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DEMERSAL FISHES COLLECTED IN THE SOUTHEASTERN SHELF WATERS OF ALASKA

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After the middle of the nineteen-sixties, owing to a gradual progress in fishing vessels and gears, the trawl-fishing ground was exceedingly exploited in southeastern Alaska as well as in the Bering Sea. This region is geographically located near the U.S.A. and Canada, being influenced by the warm Alaskan stream. So the region has an abundant and unique ichthyofauna. Some forerunning scientific investigations and exploratory trawl and longline fishings have positively been worked out by both nations, especially concerning some commercially important rockfishes (Phillips, 1957; Alverson *et al.*, 1964 and Westrheim, 1970). But little interest was attended until now on the other fishes, save by Evermann and Goldsbrough (1907), Schultz (1936), Roedel (1953), Wilimovsky (1954, 1958) and Clemens and Wilby (1961), etc. Their examinations were carried out mainly in the summer season and limited to the continental shelf waters. The present author preliminarily examined on fishes and invertebrates collected in the Gulf of Alaska by the *T.V. Oshoro Maru* of the Faculty of Fisheries, Hokkaido University during the summer of 1968 (Sasaki 1969, unpublished). Afterwards, he had an opportunity to accompany a research party for demersal fishes in southeastern Alaska during the summer of 1969 and the winter of 1969-1970. This paper lists the kinds of fishes and notes their collecting areas for the purpose of a comparison of the ichthyofauna in those regions. Previous results, and the present ones, reveal that important fishes, such as the rockfishes (Scorpaenidae), sablefish, Pacific halibut and walleye pollock are doubtlessly abundant resources in these waters.

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Materials and methods

The fishes identified here were caught by the otter trawler, the *Koyo Maru* No. 2 of Hokuyo Fishery Co. Ltd., during the summer (May 15 to July 20, 1969)

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and the *Koyo Maru* No. 21 of the same company during the winter (December 27, 1969 to February 22, 1970) off southeastern Alaska. The trawler *Koyo Maru* No. 2 and No. 21 are 3456 and 549 gross tons, respectively. It seems to be rocky at the bottom of the region, judging from the shadows of the echosounder and

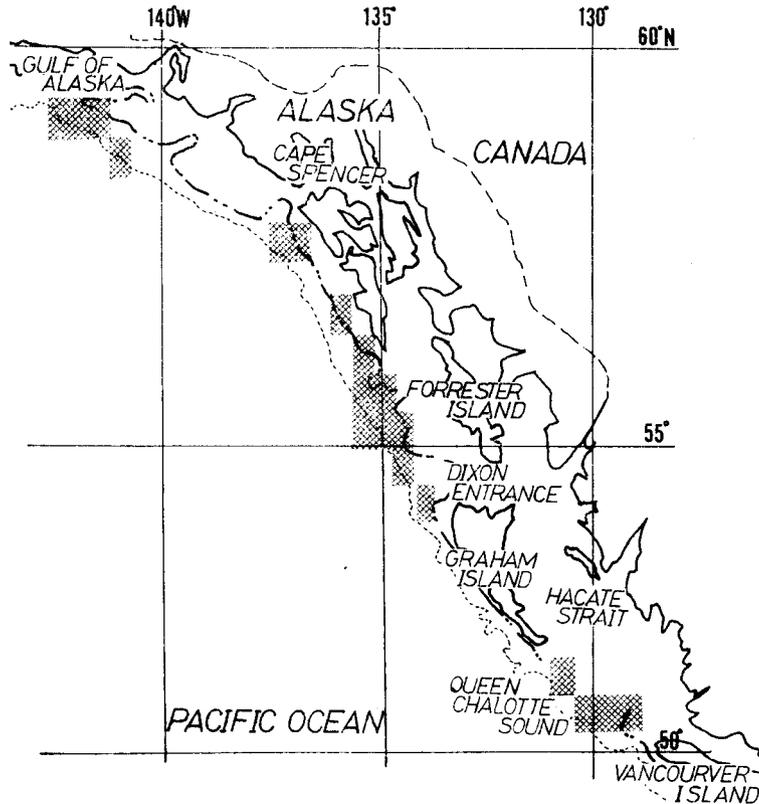


Fig. 1. Map of southeastern Alaska showing the collecting areas (▨▨▨).

condition of catches. The number of samplings was 236 in the summer and 218 in the winter, being 454 in total. The trawling was operated between 180 m and 680 m in depth. These samples were preserved in 10% formalin sea water and brought back to land for identification.

In addition, English names, Japanese names, catch frequency and collecting area were presented. The English names were obtained from a list provided by the American Fisheries Society (1960).

The plus sign (+) and asterisk sign (*) were marked for the species collected in summer and in winter, respectively.

Results

Twenty-eight families including 44 genera and 72 species are listed in the present paper. There are 64 species referable to 26 families and 42 genera in summer and 49 species referable to 21 families and 31 genera in winter.

Order Myxinida

Family Myxinidae

1. *Polistotrema stoutii* (LOCKINGTON) +* Pacific hagfish
Rare; a single species collected in the Queen Charlotte Sound.

Order Petromyzonida

Family Petromyzonidae

2. *Entosphenus tridentatus* (GAIRDNER) + Pacific lamprey
Nom. Jap. Mitsuba-Yatsume
Rare; a single species collected in the north of Dixon Entrance.

Order Lamnida

Family Squalidae

3. *Squalus acanthias* LINNÉ +* Spiny dogfish
Nom. Jap. Abura-Tsuno-Zame
Common; found in all investigating areas.

Order Rajida

Family Rajidae

4. *Raja binoculata* GIRARD * Big skate
Rather rare; a single species collected in the Queen Charlotte Sound.
5. *Raja rhina* JORDAN and GILBERT +* Longnose skate
Common; found in all investigating areas.
6. *Raja stellulata* JORDAN and GILBERT + Starry skate
Rather rare; found mainly in northern investigating areas.
7. *Breviraja aleutica* (GILBERT) + Aleutian skate
Nom. Jap. Arasuka-Kasube
Rather common; found mainly in the Gulf of Alaska
8. *Breviraja permifera* (BEAN) * Alaska skate
Nom. Jap. Tsuno-Kasube
Rather common; found mainly in the Gulf of Alaska.

Order Chimaerida

Family Chimaeridae

9. *Hydrolagus collicii* (LAY and BENNETT) + Ratfish
Rather common; found mainly in the Queen Charlotte Sound.

Order Clupeida

Family Salmonidae

10. *Oncorhynchus tshawytscha* (WALBAUM) +* Chinook salmon
Nom. Jap. Masunosuke

Common; found mainly in the north of Dixon Entrance.

11. *Oncorhynchus nerka* (WALBAUM) +* Sockeye salmon
Nom. Jap. Beni-Zake

Common; found mainly in the north of Dixon Entrance.

Family Osmeridae

12. *Thaleichthys pacificus* (RICHARDSON) * Eulachon

Rather common; found mainly in northern investigating areas.

Family Chauliodontidae

13. *Chauliodus macouni* BEAN + Fanged viperfish

Rare; found in abyssal waters deeper than 500 m.

Family Sternoptychidae

14. *Argyropelecus sladeni* REGAN + Silvery hatchetfish

Rare; found in abyssal waters deeper than 500 m.

Order Myctophida

Family Myctophidae

15. *Lampanyctus leucopsarus* (EIGENMANN and EIGENMANN) +

Smallfin lanternfish

Common; found mainly in abyssal waters.

16. *Myctophum* sp. +

Order Anguillida

Family Nemichthyidae

17. *Nemichthys avocetta* JORDAN and GILBERT + Threadfish

Rare; a single species collected in abyssal waters in the Queen Charlotte Sound.

Order Percida

Family Zaproridae

18. *Zaprora silenus* JORDAN +* Prowfish

Nom. Jap. Bouzu-Ginpo

Common; found mainly in the middle investigating areas.

Family Zoacidae

19. *Lycodes diapterus* GILBERT + Black eelpout

Common; found mainly in northern investigating areas.

20. *Lycodes brevipes* BEAN +* Shortfin eelpout

Nom. Jap. Ashiboso-Genge

Common; found mainly in northern investigating areas.

21. *Lycodes palearis* GILBERT + Wattle eelpout

Nom. Jap. Hakusen-Gaji

Common; found mainly in northern investigating areas.

Family Bathymasteridae

22. *Bathymaster signatus* COPE +* Searcher

Nom. Jap. Soko-Medama-Uo

Common; found in all investigating areas.

23. *Ronquilus jordani* (GILBERT) + Northern ronquil
Rather rare; a single species collected near the Dixon Entrance.

Family Anarrhichadidae

24. *Anarrhichthys ocellatus* AYRES +* Wolf-eel
Nom. Jap. Ribon-Okami
Rare; two species collected off northern Graham Island.

Family Stichaeidae

25. *Chirolophis polyactcephalus* (PALLAS) +* Decorated prickleback
Rather rare; found near the Dixon Entrance.

Order Cottida

Family Scorpaenidae

26. *Sebastes brevispinis* (BEAN) +* Silvergray rockfish
Common; found in all investigating areas.
27. *Sebastes paucispinis* (AYRES) +* Bocaccio
Common; found mainly in southern investigating areas.
28. *Sebastes entomelas* (JORDAN and GILBERT) +* Widow rockfish
Common; found mainly in southern investigating areas.
29. *Sebastes melanops* (GILBERT) + Black rockfish
Rather rare; found mainly in southern investigating areas.
30. *Sebastes mystinus* (JORDAN and GILBERT) + Blue rockfish
Rather rare; found near the Dixon Entrance.
31. *Sebastes ciliatus* (TILSIUS) +* Dusky rockfish
Common; found mainly in southern investigating areas.
32. *Sebastes rubrivinctus* (JORDAN and GILBERT) +* Flag rockfish
Common; found mainly in southern investigating areas.
33. *Sebastes pinniger* (JORDAN and GILBERT) +* Canary rockfish
Common; found in southern investigating areas.
34. *Sebastes ruberrimus* CRAMER + Turkeyred rockfish
Rather rare; found mainly near the Dixon Entrance.
35. *Sebastes aleutianus* JORDAN and GILBERT +* Blackthoat rockfish
Common; found mainly in deep waters.
36. *Sebastes melanostomus* EIGENMANN and EIGENMANN +* Blackgill rockfish
Common; found mainly in deep waters.
37. *Sebastes crameri* JORDAN +* Blackmouth rockfish
Common; found in all investigating areas.
38. *Sebastes diploproa* (GILBERT) +* Splitnose rockfish
Common; found in southern investigating areas.
39. *Sebastes pruniger* (JORDAN and GILBERT) +* Redstripe rockfish
Common; found in all investigating areas.

40. *Sebastes helvomaculatus* (AYRES) +* Rosethorn rockfish
Common; found in all investigating areas.
41. *Sebastes alutus* (GILBERT) +* Pacific ocean perch
Nom. Jap. Arasuka-Menuke
Very common; found in all investigating areas.
42. *Sebastes polyspinis* TARANETZ and MOISEEV * Northern rockfish
Nom. Jap. Kitano-Menuke
Rare; a single species collected in the Gulf of Alaska.
43. *Sebastes reedi* WESTRHEIM and TSUYUKI * Yellowmouth rockfish
Common; found in all investigating areas.
44. *Sebastes zacentrus* (GILBERT) +* Sharpchin rockfish
Common; found in all investigating areas.
45. *Sebastes elongatus* (AYRES) + Greenstriped rockfish
Rare; a single species collected off the Forrester Island.
46. *Sebastolobus alascanus* BEAN +* Shortspine channel rockfish
Nom. Jap. Arasuka-Kichiji
Common; found in all investigating areas.
47. *Sebastolobus altivelis* GILBERT + Longspine channel rockfish
Common; found in shallow waters in all investigating areas.
- Family Anoplopomidae
48. *Anoplopoma fimbria* (PALLAS) +* Sablefish
Nom. Jap. Gin-Dara
Common; found in deep waters in all investigating areas.
- Family Hexagrammidae
49. *Ophiodon elongatus* GILBERT +* Ling cod
Common; found mainly in middle and southern investigating areas.
50. *Hexagrammos* sp. +
- Family Cottidae
51. *Malacocottus zonurus* BEAN + Blackfin sculpin
Nom. Jap. Kobusi-Kajika
Common; found in all investigating areas.
52. *Icelinus tenuis* GILBERT +* Spotfin sculpin
Rather common; found mainly in the Queen Charlotte Sound.
53. *Icelinus borealis* GILBERT * Northern sculpin
Rather common; found in all investigating areas.
54. *Ulca bolini* MYERS + Bigmouth sculpin
Nom. Jap. Kemusikajika-Modoki
Rather common; found in northern investigating areas.
- Family Agonidae
55. *Asterotheca infraspinata* (GILBERT) +* Spinycheek starsnout

Rather common; found in all investigating areas.

56. *Asterotheca pentacantha* (GILBERT) + Bigeye starsnout
Rather common; found in all investigating areas.

Family Cyclopteridae

57. *Aptocyclus ventricosus* (PALLAS) + Smooth lump sucker
Nom. Jap. Hotei-Uo
Rather common; found in all investigating areas.

Family Liparidae

58. *Careproctus melanurus* GILBERT +* Blacktail snailfish
Rather common; found mainly in southern investigating areas.

Order Pleuronectida

Family Pleuronectidae

59. *Ateresthes stomias* (JORDAN and GILBERT) +* Arrowtooth flounder
Nom. Jap. Arasuka-Abura-Garei
Very common; found in all investigating areas.
60. *Hippoglossus stenolepis* SCHMIDT +* Pacific halibut
Nom. Jap. Ohyo
Common; found in all investigating areas.
61. *Hippoglossoides elassodon* (JORDAN and GILBERT) +* Flathead sole
Nom. Jap. Uma-Garei
Common; found mainly in northern investigating areas.
62. *Parophrys vetulus* GILBERT +* English sole
Rather common; found in all investigating areas.
63. *Glyptocephalus zachirus* LOCKINGTON +* Rex sole
Nom. Jap. Hirenaga-Nameta
Common; found in all investigating areas.
64. *Microstomus pacificus* (LOCKINGTON) +* Dover sole
Common; found in all investigating areas.
65. *Embassichthys bathybius* (GILBERT) + Deepsea sole
Rather rare; found mainly in deep waters in southern investigating areas.
66. *Eopsetta jordani* (LOCKINGTON) * Petral sole
Rather common; found in all investigating areas.

Order Gadida

Family Merlucciidae

67. *Merluccius productus* (AYRES) +* Pacific hake
Nom. Jap. Heiku
Common; found mainly in southern investigating areas.

Family Gadidae

68. *Gadus macrocephalus* TILESIIUS +* Pacific cod
Nom. Jap. Ma-Dara

- Common; found in all investigating areas.
69. *Theragra chalcogramma* (PALLAS) +* Walleye pollock
Nom. Jap. Suketou-Dara
Common; found in all investigating areas.
70. *Antimora rostrata* GÜNTER + Longfin cod
Nom. Jap. Kanada-Dara
Rather common; found in deep waters in middle investigating areas.
- Family Coryphaenoididae
71. *Coryphaenoides* sp. +*
- Order Icosteida
- Family Icosteidae
72. *Icosteus aenigmaticus* LOCKINGTON + Ragfish
Nom. Jap. Irezumi-Konnyaku-Aji
Rare; a single species collected off Forrester Island.

Summary

The investigation on demersal fishes off the coast of southeastern Alaska was carried out during the summer of 1969 and the winter of 1969-1970 using a distant water stern trawler. The fishes identified in this study include 72 species referable to 28 families and 44 genera (64 species referable to 26 families and 42 genera in summer and 49 species referable to 21 families and 31 genera in winter). They are systematically listed with their collecting areas and season.

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