

#### Family Scombridae

**120. *Scomber japonicus*** Houttuyn, 1782 [Japanese name: Ma-saba]

Matsunori: SMP 0044, 1 specimen, 33.0 cm SL, 21 July 1995.

### Order Pleuronectiformes

#### Family Pleuronectidae

**121. *Acanthopsetta nadeshnyi*** Schmidt, 1904 [Japanese name: Urocome-garei]

Rausu Fishing Port: SMP 0016, 1 specimen, 22.5 cm SL, 16 June 1995.

**122. *Atheresthes evermanni*** Jordan and Starks, 1904 [Japanese name: Abura-garei]

Rausu Fishing Port: SMP 0124, 1 specimen, 22.9 cm SL, 27 June 1996.

**123. *Clidoderma asperinum*** (Temminck and Schlegel, 1846) [Japanese name: Same-garei]

Rausu-cho: SMP 0014, 1 specimen, 22.5 cm SL, 16 June 1995.

Nemuro: NSMT-P 109764, 1 specimen, 23.0 cm SL, 15–18 Aug. 1980.

**124. *Glyptocephalus stelleri*** (Schmidt, 1904) [Japanese name: Hireguro]

Rausu Fishing Port: SMP 0137, 1 specimen, 18.2 cm SL, 27 June 1996.

Nemuro: NSMT-P 109767, 1 specimen, 23.6 cm SL, 15–18 Aug. 1980.

**125. *Hippoglossoides dubius*** Schmidt, 1904 [Japanese name: Aka-garei]

Rausu: NSMT-P 111073, 2 specimens, 21.6–26.6 cm SL, 20 July 2012.

**126. *Hippoglossoides pinetorum*** (Jordan and Starks, 1904) [Japanese name: Sōhachi]

Matsunori: SMP 0018, 1 specimen, 17.9 cm SL, 16 June 1995.

Nemuro: NSMT-P 109766, 1 specimen, 19.8 cm SL, 15–18 Aug. 1980.

**127. *Kareius bicoloratus*** (Basilewsky, 1855) [Japanese name: Ishi-garei]

Alechino Cordon: ZIN 45563, 1 specimen, 22.5 cm SL, 23 July 1951.

Tokorok St. 112/88: ZIN 45564, 1 specimen, 24.5 cm SL, 19 Sep. 1949.

**128. *Platichthys stellatus*** (Pallas, 1787) [Japanese name: Numa-garei]

Nemuro: NSMT-P 109763, 1 specimen, 21.5 cm SL, 15–18 Aug. 1980.

**129. *Pleuronectes asper*** Pallas, 1814 [Japanese name: Kogane-garei]

Rausu Fishing Port: SMP 0015, 1 specimen,

15.6 cm SL, 16 June 1995; SMP 0136, 1 specimen, 20.3 cm SL, 27 June 1996.

Nemuro: NSMT-P 109777, 1 specimen, 19.5 cm SL, 15–18 Aug. 1980.

**130. *Pleuronectes herzensteini*** (Jordan and Snyder, 1901) [Japanese name: Ma-garei]

Rausu-cho: KPM-NR0023695–0023696, 2 shots, \*Sep. 1997.

Nemuro: NSMT-P 109776, 1 specimen, 20.8 cm SL, 15–18 Aug. 1980.

**131. *Pleuronectes mochigarei*** (Snyder, 1911) [Japanese name: Asaba-garei]

Matsunori: SMP 0047, 1 specimen, 16.4 cm SL, 21 July 1995; SMP 0083, 1 specimen, 21.5 cm SL, 7 Nov. 1995.

Nemuro: NSMT-P 109779, 1 specimen, 17.8 cm SL, 15–18 Aug. 1980.

**132. *Pleuronectes obscurus*** Herzenstein, 1890 [Japanese name: Kuro-garei] (Fig. 2P)

Golovnino settlement: ZIN 54229, 1 specimen, 22.0 cm SL, 25 Nov. 2005.

Rausu-cho: SMP 0013, 1 specimen, 20.9 cm SL, 16 June 1995.

Odaitou: NSMT-P 102222, 1 specimen, 16.6 cm SL, 7 July 2010; NSMT-P 102223, 3 specimens, 8.6–15.8 cm SL, 7 July 2010.

On'netou: NSMT-P 45336, 1 specimen, 9.5 cm SL, 17 July 1992.

Nemuro: NSMT-P 102240, 1 specimen, 16.0 cm SL, 9 July 2010.

Nokkamappu: NSMT-P 45301, 2 specimens, 9.1–9.8 cm SL, 17 July 1992; NSMT-P 45326, 1 specimen, 13.9 cm SL, 17 July 1992; NSMT-P 45327, 5 specimens, 8.2–9.4 cm SL, 17 July 1992.

**133. *Pleuronectes punctatissimus*** (Steindachner, 1879) [Japanese name: Suna-garei]

Rausu-cho: KPM-NR0028823, Sep. 1997; KPM-NR0087616, 11 m depth, 2 May 2000.

Matsunori: SMP 0020, 1 specimen, 14.4 cm SL, 16 June 1995.

Nemuro: NSMT-P 109765, 1 specimen, 15.7 cm SL, 15–18 Aug. 1980.

**134. *Pleuronectes schrenki*** (Schmidt, 1904) [Japanese name: Kurogashira-garei]

Izmeni Bay: ZIN 54228, 4 specimens, 9.3–

11.1 cm SL, 25 Nov. 2005.

Rōsoku-iwa: KPM-NR0028822, 1 shot, \*Sep. 1997; KPM-NR0087732, 6 m depth, 27 Aug. 2005; KPM-NR0087615, 11 m depth, 2 May 2000; KPM-NR0087619, 11 m depth, 2 May 2000.

Matsunori: SMP 0019, 1 specimen, 20.0 cm SL, 16 June 1995; SM, 1 specimen, cm SL, 21 July 1995.

Kunbetsu: NSMT-P 101718, 1 specimen, 19.8 cm SL, 7 July 2010; NSMT-P 101719, 6 specimens, 13.3–15.4 cm SL, 7 July 2010.

Odaitou: NSMT-P 102221, 1 specimen, 10.0 cm SL, 7 July 2010.

Nemuro: NSMT-P 109778, 1 specimen, 21.2 cm SL, 15–18 Aug. 1980.

**135. *Reinhardtius hippoglossoides*** (Walbaum, 1792) [Japanese name: Karasu-garei]

Rausu-cho: SMP 0017, 1 specimen, 27.9 cm SL, 16 June 1995.

**136. *Verasper moseri*** Jordan and Gilbert, 1898 [Japanese name: Matsukawa]

Izmeni Bay: ZIN 45573, 1 specimen, 22.5 cm SL, 28 July 1951.

#### Order Tetraodontiformes

##### Family Monacanthidae

**137. *Thamnaconus modestus*** (Günther, 1877) [Japanese name: Umadura-hagi]

Matsunori: SMP 0113, 1 specimen, 20.1 cm SL, 27 June 1996.

##### Family Tetraodontidae

**138. *Takifugu porphyreus*** (Temminck and Schlegel, 1850) [Japanese name: Ma-fugu]

Matsunori: SMP 0084, 1 specimen, 20.0 cm SL, 7 Nov. 1995; SMP 0102, 1 specimen, 30.0 cm SL, 15 June 1996.

#### Remarks

The total 138 species in 99 genera were classified into 40 families and 14 orders, with 78% of them (108 spp.) being Subarctic inhabitants. The voucher specimens of six stichaeids (*Alectrias*

Table 1. Collection sites of the Russian FV *Toporok*.

Station	Position	Depth	Date
St. 23	44°01'N, 146°24'E	75 m	2 Sep. 1948
St. 24	43°59'N, 146°25'E	74 m	2 Sep. 1948
St. 24–25	43°59'N, 146°25'E	69–74 m	2 Sep. 1948
St. 27	43°54'N, 146°12'E	60 m	3 Sep. 1948
St. 27–28	43°53'N, 146°07'E	60–65 m	3 Sep. 1948
St. 28	43°54'N, 146°07'E	65 m	3 Sep. 1948
St. 28–29	43°54'N, 146°04'E	65 m	3 Sep. 1948
St. 30–30'	43°50'N, 145°56'E	50 m	3 Sep. 1948
St. 31	43°48'N, 145°53'E	41 m	3 Sep. 1948
St. 32–33	43°47'N, 145°46'E	29 m	4 Sep. 1948
St. 34–35	44°01'N, 146°24'E	78–84 m	4 Sep. 1948
St. 35	44°01'N, 146°32'E	84 m	4 Sep. 1948
St. 36/7	44°01'N, 146°32'E	83 m	4 Sep. 1948
St. 107	43°49'N, 146°11'E	59–60 m	18 Sep. 1949
St. 108	43°54'N, 146°07'E	58–59 m	18 Sep. 1949
St. 112/88	43°47'N, 145°47'E	26 m	19 Sep. 1949
St. 118	43°50'N, 146°30'E	62 m	22 Sep. 1949
St. 119	43°56'N, 146°25'E	73 m	22 Sep. 1949

*alectrolophus*, *Gymnoclinus cristulatus*, *Lumpenus sagitta*, *Opisthocentrus tenuis*, *Pseudaletria tarasovi* and *Neozoarces steindachneri*) and of one pholid (*Pholis nea*) and underwater photographs of one tripterygid (*Springerichthys bapturnus*) are the first records for these species from Nemuro Strait. These species are usually found around Hokkaido except *S. bapturnus* which is usually distributed in Sado Island (Sea of Japan), Pacific coast of southern Japan and Ryukyu Islands (Hayashi, 2002). Kubo (1981) stated that the coastal area of the Shiretoko Peninsula is strongly affected by the warm Soya Current in summer. It is likely that the current carried this tripterygid into the Nemuro Strait.

All the families are composed of 1–6 species except for the Cottidae (24 spp.), Stichaeidae (19), Pleuronectidae (16) and Agonidae (13). The total number for the species-rich families is half that of all the species. We also confirmed that the capture of many deep-sea species in the north of the Nemuro Strait [e.g., *Sebastolobus macrochir* (Scorpaenidae), *Anoplopoma fimbria* (Anoplopotmatidae), *Triglops szepticus* (Cottidae), *Malacocottus zonurus* (Psychrolutidae), *Careproctus rausuensis* (Liparidae), *Bothrocara zestum* (Zoarcidae), *Reinhardtius hippoglossoides* (Pleuronectidae)], is related to the different submarine topography from the south (Fig. 1). Machi *et al.* (2012) referred to some additional species cap-

tured with *C. rausuensis* by the deep-sea water pumps off Rausu-cho in the Shiretoko Peninsula. Including these species, a complete species list of fishes captured by the pumps will be prepared by TN and MY in a few years.

Hikida (1981) compiled collection records of fishes from the eastern region of the Shiretoko Peninsula, but the whereabouts of these specimens is unknown. The present paper does not confirm the presence of 49 species listed by Hikida (Table 2). Although we haven't yet discover the voucher specimens, we suppose a further 20 species recorded in adjacent waters by Nobetsu *et al.* (1998) (with asterisks in Appendix 2) should be added to fish fauna of the Nemuro Strait. Conversely, we need to be careful about Hikida's (1981) identification for some species. For example, his drawing of *Careproctus rastri-nus* Gilbert and Burke, 1912 (Hikida, 1981: 75, unnumbered figure) has dark margin in the vertical fins, being identical with a different species (e.g., *Careproctus trachysoma* Gilbert and Burke, 1912).

The historical collection made by Russian researchers outside the Nemuro Strait (e.g., Southern Kuril Strait off Habomai and Shikotan islands; see Table 1) includes one pleuronectid, *Cleisthenes herzensteini* (Schmidt, 1904) and two liparids, *Liparis alboventer* (Krasnyukova, 1984) and *Liparis tunicatiformis* Krasnyukova,

Table 2. Fishes reported in Hikida (1981) from the Nemuro Strait (excluding species listed in present study).

Family	Species	Scientific name in Hikida (1981)	Japanese name in Hikida (1981)
Carcharnidae	<i>Sphyrna zygaena</i> (Linnaeus, 1758)	<i>Sphyrna zygaena</i> (Linné)	Shumokuzame
Lamnidae	<i>Lamna ditropis</i> Hubbs and Follett, 1947	<i>Lamna ditropis</i> Hubbs and Follett	Nezumizame
Squalidae	<i>Squalus acanthias</i> Linnaeus, 1758	<i>Squalus acanthias</i> Linné	Abura-tsunozame
Rajidae	<i>Bathyraja smirnovi</i> (Soldatov and Pavlenko, 1915)	<i>Breviraja smirnovi</i> (Günther)	Ai-kasube
Dasyatidae	<i>Dasyatis akajei</i> (Müller and Henle, 1841)	<i>Dasyatis akajei</i> (Müller and Henle)	Aka-ei
Synphobranchidae	<i>Synphobranchus affinis</i> Günther, 1877	<i>Synphobranchus affinis</i> Günther	Hora-anago
Clupeidae	<i>Sardinops melanosticta</i> (Temminck and Schlegel, 1846)	<i>Sardinops melanosticta</i> (Temminck and Schlegel)	Ma-iwashi
Salmonidae	<i>Oncorhynchus gorbuscha</i> (Walbaum, 1792)	<i>Oncorhynchus gorbuscha</i> (Walbaum)	Karafuto-masu
	<i>Oncorhynchus keta</i> (Walbaum, 1792)	<i>Oncorhynchus keta</i> (Walbaum)	Sake
	<i>Oncorhynchus kisutch</i> (Walbaum, 1792)	<i>Oncorhynchus kisutch</i> (Walbaum)	Ginzake
	<i>Oncorhynchus masou</i> (Brevoort, 1856)	<i>Oncorhynchus masou</i> (Brevoort)	Sakura-masu
	<i>Oncorhynchus tshawytscha</i> (Walbaum, 1792)	<i>Oncorhynchus tshawytscha</i> [sic] (Walbaum)	Masunosuke
Anopteroideae	<i>Anopterus pharao</i> Zugmayer, 1911	<i>Anopterus pharao</i> Zugmayer	Mizu-uo-damashi
Myctophidae	<i>Diaphus theta</i> Eigenmann and Eigenmann, 1890	<i>Diaphus theta</i> Eigenmann and Eigenmann	Todo-hadaka
	<i>Lampanyctus jordani</i> Gilbert, 1913	<i>Lampanyctus jordani</i> Gilbert	Mamehadaka
Macrouridae	<i>Coryphaenoides acrolepis</i> (Bean, 1884)	<i>Nematonurus acrolepis</i> (Bean)	Ibara-hige
	<i>Coryphaenoides cinereus</i> (Gilbert, 1896)	<i>Nematonurus cinereus</i> (Gilbert)	Karafuto-sokodara
	<i>Coryphaenoides longifilis</i> Günther, 1877	<i>Nematonurus pectoralis</i> (Girard)	Himo-dara
Gadidae	<i>Gadus macrocephalus</i> Tilesius, 1810	<i>Gadus macrocephalus</i> Tilesius	Ma-dara
Zeidae	<i>Zeus faber</i> Linnaeus, 1758	<i>Zeus japonicus</i> Cuvier and Valenciennes	Matōdai
Scorpaenidae	<i>Sebastes baramenike</i> (Wakiya 1917)	<i>Sebastes baramenike</i> [sic] (Wakiya)	Bara-menuki [sic]
	<i>Sebastes flammeus</i> (Jordan and Starks, 1904)	<i>Sebastes flammeus</i> [sic] (Jordan and Starks)	Sankō-menuki [sic]
	<i>Sebastes iracundus</i> (Jordan and Starks, 1904)	<i>Sebastes iracundus</i> (Jordan and Starks)	Ōsaga
	<i>Sebastes nivosus</i> Hilgendorf, 1880	<i>Sebastes nivosus</i> Hilgendorf	Gomazoi [sic]
	<i>Sebastes steindachneri</i> Hilgendorf, 1880	<i>Sebastes steindachneri</i> Hilgendorf	Yanaginomai
Triglidae	<i>Lepidotrigla microptera</i> Günther, 1873	<i>Lepidotrigla microptera</i> [sic] Günther	Kanagashira
Cottidae	<i>Furcina oshimai</i> Jordan and Starks, 1904	<i>Furcina oshimai</i> [sic] Jordan and Starks	Kinu-kajika
	<i>Hemilepidotus papilio</i> (Bean, 1880)	<i>Melletes papilis</i> [sic] Kner	Kujyaku-kajika
Agonidae	<i>Ocella iburia</i> (Jordan and Starks, 1904)	<i>Ocella iburia</i> Jordan and Starks	Saburō
Liparidae	<i>Careproctus rastrinus</i> Gilbert and Burke, 1912	<i>Careproctus rastrinus</i> [sic] Gilbert and Burke	Sake-bikunin
	<i>Careproctus rhodomelas</i> Gilbert and Burke, 1912	<i>Careproctus rhodomelas</i> Gilbert and Burke	Bara-bikunin
	<i>Careproctus segaliensis</i> Gilbert and Burke, 1912	<i>Careproctus segaliensis</i> Gilbert and Burke	Karafuto-bikunin
	<i>Careproctus trachysoma</i> Gilbert and Burke, 1912	<i>Careproctus trachysoma</i> Gilbert and Burke	Zara-bikunin
	<i>Crystallichthys matsushimae</i> (Jordan and Snyder, 1902)	<i>Crystallias matsushimae</i> Jordan and Snyder	Abachan
	<i>Liparis ochotensis</i> Schmidt, 1904	<i>Liparis ochotensis</i> Schmidt	Isago-bikunin
Moronidae	<i>Lateolabrax japonicus</i> (Cuvier, 1828)	<i>Lateolabrax japonicus</i> (Cuvier)	Suzuki
Echeneidae	<i>Remora brachyptera</i> (Lowe, 1839)	<i>Remora brachyptera</i> (Lowe)	Kuro-koban
Coryphaenidae	<i>Coryphaena hippurus</i> Linnaeus, 1758	<i>Coryphaena hippurus</i> Linné	Shiira
Carangidae	<i>Seriola quinqueradiata</i> Temminck and Schlegel, 1845	<i>Seriola quinqueradiata</i> (Temminck and Schlegel) [sic]	Buri
Bramidae	<i>Brama japonica</i> Hilgendorf, 1878	<i>Brama japonica</i> Hilgendorf	Shimagatsuo
Oplegnathidae	<i>Oplegnathus fasciatus</i> (Temminck and Schlegel, 1844)	<i>Oplegnathus fasciatus</i> (Temminck and Schlegel)	Ishidai
Zoarceidae	<i>Bothrocara tanakae</i> (Jordan and Hubbs, 1925)	<i>Zestichthys tanakai</i> [sic] Jordan	Kanten-geenge
Ammodytidae	<i>Ammodytes personatus</i> Girard, 1856	<i>Ammodytes personatus</i> Girard	Ikanago
Scombridae	<i>Thunnus orientalis</i> (Temminck and Schlegel, 1844)	<i>Thunnus</i> [sic] <i>thynnus</i> (Linné)	Maguro
Pleuronectidae	<i>Hippoglossus stenolepis</i> Schmidt, 1904	<i>Hippoglossus stenolepis</i> Schmidt	Ohyō
	<i>Pleuronectes quadrituberculatus</i> Pallas, 1814	<i>Pleuronectes quadrituberculatus</i> Pallas	Tsuno-garei
	<i>Microstomus achne</i> (Jordan and Starks, 1904)	<i>Microstomus achne</i> (Jordan and Starks)	Baba-garei
Monacanthidae	<i>Thamnaconus modestus</i> (Günther, 1877)	<i>Novodon</i> [sic] <i>modestus</i> (Günther)	Kawahagi
Molidae	<i>Mola mola</i> (Linnaeus, 1758)	<i>Mola mola</i> (Linné)	Manbō

1984. Nobetsu *et al.* (1998) reported a further 82 species from the Okhotsk side of the Shiretoko Peninsula (Appendix 2). More collecting needs to be done to confirm the presence of these species.

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Appendix 1. Historical specimens deposited in the Zoological Institute, Russian Academy of Sciences. Collection data of the FV *Toporok* (Toporok St.) are shown in Table 1. Catalog numbers in bold letters were used in our list.

**Rajidae** [Data from Lindberg and Legeza (1959)]

*Raja pulchra* Liu, 1932—ZIN 35392 (1), 35394 (1): Southern Kuril Strait, 43°53'N, 146°11'E, 60m depth, 18 Sep. 1949, coll by G. U. Lindberg and M. I. Legeza.

**Salmonidae** [Data from Dorofeeva and Prirodina (2011)]

*Salvelinus leucomaenis* (Pallas, 1814)—ZIN 42841: 1 specimen, Kunashir Island, Yuzho-Kuril'sk, Aug. 1974.

**Zoarcidae** [Data from Balushkin *et al.* (2011)]

*Zoarces elongatus* Kner, 1868—ZIN 41655: 1 specimen, Pacific Ocean, southern Kuril Islands, Kunashir Island, off Alechino, 6m depth, stationary net 300m from the shore, 23 July 1951, coll. by O. G. Kusakin and E. D. Shchegolev; ZIN 46774: 1 specimen, Southern Kuril Islands, off Kunashir Island, Izmeni Bay, northeastern part of the lagoon on Veslo Peninsula, 4 July 1951, coll. by E. D. Shchegolev; ZIN 46775: 1 specimen, Southern Kuril Islands, Kunashir Island, Izmeni Bay, Sennaya village, 5 July 1951, coll by O. G. Kusakin.

**Pholidae** [Data from Lindberg and Krasnyukova (1975)]

*Ernogrammus hexagrammus* (Schlegel, 1845)—ZIN 39871: 2 specimens, Kunashir Island, Izmeni Bay, 28 July 1951, coll by O. G. Kusakin; ZIN 39872: 18 specimens, Kunashir Island, Izmeni Bay in 2 km from Veslo Cape, 8 Aug. 1951, coll by V. Schiogolev and O. G. Kusakin; ZIN 39873: 1 specimen, Kunashir Island, Izmeni Bay, Golovnino settlement, 11 Aug. 1951, coll by E. D. Schiogolev and O. G. Kusakin.

*Pholis nebulosus* (Temminck and Schlegel, 1845)—ZIN 41650: 1 specimen, Okhotsk Sea, Kunashir Island, Izmeni Bay, 28 July 1951, coll by O. G. Kusakin; ZIN 41651: 3 specimens, Okhotsk Sea, Kunashir Island, Izmeni Bay, Pal-tusova Cape, 7 July 1951, coll by O. G. Kusakin; ZIN 41652: 1 specimen, Okhotsk Sea, Kunashir Island, Izmeni Bay in 2 km from Veslo Cape, 8 July 1954, coll by V. Schiogolev.

*Rhodymenichthys dolichogaster* (Pallas, 1814)—ZIN 41640: 1 specimen, Kunashir Island, near Alechino settlement, 19 July 1951, coll by O. G. Kusakin.

*Stichaeopsis epallax* (Jordan and Snyder, 1902)—ZIN 39835: 1 specimen, Kunashir Island, Izmeni Bay, Golovnino settlement, 11 Aug. 1951, coll by V. Schiogolev and O. G. Kusakin; ZIN 40051: 1 specimen, Kunashir Island, Izmeni Bay, near Veslo Cape, 30 Apr. 1969, coll by A. N. Golikov.

*Stichaeopsis nana* Kner, 1870—ZIN 39883: 1 specimen, Kunashir Island, Yuzho-Kuril'sk, 20 Aug. 1951, coll by V. Schiogolev; ZIN 39884: 5 specimens, Kunashir Island, Yuzho-Kuril'sk, 19 Aug. 1951, coll by O. G. Kusakin; ZIN 40306: 1 specimen, Kunashir Island, 23 June 1969.

*Stichaeus grigorjewi* Herzenstein, 1890—ZIN 39869: 1 specimen, Southern Kuril Strait, 3 Sep. 1948, coll by G. U. Lindberg.

*Stichaeus nozawae* Jordan and Snyder, 1902—ZIN 39806: 2 specimens, Southern Kuril Strait, 3 Sep. 1948, coll by G. B. Semenova; ZIN 39807: 1 specimen, Southern Kuril Strait, 2 Sep. 1948, coll by G. B. Semenova; ZIN 39818: 2 specimens, Southern Kuril Strait, Toporok St. 122/88, 19 Sep. 1949, coll by G. U. Lindberg and M. I. Legeza; ZIN 39821: 2 specimens, Kunashir Island, 18 Sep. 1949, coll by G. U. Lindberg and M. I. Legeza; ZIN 39822: 3 specimens, Southern Kuril Strait, Toporok St. 111, 18 Sep. 1949, coll by G. U. Lindberg and M. I. Legeza; ZIN 39800: 1 specimen, Southern Kuril Strait, 4 Sep. 1948, coll by G. U. Lindberg; ZIN 39803 (1): Southern Kuril Strait, 3 Sep. 1948, coll by G. B. Semenova; ZIN 39806: 3 specimens, Southern Kuril Strait, 2–3 Sep. 1948, coll by G. B. Semenova; ZIN 40295: 1 specimen, Southern Kuril Strait, 3 Sep. 1948, coll by G. B. Semenova.

*Lumpenus sagitta* Wilimowsky, 1956—ZIN 40314: 1 specimen, Southern Kuril Strait, 18 Sep. 1949.

**Gobiidae** [Data from Lindberg and Krasnyukova (1975)]

*Luciogobius guttatus* Gill, 1859—ZIN 39724: 11 specimen, Kunashir Island, Golovnino settlement, 28 June 1969, coll by A. N. Golikov.

**Scorpaenidae** [Data from Lindberg and Krasnyukova (1975) and Voronina and Volkova (2007)]

*Sebastes schlegeli* Hilgendorf, 1880—ZIN 6156: 2 specimens, Japan, Nemuro, Jesso, 1881, coll by A. V. Grigor'ev.

*Sebastes taczanowskii* Steindachner, 1880—ZIN 42571: 2 specimens, Kunashir Island, near Alechino settlement, 6 m depth, 23 July 1951, coll by O. G. Kusakin and E. D. Shchegolev.

**Hexagrammidae** [Data from Voronina and Volkova (2007)]

*Hexagrammos octogrammus* (Pallas, 1810)—ZIN 43299: 2 specimens, Kunashir Island, Yuzho-Kuril'sk, Aug. 1974.

*Hexagrammos stelleri* Tilesius, 1810—ZIN 6158: 4 specimens, Pacific Ocean, Hokkaido, Nemuro, 1881, coll by A. V. Grigor'ev; ZIN 43453: 1 specimen, Kunashir Island, near Alechino settlement, 29 July 1951, coll by O. G. Kusakin; ZIN 41690: 1 specimen, Pacific Ocean, Southern Kuril Strait, Toporok St. 32, 3 Sep. 1948, coll by G. U. Lindberg.

*Pleurogrammus azonus* Jordan and Metz, 1913—ZIN 43293: 1 specimen, Kunashir Island, near Alechino settlement,

6 m depth, 23 July 1951, coll by O. G. Kusakin and E. D. Shchegolev; **ZIN 43294**: 1 specimen, Kunashir Island, Yuzho-Kuril'sk, Aug. 1974.

**Cottidae** [Data from Lindberg and Krasnyukova (1975)]

*Artediellus ochotensis* Gilbert and Burke, 1912—**ZIN 44552**: 1 specimen, Pacific Ocean, Southern Kuril Strait, Toporok St. 32–33, 3 Sep. 1948, coll by G. U. Lindberg; **ZIN 44572**: 1 specimen, Pacific Ocean, Southern Kuril Strait, Toporok St. 118, 22 Sep. 1949.

*Hemilepidotus gilberti* Jordan and Starks, 1904—**ZIN 44631**: 1 specimen, Kunashir Island, near Veslo Cape, 15 m depth, 6 July 1969, coll by A. F. Pushkin.

*Enophrys dicerca* (Pallas, 1788)—**ZIN 40061**: 8 specimens, Kunashir Island, near Veslo Cape, 15 m depth, 6 July 1969, coll by Rezhakov; **ZIN 40062**: 29 specimens, Kunashir Island, near Veslo Cape, 15 m depth, 6 July 1969, coll by A. F. Pushkin; **ZIN 40064**: 9 specimens, Kunashir Island, near Veslo Cape, 12–17 m depths, 10 July 1969, coll by A. N. Golikov.

*Myoxocephalus brandtii* (Steindachner, 1867)—**ZIN 6415, 6416**: 2 specimens, Japan, Hokkaido, Nemuro, 1881, coll by Grigor'ev.

*Myoxocephalus polyacanthocephalus* (Pallas, 1814)—**ZIN 44414**: 1 specimen, Southern Kuril Strait, Toporok St. 32–33, 3 Sep. 1948, coll by G. U. Lindberg.

*Myoxocephalus stelleri* Tilesius, 1814—**ZIN 41120**: 3 specimens, Kunashir Island, 26 July 1972, coll by V. I. Pinchuck; **ZIN 45407**: 1 specimen, Kunashir Island, 17 July 1951, coll by O. G. Kusakin and E. D. Shchegolev; **ZIN 42875**: 1 specimen, Okhotsk Sea, Yuzho-Kuril'sk, gill net, Aug. 1974.

*Porocottus allisi* (Jordan and Starks, 1904)—**ZIN 38268**: 1 specimen, Kunashir Island, to the north from Alechino settlement, trawl 6, 20 July 1951, coll by O. G. Kusakin.

*Radulinopsis derjavini* Soldatov and Lindberg, 1930—**ZIN 44164**: 2 specimens, Kunashir Island, near Veslo Cape, 15 m depth, 6 July 1969, coll by A. F. Pushkin.

**Hemitripteridae** [Data from Lindberg and Krasnyukova (1975) and Sideleva *et al.* (2006)]

*Blepsias cirrhosus* (Pallas, 1814)—**ZIN 44637**: 19 specimens, Kunashir Island, near Veslo Cape, 15 m depth, 6 July 1969, coll by A. F. Pushkin.

*Hemitripterus villosus* (Pallas, 1814)—**ZIN 6153 (1), 6154 (1)**: Japan, Hokkaido, Nemuro, 1881, coll by A. V. Grigor'ev; **ZIN 44639**: 3 specimens, Kunashir Island, near Veslo Cape, 15 m depth, 6 July 1969, coll by A. F. Pushkin; **ZIN 44182**: 1 specimen, Pacific Ocean, Southern Kuril Strait, Toporok St. 32, 3 Sep. 1948, coll by G. U. Lindberg.

**Agonidae** [Data from Lindberg and Krasnyukova (1975)]

*Brachyopsis segaliensis* (Tilesius, 1809)—**ZIN 6151**: 1 specimen, Pacific Ocean, Hokkaido near Nemuro, 1881, coll by A. V. Grigor'ev; **ZIN 43475**: 1 specimen, Pacific Ocean, Kunashir Island, Izmeni Bay near Golovno settlement, 6 m depth, 11 Aug. 1951, coll by O. G. Kusakin and V. D. Schiogolev.

*Freemanichthys thompsoni* (Jordan and Gilbert, 1898)—**ZIN 44031**: 1 specimen, Pacific Ocean, near Hokkaido, Nemuro Sea, Toporok St. 28–29, 3 Sep. 1948, coll by G. B. Semenova; **ZIN 44784**: 1 specimen, Pacific Ocean, Southern Kuril Strait, Toporok St. 24, 2 Sep. 1948, coll by G. B. Semenova.

*Ocella kasawae* (Jordan and Hubbs, 1925)—**ZIN 24292**: 1 specimen, Hokkaido, Nemuro, 1881, coll by A. V. Grigor'ev; **ZIN 42883**: 1 specimen, Pacific Ocean, Kunashir Island, Yuzho-Kuril'sk, Aug. 1974.

*Pallasina barbata* (Steindachner, 1876)—**ZIN 39725**: 7 specimens, Pacific Ocean, Kunashir Island, Puzanova Cape, 43°53'N, 145°37'E, 10 m depth, St. 7, 4 July 1969, coll by A. N. Golikov.

*Podotheus sturionoides* (Guichenot, 1869)—**ZIN 43509**: 3 specimens, Pacific Ocean, near Hokkaido, Nemuro Sea, Toporok St. 108, 18 Sep. 1949, coll by G. U. Lindberg and M. I. Legeza; **ZIN 43505**: 4 specimens, Pacific Ocean, near Hokkaido, Nemuro Sea, Toporok St. 119, 22 Sep. 1949, coll by G. U. Lindberg and M. I. Legeza; **ZIN 44033**: 1 specimen, Pacific Ocean, near Hokkaido, Nemuro Sea, Toporok St. 27, 3 Sep. 1948, coll by G. B. Semenova; **ZIN 44802**: 9 specimens, Pacific Ocean, Southern Kuril Strait, Toporok St. 24, 2 Sep. 1948, coll by G. B. Semenova; **ZIN 44803**: 4 specimens, Pacific Ocean, Southern Kuril Strait, Toporok St. 23, 2 Sep. 1948, coll by G. B. Semenova; **ZIN 44807**: 3 specimens, Pacific Ocean, Southern Kuril Strait, Toporok St. 34–35, 4 Sep. 1948; **ZIN 44810**: 2 specimens, Pacific Ocean, Kunashir Island, near Veslo Cape, 29 m depth, 18 Aug. 1947; **ZIN 46123**: 1 specimen, Pacific Ocean, near Hokkaido, Nemuro Sea, Toporok St. 31, 3 Aug. 1948, coll by G. U. Lindberg; **ZIN 46127**: 1 specimen, Pacific Ocean, Southern Kuril Strait, Toporok St. 30–30', 3 Sep. 1948, coll by G. B. Semenova.

**Liparidae** [Data from Lindberg and Krasnyukova (1975)]

*Liparis alboventer* (Krasnyukova, 1984)—**ZIN 43184** (holotype of *Careproctus alboventer*), 43184A (paratypes of *C. alboventer*): 4 specimens, Southern Kuril Strait, 74 m depth, 2 Sep. 1948.

*Liparis tunicatiformis* Schmidt, 1984—**ZIN 42382**: 1 specimen, Southern Kuril Strait, Kunashir Island, 14 m depth, 19 Aug. 1947.

*Liparis tessellatus* (Gilbert and Burke, 1912)—ZIN 42393: 2 specimens, Southern Kuril Strait, 78–83 m depths, 4 Sep. 1948.

**Pleuronectidae** [Data from Lindberg and Fedorov (1993) and Voronina and Volkova (2003)]

*Cleisthenes herzensteini* (Schmidt, 1904)—ZIN 45590: 1 specimen, Kunashir Island, St. 11, 30 m depth, 18 Aug. 1947, coll by O. A. Skarlatto; ZIN 45588: 2 specimens, Pacific Ocean, Hokkaido, Nemuro Strait, Toporok St. 28–29, 3 Sep. 1948, coll by G. B. Semenova.

*Clidoderma asperrimum* (Temminck and Schlegel, 1846)—ZIN 45577: 2 specimens, Pacific Ocean, Hokkaido, Nemuro Strait, Toporok St. 28, 3 Sep. 1948, coll by G. B. Semenova; ZIN 45583: 1 specimen, Pacific Ocean, Hokkaido, Nemuro Strait, Toporok St. 23, 2 Sep. 1948, coll by P. V. Il'ina and G. B. Semenova; ZIN 48259: 5 specimens, Pacific Ocean, Hokkaido, Nemuro Strait, Toporok St. 107, 18 Sep. 1949, coll by G. U. Lindberg and M. I. Legeza.

*Glyptocephalus stelleri* (Schmidt, 1904)—ZIN 45076: 1 specimen, Pacific Ocean, Hokkaido, Nemuro Strait, Toporok St. 35, 4 Sep. 1948; ZIN 47008: 1 specimen, Pacific Ocean, Hokkaido, Nemuro Strait, Toporok St. 24–25, 2 Sep. 1948, coll by G. B. Semenova; ZIN 47018: 1 specimen, Pacific Ocean, Hokkaido, Nemuro Strait, Toporok St. 28, 3 Sep. 1948, coll by G. B. Semenova; ZIN 47019: 4 specimens, Pacific Ocean, Hokkaido, Nemuro Strait, Toporok St. 23, 2 Sep. 1948, coll by P. V. Il'ina and G. B. Semenova.

*Kareius bicoloratus* (Basilewsky, 1855)—ZIN 45563: 1 specimen, Kunashir Island, near Alechino, 1 specimen, 22.5 cm SL; ZIN 45564: 1 specimen, Pacific Ocean, Hokkaido, Nemuro Strait, Toporok St. 112/88, 19 Sep. 1949, coll by G. U. Lindberg and M. I. Legeza.

*Lepidopsetta mochigarei* Snyder, 1911—ZIN 47054: 2 specimens, Pacific Ocean, Hokkaido, Nemuro Strait, Toporok St. 23, 2 Sep. 1948, coll by P. V. Il'ina and G. B. Semenova; ZIN 47057: 1 specimen, Pacific Ocean, Hokkaido, Nemuro Strait, Toporok St. 27–28, 3 Sep. 1948, coll by G. B. Semenova.

*Limanda punctatissima* (Steindachner, 1879)—ZIN 45645: 1 specimen, Pacific Ocean, Hokkaido, Nemuro Strait, Toporok St. 27–28, 3 Sep. 1948, coll by G. B. Semenova.

*Microstomus achne* (Jordan and Starks, 1904)—ZIN 45215: 2 specimens, Pacific Ocean, Hokkaido, Nemuro Strait, Toporok St. 36/7, coll by P. V. Il'ina.

*Pseudopleuronectes herzensteini* (Jordan and Snyder, 1901)—ZIN 45165 (1): Pacific Ocean, Southern Kuril Strait, 29 June 1950.

*Verasper moseri* Jordan and Gilbert, 1898—ZIN 45573: 1 specimen, Kunashir Island, 28 July 1951, coll by O. G. Kusakin.

Appendix 2. Fishes recorded from the Sea of Okhotsk side of Shiretoko Peninsula by Nobetsu *et al.* (1998). Asterisks indicate species reported from the Nemuro Strait side of the Peninsula by Hikida (1981).

**Carcharhinidae** (1 species): *Prionace glauca* (Linnaeus, 1758)—Yoshikirizame.

**Lamnidae** (1): *Lamna ditropis* Hubbs and Follett, 1947\*—Nezumizame.

**Dalatiidae** (1): *Somniosus pacificus* Bigelow and Schroeder, 1944—Ondenzame.

**Squalidae** (1): *Squalus acanthias* Linnaeus, 1758\*—Aubura-tsunozame.

**Rajidae** (3): *Bathyraja caeluronigrans* Ishiyama and Ishihara, 1977—Tsumurakasube; *Bathyraja diplotaenia* (Ishiyama, 1952)—Ribon-kasube; *Bathyraja violacea* (Suvorov, 1935)—Kitano-kasube.

**Synphobranchidae** (1): *Synphobranchus kaupii* Johnson, 1862—Irako-anago.

**Clupeidae** (1): *Etrumeus teres* (DeKay, 1842)—Urume-iwashi.

**Osmeridae** (1): *Hypomesus transpacificus* McAllister, 1963—Wakasagi.

**Salangidae** (1): *Salangichthys microdon* (Bleeker, 1860)—Shirauo.

**Salmonidae** (7): *Oncorhynchus gorbuscha* (Walbaum, 1792)\*—Karafuto-masu; *Oncorhynchus keta* (Walbaum, 1792)\*—Sake; *Oncorhynchus kisutch* (Walbaum, 1792)\*—Ginzake; *Oncorhynchus masou* (Brevoort, 1856)\*—Sakura-masu; *Oncorhynchus nerka* (Walbaum, 1792)—Benizake; *Oncorhynchus tshawytscha* (Walbaum, 1792)\*—Masunosuke; *Salvelinus malma* (Walbaum, 1792)—Oshorokoma.

**Notosudidae** (1): *Scopelosaurus harryi* (Mead, 1953)—Harī-fude-eso.

**Paralepididae** (1): *Paralepis atlantica* Krøyer, 1868—Kusabi-uroko-eso.

**Anopteroideae** (1): *Anopterus pharao* Zugmayer, 1911\*—Mizu-uo-damashi.

**Alepisauridae** (1): *Alepisaurus ferox* Lowe, 1833—Mizu-uo.

**Myctophidae** (2): *Nannobranchium regale* (Gilbert, 1892)—Mikado-hadaka; *Lampanyctus jordani* Gilbert, 1913—Mamehadaka.

**Macrouridae** (2): *Coryphaenoides acrolepis* (Bean, 1884)\*—Ibara-hige; *Coryphaenoides cinereus* (Gilbert, 1896)\*—



Karafuto-sokodara.

- Moridae** (1): *Antimora microlepis* Bean, 1890—Kanada-dara.
- Gadidae** (1): *Gadus macrocephalus* Tilesius, 1810\*—Ma-dara.
- Mugilidae** (1): *Mugil cephalus* Linnaeus, 1758—Bora.
- Melamphaidae** (1): *Poromitra crassiceps* (Günther, 1878)—Kabutouo.
- Cetomimidae** (1): *Cetomimus compunctus* Abe, Marumo and Kawaguchi, 1965—Irezumi-kujirauo.
- Oreosomatidae** (1): *Allocyttus verrucosus* (Gilchrist, 1906)—Ôme-matôdai.
- Gasterosteidae** (1): *Gasterosteus aculeatus aculeatus* Linnaeus, 1758—Itoyo.
- Sebastidae** (5): *Sebastes alutus* (Gilbert, 1890)—Arasuka-menuke; *Sebastes borealis* Barsukov, 1970—Hireguro-menuke; *Sebastes flammeus* (Jordan and Starks, 1904)\*—Sankô-menuke; *Sebastes steindachneri* Hilgendorf, 1880\*—Yanaginomai; *Sebastes wakiyai* (Matsubara, 1934)—Gaya-modoki.
- Cottidae** (6): *Cottiusculus gonez* Schmidt, 1904—Okî-himekajika; *Cottiusculus schmidtii* Jordan and Starks, 1904—Kinkajika; *Icelus canaliculatus* Gilbert, 1896—Kuro-kôrikajika; *Icelus mandibularis* Yabe, 1983—Ukekuchikôrikajika; *Porocottus tentaculatus* (Kner, 1868)—Ito-fusakajika; *Triglops jordani* (Jordan and Starks, 1904)—Karafuto-kajika.
- Agonidae** (1): *Ocella dodecaedron* (Tilesius, 1813)—Kamutosachi-uo.
- Cyclopteridae** (1): *Eumicrotremus pacificus* Schmidt, 1904—Fûsen-uo.
- Liparidae** (11): *Careproctus colletti* Gilbert, 1896—Arasuka-bikunin; *Careproctus cyclocephalus* Kido, 1983—Daruma-kon'nyku-uo; *Careproctus furcellus* Gilbert and Burke, 1912—Oguro-kon'nyku-uo; *Careproctus mederi* Schmidt, 1916—Hige-bikunin; *Careproctus rastrinus* Gilbert and Burke, 1912\*—Sake-bikunin; *Careproctus roseofuscus* Gilbert and Burke, 1912—Tobi-bikunin; *Crystallias matsushimae* Jordan and Snyder, 1902\*—Abachan; *Liparis latifrons* Schmidt, 1950—Bôzu-kusauo; *Liparis ochotensis* Schmidt, 1904—Isago-bikunin; *Squaloliparis dentatus* (Kido, 1988)—Ôban-kon'nyku-uo; *Paraliparis grandis* Schmidt, 1950—Hira-inkiuo.
- Priacanthidae** (1): *Cookeolus japonicus* (Cuvier, 1829)—Chikame-kintoki.
- Pomatomidae** (1): *Scombrops boops* (Houttuyn, 1782)—Mutsu.
- Echeneidae** (1): *Echeneis naucrates* Linnaeus, 1758—Kobanzame.
- Coryphaenidae** (1): *Coryphaena hippurus* Linnaeus, 1758\*—Shiira.
- Carangidae** (1): *Seriola lalandi* Valenciennes, 1833—Hiramasa.
- Carangidae** (1): *Naucrates ductor* (Linnaeus, 1758)—Burimodoki.
- Lobotidae** (1): *Lobotes surinamensis* (Bloch, 1790)—Matsudai.
- Oplegnathidae** (1): *Oplegnathus fasciatus* (Temminck and Schlegel, 1844)—Ishidai.
- Embiotocidae** (1): *Ditrema temmincki temmincki* Bleeker, 1853—Umitanago.
- Zoarceidae** (2): *Bothrocara tanakae* (Jordan and Hubbs, 1925)\*—Kanten-genge; *Lycodes soldatovi* Taranetz and Andriashev, 1935—Kuro-gaji.
- Stichaeidae** (6): *Ernogrammus hexagrammus* (Schlegel, 1845)—Musuji-gaji; *Leptostichaeus pumilus* Miki, 1985—Obi-ginpo; *Lumpenopsis pavlenkoi* Soldatov, 1916—Tongari-ginpo; *Neozarces steindachneri* Jordan and Snyder, 1902—Hana-itoginpo; *Soldatovia polyactocephala* (Pallas, 1814)—Kita-fusaginpo; *Stichaeus fuscus* Miki and Maruyama, 1986—Tsuchi-gaji.
- Pholidae** (1): *Pholis fasciata* (Bloch and Schneider, 1801)—Himo-ginpo.
- Zaproridae** (1): *Zaprora silenus* Jordan, 1896—Bôzu-ginpo.
- Scombridae** (2): *Axis rochei* (Risso, 1810)—Maru-sôda; *Thunnus orientalis* (Temminck and Schlegel, 1844)\*—Kuro-maguro.
- Centrolophidae** (1): *Hyperoglyphe japonica* (Döderlein, 1884)—Medai.
- Pleuronectinae** (1): *Hippoglossus stenolepis* Schmidt, 1904\*—Ohyô.
- Tetraodontidae** (1): *Takifugu xanthopterus* (Temminck and Schlegel, 1850)—Shima-fugu.
- Molidae** (1): *Mola mola* (Linnaeus, 1758)\*—Manbô.