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Atlas of the Barents Sea fishes based on the winter survey

Institute of Marine Research - IMR

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Atlas of the Barents Sea Fishes based on the winter survey

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Foreword

This report is intended as a supplement to the “Atlas of the Barents Sea Fishes” (Wienerroither et al. 2011). The data used in the “Atlas of the Barents Sea Fishes” were gathered on the IMR-PINRO ecosystem survey (2004-2009). The maps presented in this supplement are based on data from February-March 2007-2012 that are gathered on the joint IMR PINRO winter survey. Differences between the two surveys and seasons and how these influence the spatial distributions presented in the maps are described in the introduction. The species descriptions are the same as in and the structure of this report is similar to the “Atlas of the Barents Sea Fishes”. The difference is that the maps and length distribution plots are based on demersal trawl catches only, and that the description of the spatial and length distributions in this report is made with reference to the “Atlas of the Barents Sea Fishes”.

The Arctic part of the Barents Sea is not covered by the winter survey, and the Arctic species are poorly sampled. Consequently, the number of species in this supplement is lower (87 species) than in the “Atlas of the Barents Sea Fishes” (111 species). However, six species not presented in the “Atlas of the Barents Sea Fishes” were caught during the winter survey 2007-2012 and are presented here.

List of content

1 Introduction

The winter survey covers the southern Barents Sea. Compared to the ecosystem survey, the area covered is about half the size (Figure 1). The northern part of the Barents Sea is covered by ice when the winter survey is conducted, although the ice cover has been reduced in recent years also in winter (Figure 2). Since pelagic trawls are only irregularly applied during the winter survey, only maps from bottom trawl catches are shown, whereas the "Atlas of the Barents Sea Fishes" also included maps based on pelagic trawls for pelagic species.

The Arctic part of the Barents Sea is not covered by the winter survey, and the Arctic species are poorly sampled. Consequently, the number of species in this supplement is lower (87 species) than in the "Atlas of the Barents Sea Fishes" (111 species). However, six species not presented in the "Atlas of the Barents Sea Fishes" were caught during the winter surveys 2007-2012. The station grid is denser during the winter survey compared to the ecosystem survey, especially along the coast (Figure 2). This leads to a higher probability of capture of rare coastal species.

The season (February-March) covered in the winter survey corresponds to the wintering or spawning season for most fish species, and boreal species usually have the smallest distribution area. The time of year when the ecosystem survey (August-September) is conducted coincides with the feeding season when many boreal species have feeding migrations eastwards and northwards and their distribution is widest.

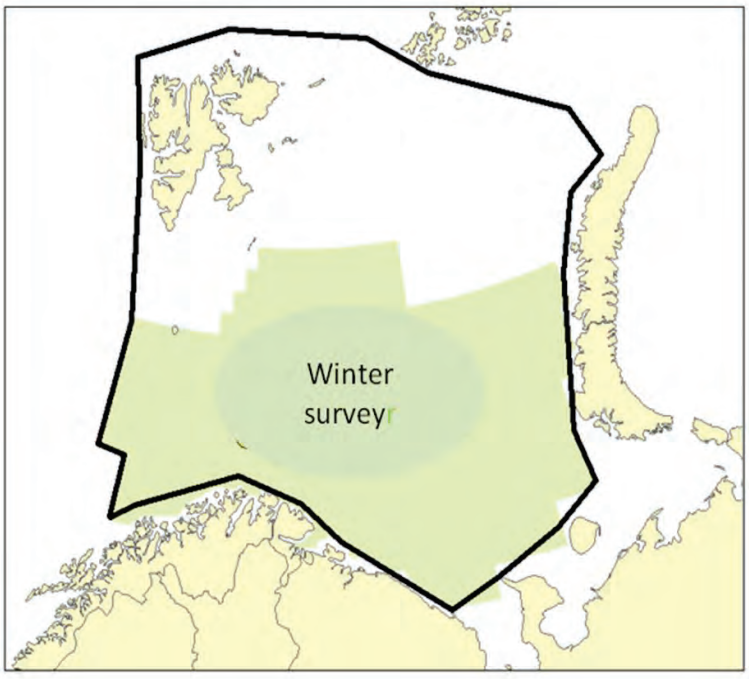

Figure 1. The area covered by the winter survey (green) in February-March and the ecosystem survey (black line) in August-September. Note that most years the area covered by the winter survey is smaller than shown here, due to e.g. ice coverage in the area to the east and north-east and hindrance due to bad weather.

2 The Joint IMR-PINRO winter survey 2007-2012

2.1 Background and history

The ”winter survey” started in 1981 as a Norwegian survey. It forms the basis for one of the most important tuning series used in the North East Arctic cod and haddock assessments. There have been a number of changes in methods since the onset of the survey. These included changes in coverage, gear, towing time, survey design and species identification. Most of these changes are summarized and described in Jakobsen et al. (1997), Johannesen et al. (2009) and Mehl et al. (2012). Since 2000 PINRO has participated in the survey mainly covering the Russian Exclusive Economic Zone (Anon. 2006).

2.2 Methods used

Survey design

In the years 2007-2012 two to four vessels have been used (Table 1). The survey covered the southern part of the Barents Sea and used a strata system consisting of 23 strata belonging to 7 main areas (Figure 2).

Table 1. Vessels used on the Joint IMR PINRO winter survey 2007-2012.

	2007	2008	2009	2010	2011	2012
IMR	Johan Hjort	Johan Hjort	Johan Hjort	Johan Hjort	Johan Hjort	Libas
IMR	G.O. Sars	Jan Mayen	Jan Mayen	Jan Mayen	Jan Mayen	Helmer Hanssen
PINRO		Fridtjof Nansen	Fridtjof Nansen	Fridtjof Nansen	Fridtjof Nansen	Fridtjof Nansen
PINRO		Smolensk	Vilnius			

The density of trawl stations varied between the strata according to the density of cod. In 2007 there was no sampling in the Russian Exclusive Economic Zone (Figure 2). The coverage in east north-east also varied from year to year due to variations in ice conditions.

Sampling

The same bottom trawl was used in the winter survey as in the ecosystem survey (Campelen 1800 shrimp trawl with rockhopper ground gear, mesh size 80 mm (stretched) in the front and 16-22 in the cod end, horizontal opening: 17 m and vertical opening 4-5 m). The standard towing time was 30 minutes in 2007-2010, but was reduced to 15 min (the same as standard towing time at the ecosystem survey) in 2011 due to very large catches of cod in some stations.

The same methods for handling of the catch and species identification were used for the winter and ecosystem survey (see Wienerroither et al. 2011). The same staff is usually working on Norwegian boats at the ecosystem survey and the winter survey, while mostly different staff participated on Russian vessels. Fishes are identified to species level, but there

are some groups that are difficult to identify (see Wienerroither et al. 2011). Similar limitations with regards to catchability and species identifications are valid for the winter survey as well as the ecosystem survey and these are discussed in Wienerroither et al. (2011).

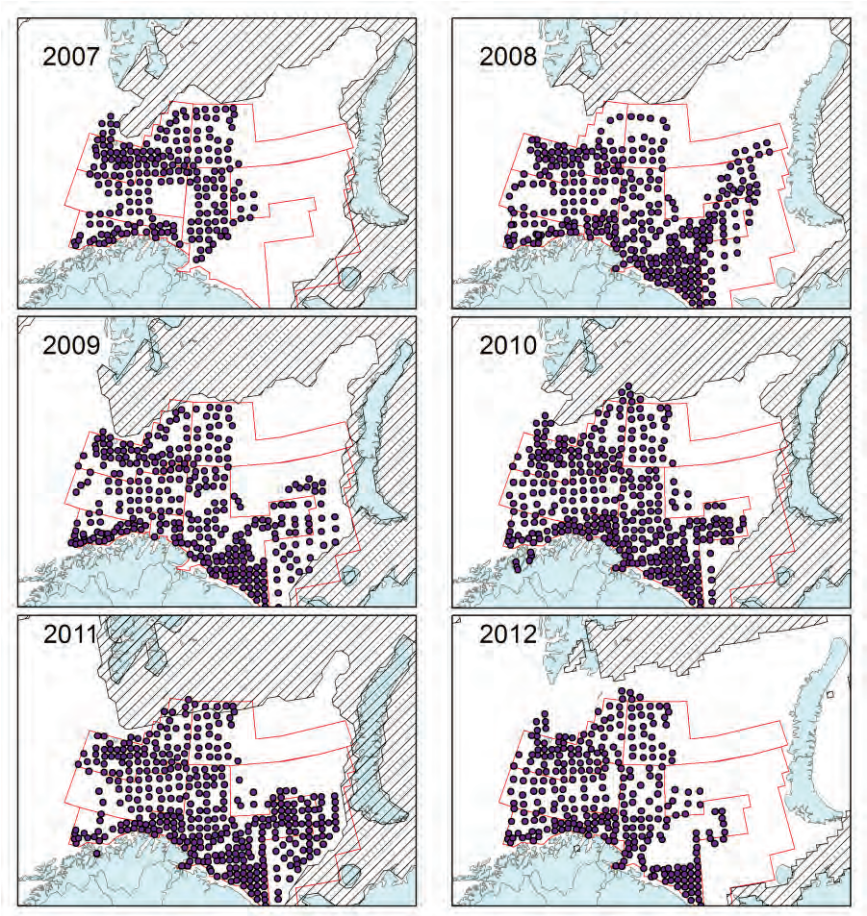

Figure 2. Main areas (red line) and bottom trawl stations included in this atlas by year. Hatched: ice limits taken from http://nsidc.org/ NB: some Norwegian data (central area) from 2007 that should have been included were by mistake omitted.

Identified by taxonomists

Species identifications done by taxonomists at IMR and University Museum of Bergen are marked in the maps. These observations are more reliable than the other observations.

Data preparation

We included 2021 bottom trawl hauls taken at the winter survey 2007-2012. We plotted the raw data and excluded a few observations that were believed to be erroneous. We pooled some species (see Wienerroither et al. 2011). The data was standardised by towing distance. To make the comparison across seasons easier, we gridded the data using the same grid as in the "Atlas of the Barents Sea Fishes" (Figure 3). Changes in spatial and length distribution are only compared to the "Atlas of the Barents Sea Fishes", not to other literature. None of the two atlases provides a complete list of fish species ever recorded in the Barents Sea.

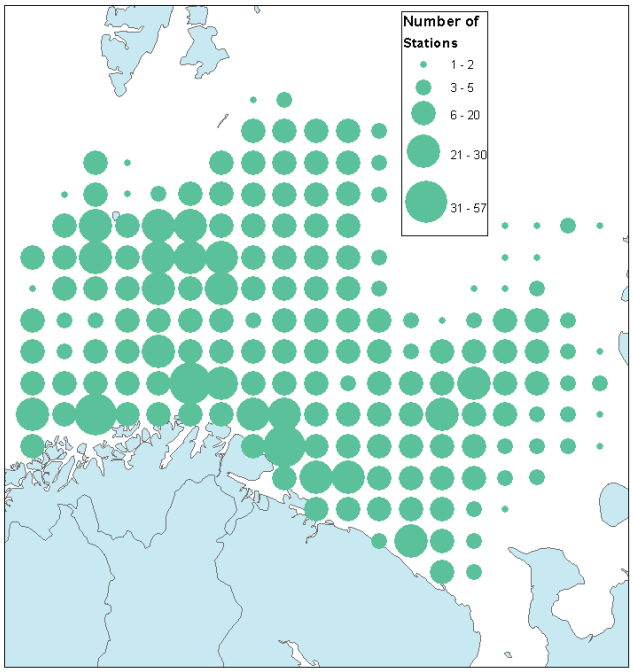

Figure 3. The grid and grid cells used in the winter atlas. The size of the bubbles is proportional to the number of stations per grid cell in the years 2007-2012. The grid is made using a north pole stereographic projection, with 75° N as the latitude of origin and 35° E as central meridian. Each grid cell is 35 by 35 nm.

Length composition

All specimens were length measured during the survey. When the catches were big only a subsample was measured. Plots of length distributions for each species are included in the species descriptions. These were calculated from the sum of the measured individuals (as in the "Atlas of the Barents Sea Fishes"), and not weighed according to catch size. So the length distribution reflects the length composition in the population only for species with a small number of individuals captured at each station. Because the sampling design (regular versus stratified) and area covered varies between the surveys, the length distributions presented here and in the "Atlas of the Barents Sea Fishes" are not directly comparable. This is also partly due to different spatial distribution of fish according to their length (age), making the length distribution dependent on the area sampled and the sampling intensity in the different sub-areas.

2.3 References

Anon. 2006. Methodical manual on instrumental surveys of commercially important hydrobionts stocks in the PINRO investigations areas. Murmansk, PINRO Press. 163 pp (in Russian).

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3 Species descriptions and maps

3.1 List of species included

List of species included cont.

***Myxine glutinosa* Linnaeus 1758**

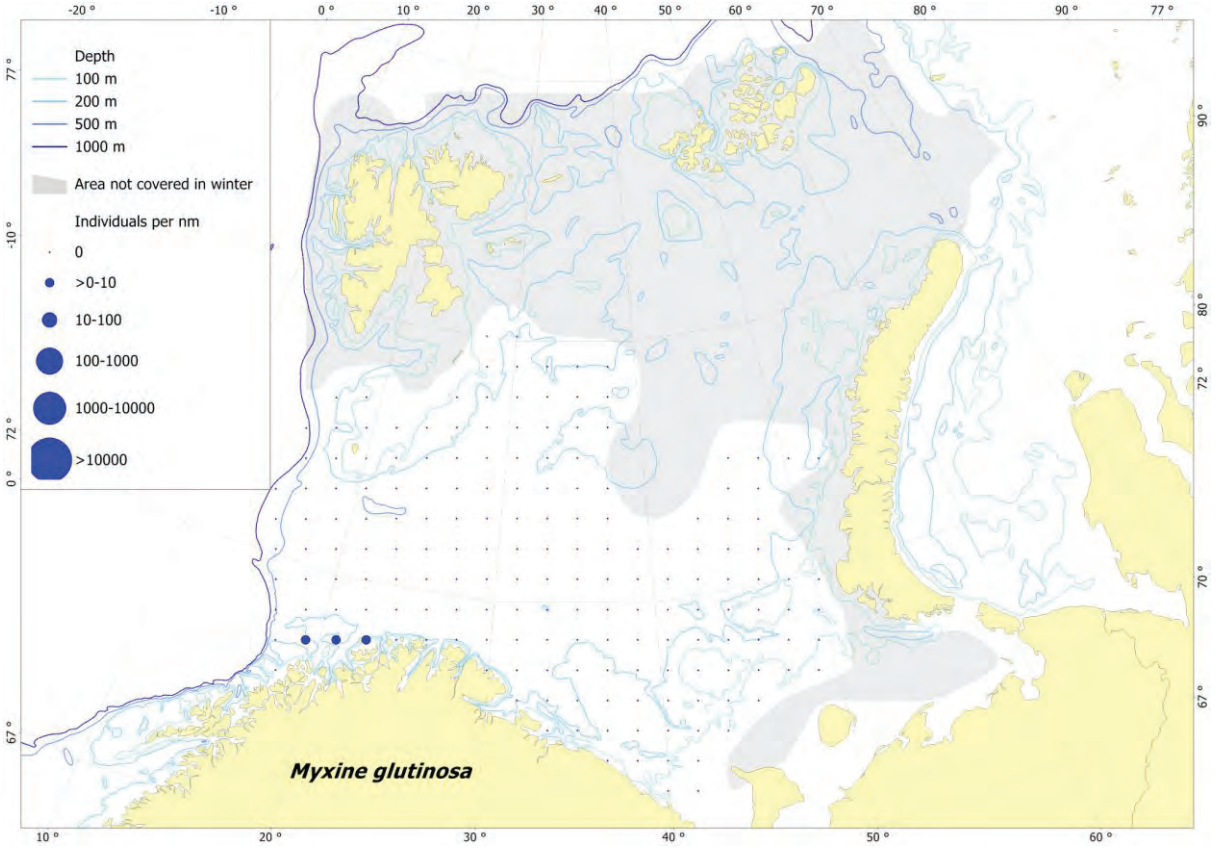
Family: Myxinidae
English name: hagfish
Norwegian name: slimål
Russian name: европейская миксина
(evropeiskaya miksina)

Photo: Ingvar Byrkjedal

Spatial distribution

Known from coasts in the western Mediterranean and the Atlantic from Portugal to the Barents Sea, also off Greenland, Iceland and in the western North Atlantic.

Found in the southwestern part of the surveyed area off the Norwegian coast. Not found during the ecosystem survey (2004-2009).



Length composition

Thirteen specimens (24-39 cm, mean length 30.5 cm) were caught.

Life history

Boreal, demersal, on muddy bottom from 0-600 m depth, occasionally down to 2000 m, preferring temperatures below 10 ºC and 30 ‰ salinity. Reaches 80 cm, but up to 35 cm are more common. Protandrous hermaphrodite, males smaller than females. Scavengers, mainly on fish but also crustaceans and polychaets, nocturnal. No defined spawning season, 12-30 elliptic eggs (15-25 mm long) with horny shell and anchor-tipped filaments.

Population and exploitation

Not common in the Barents Sea. Of no economic importance, can cause harm in longline fisheries.

References

Andriashev, AP. 1954. Fishes of the northern seas of the USSR. Academy of Science Press, Moscow-Leningrad. 566 pp (in Russian)

Fernholm B, Vladykov VD. 1984. Myxinidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 68-69

Muus BJ, Nielsen JG. 1998. Våre saltvannsfisker. NKS, Oslo

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Etmopterus spinax (Linnaeus 1758)

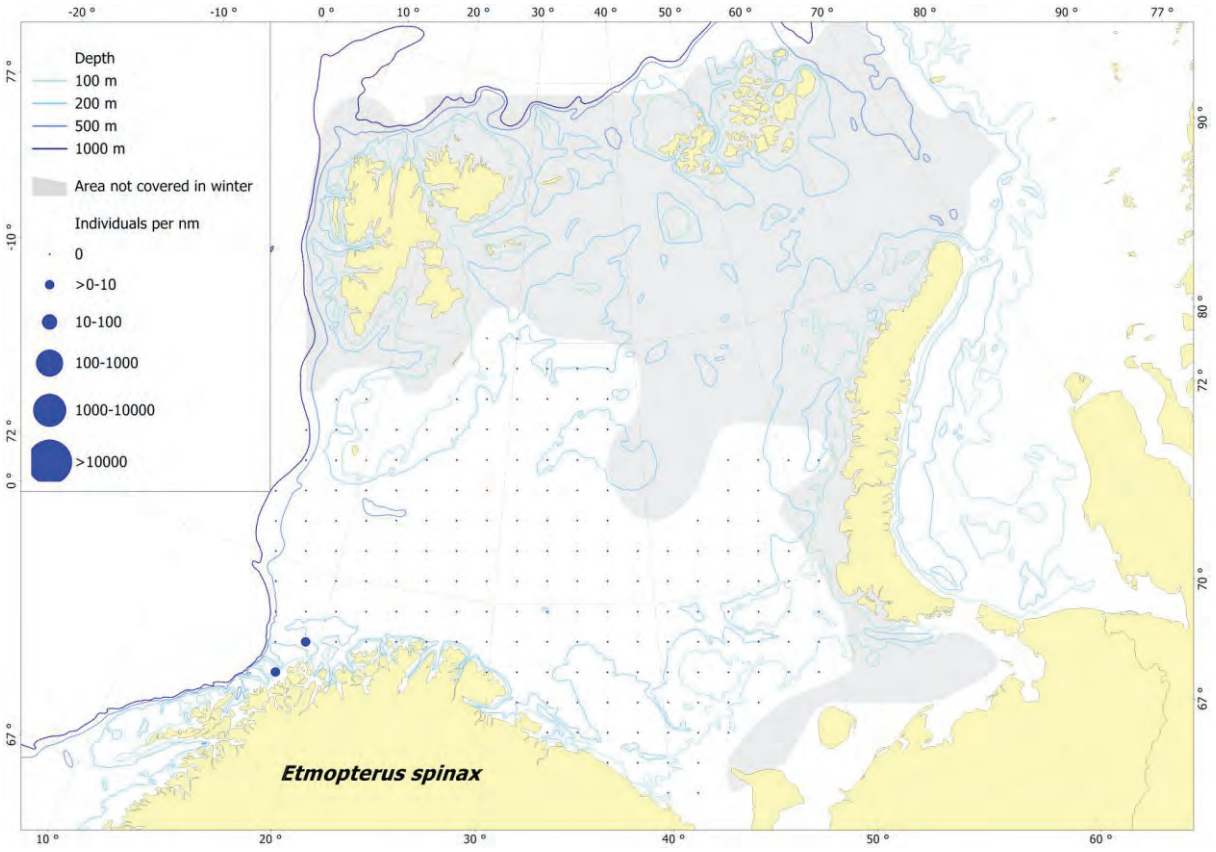
Family: Dalatiidae
English name: velvet belly
Norwegian name: svarthå
Russian name: черная колючая акула
(tchernaya koliutchaya akula)

Photo: Rupert Wienerroither

Spatial distribution

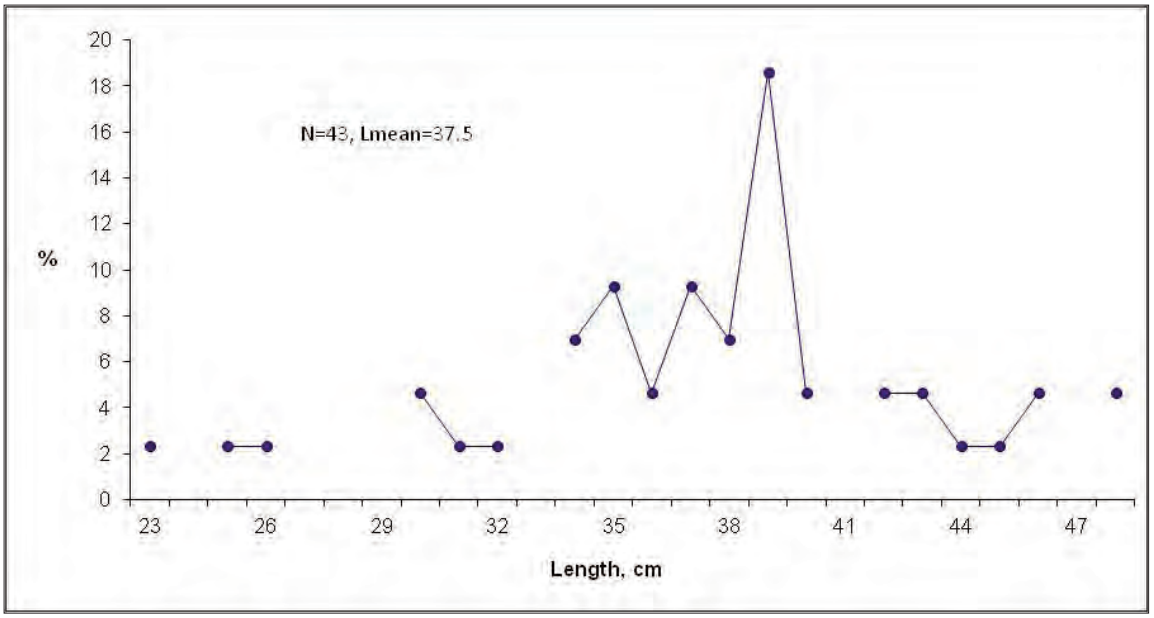
Known from Senegal to Iceland and northern Norway, the western Mediterranean and off southern Africa.

Like in the ecosystem survey (see page 26 in “Atlas of the Barents Sea Fishes”) found in the southwestern part of the surveyed area off the Norwegian coast.



Length composition

More small specimens were caught during the winter survey compared to the ecosystem survey.



Life history

Widely distributed, demersal on soft bottom, common on the continental shelf and in deep fjords at depths of 200-500 m. Specimens occur shallower in the northern distribution area then further south. Females can reach 60 cm, males 50 cm, but more than 40 cm are uncommon. Shows size-depth stratification, with larger specimens occurring deeper. Feeds on small fishes, cephalopods and crustaceans. Ovoviviparous; 6-20 young are born in summer, 12-14 cm long.

Population and exploitation

Uncommon in the Barents Sea. Of no economic importance, but a common bycatch in both longline and trawl fishery. Catch rate has declined by about 20 % between the 1970 and 1998-2004 in the Northeast Atlantic and the North Sea.

References

Compagno LJV. 1984. FAO species catalogue. Sharks of the world. An annotatedand illustrated catalogue of shark species known to date. Part 1 Hexanchiformes to Lamniformes. FAO Fisheries Synopsis No 125, Vol.4, Pt.1:249 pp

Gibson C, Valenti SV, Fordham SV, Fowler SL. 2008. The Conservation of Northeast Atlantic Chondrichthyans: Report of the IUCN Shark Specialist Group Northeast Atlantic Red List Workshop. viii + 76pp

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Williams T, Helle K, Aschan M. 2008. The distribution of chondrichthyans along the northern coast of Norway. ICES Journal of Marine Science, 65:1161-1174

Somniosus microcephalus (Bloch & Schneider 1801)

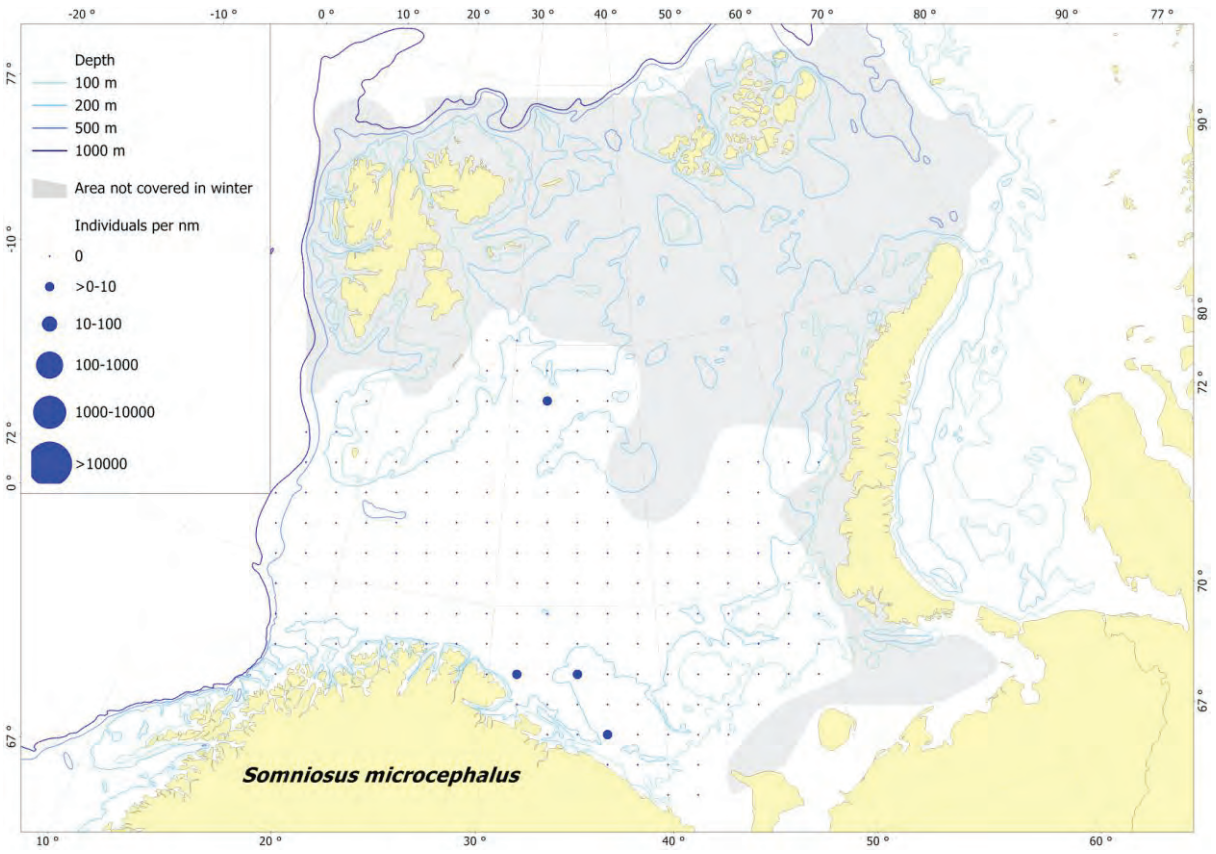
Family: Dalatiidae
English name: Greenland shark
Norwegian name: håkjerring
Russian name: полярная акула (polyarnaya akula)

Photo: Andrey Dolgov

Spatial distribution

Known from the British Isles northward in the whole Norwegian and Greenland Sea to the Barents, Kara and White Sea; also in the western North Atlantic and in the South Atlantic and Antarctic.

Found closer to the mainland coast than during the ecosystem survey (see page 28 in "Atlas of the Barents Sea Fishes"), which is in accordance to the general migration scheme of this species in the Barents Sea.



Length composition

Four specimens (115-240 cm, mean length 167 cm) were caught, specimens were smaller than during the ecosystem survey.

Life history

Mainly boreal, usually demersal on muddy bottom and common at depths of 200-600 m, but also found down to 1200 m and near the surface in arctic areas. Prefers 0-2 ºC, tolerates temperatures up to 7 ºC. Can reach 8 m (but 244-427 cm are more common) and up to 1400 kg, females grow larger than males. Growth rates very low, maximum age and maturation age high, therefore vulnerable for accumulation of PCB and other environmental toxins. Feeds on various fish and large bottom invertebrates, near the surface also on birds, mammals and fish offal from fishing boats. Ovoviviparous, females bear about 10 young, 40-70 cm long. Extensive migrations in the Barents Sea, occurs near the Norwegian and Murman coast during the winter and spring, before migrating northward to Bear Island and Svalbard/Spitsbergen.

Population and exploitation

Catch rates of the species in the Northeast Atlantic are very low. Listed on the Norwegian Red list 2010 as 'near threatened', the decline in populationsize is expected to continue.

Historically a highly targeted species, especially for its large liver rich in vitamin A. Nowadays no direct fishing, but taken as bycatch.

References

Compagno LJV. 1984. FAO species catalogue. Sharks of the world. An annotatedand illustrated catalogue of shark species known to date. Part 1 Hexanchiformes to Lamniformes. FAO Fisheries Synopsis No 125, Vol.4, Pt.1:249 pp

Gibson C, Valenti SV, Fordham SV, Fowler SL. 2008. The Conservation of Northeast Atlantic Chondrichthyans: Report of the IUCN Shark Specialist Group Northeast Atlantic Red List Workshop. viii + 76pp

Gjøsæter J, Hesthagen T, Borgstrøm R, Brabrand Å, Byrkjedal I, Christiansen JS, Nedreaas K, Pethon P, Uiblein F, Vøllestad LA, Wienerroither R. 2010. Fisker – Pisces. In: Kålås JA, Viken Å, Henriksen S, Skjelseth S. (eds) The 2010 Norwegian Red List for Species. Norwegian Biodiversity Information Centre, Norway, pp 403-412

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Williams T, Helle K, Aschan M. 2008. The distribution of chondrichthyans along the northern coast of Norway. ICES Journal of Marine Science, 65:1161-1174

Bathyraja spinicauda (Jensen 1914)

Family: Arhynchobatidae
English name: spinetail ray
Norwegian name: gråskate
Russian name: шипохвостый скат
(shypokhovstiy skat)

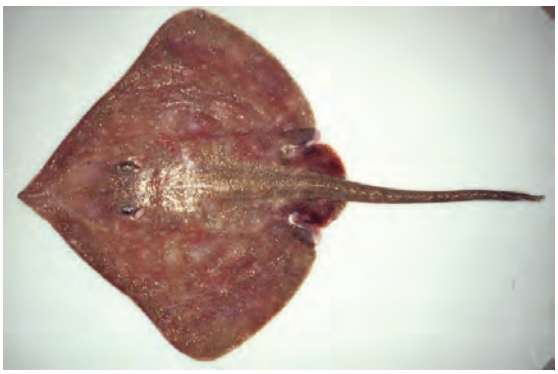
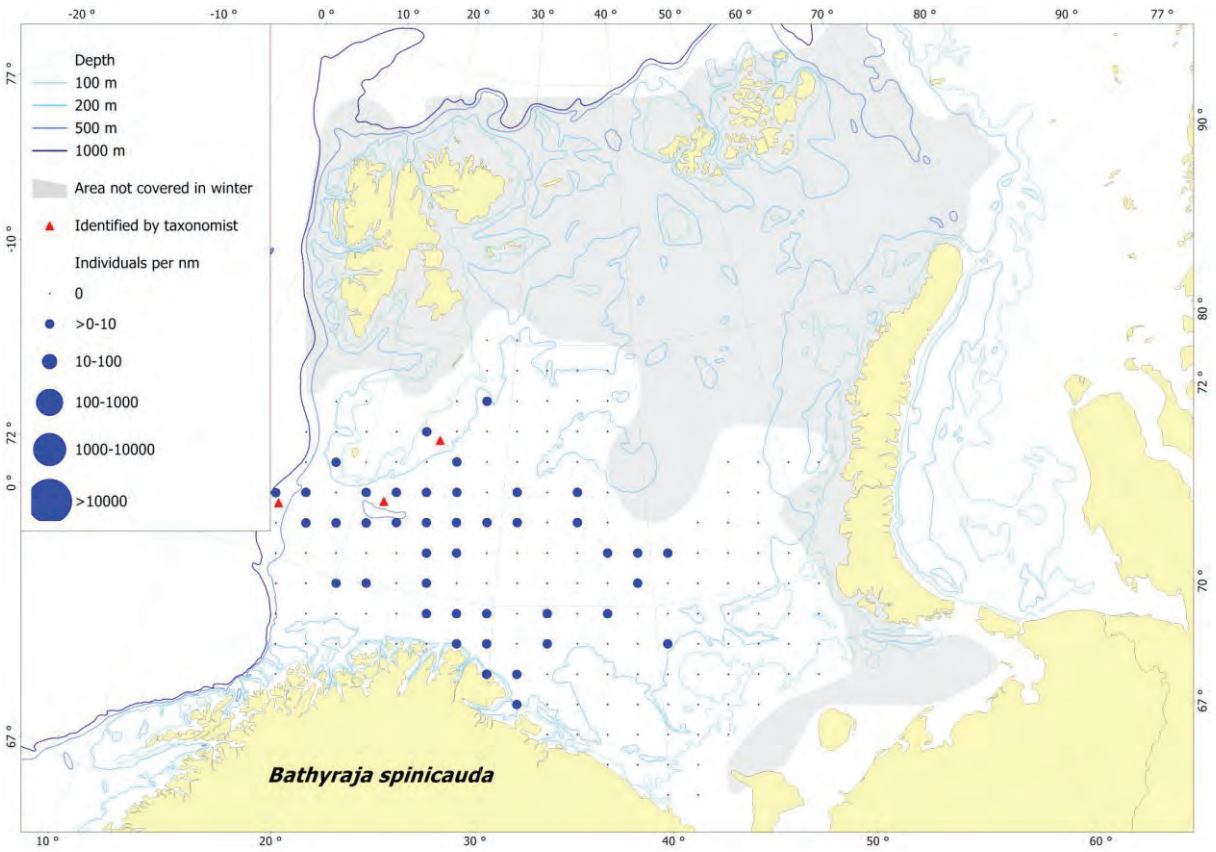


Photo: Andrey Dolgov

Spatial distribution

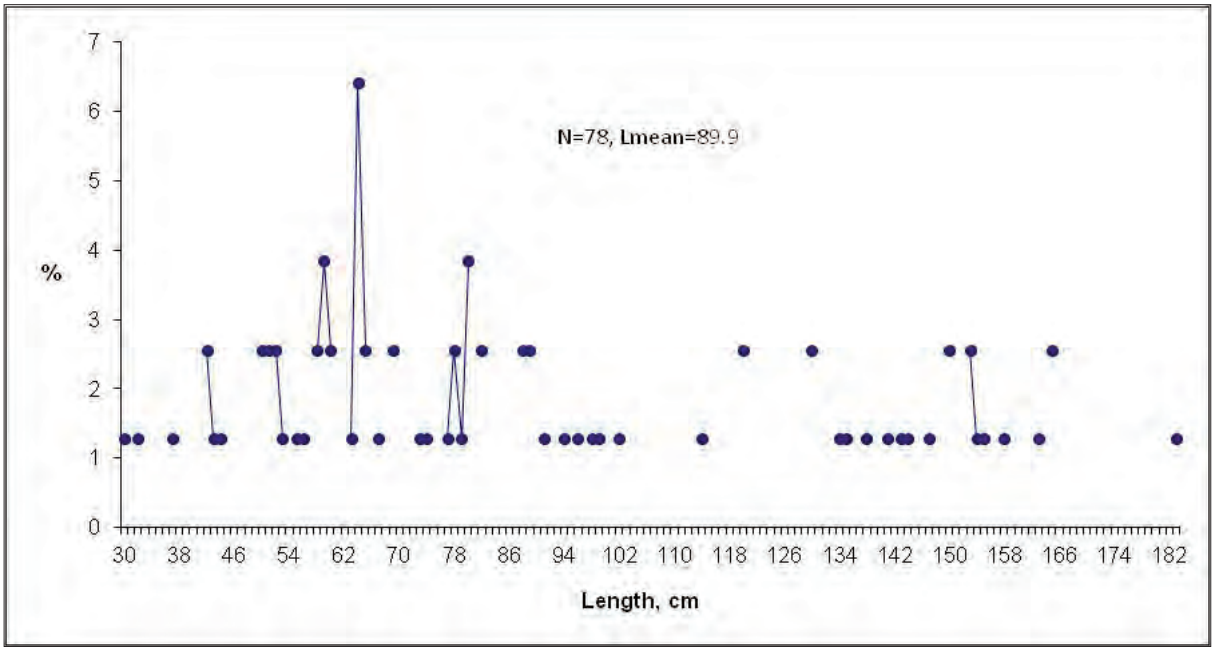
Known from the northern North Sea to the Barents Sea, also off Iceland and Greenland and in the western North Atlantic.

Found in larger parts of the central basin and more eastwards than during the ecosystem survey (see page 30 in the “Atlas of the Barents Sea Fishes”).



Length composition

Fewer small and more large specimens were caught during the winter survey. The largest specimen (183 cm) exceeds the reported maximum length of 172 cm.



Life history

Mainly boreal, demersal at 160-2000 m, most common deeper than 400 m. Prefers temperatures above 2 ºC and higher salinity. Reaches up to 172 cm and about 40 kg. Feeds on fish and large crustaceans. Oviparous, low fecundity. Demersal egg cases are probably laid during summer and measure about 13 by 9 cm, the young hatch after about one year.

Population and exploitation

Non-targeted. Based on Russian annual surveys (October – December) between 1999 and 2003 the average biomass of the species in the Barents Sea was estimated to 810 tonnes. Hardly reproducing in the Barents Sea, stock is maintained by migrations from southern areas.

Data from surveys (1997-2009) along the slope between the Barents Sea shelf and the Norwegian Sea as well as in the polar basin show that this species is uncommon. Vulnerable to fishing since it is a common bycatch species in the slope fishery for Greenland halibut. There are no clear trends in population size recognizable but abundance is low and it is listed on the Norwegian Red list 2010 as ‘near threatened’.

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Williams T, Helle K, Aschan M. 2008. The distribution of chondrichthyans along the northern coast of Norway. ICES Journal of Marine Science, 65:1161-1174

Amblyraja hyperborea (Collett 1879)

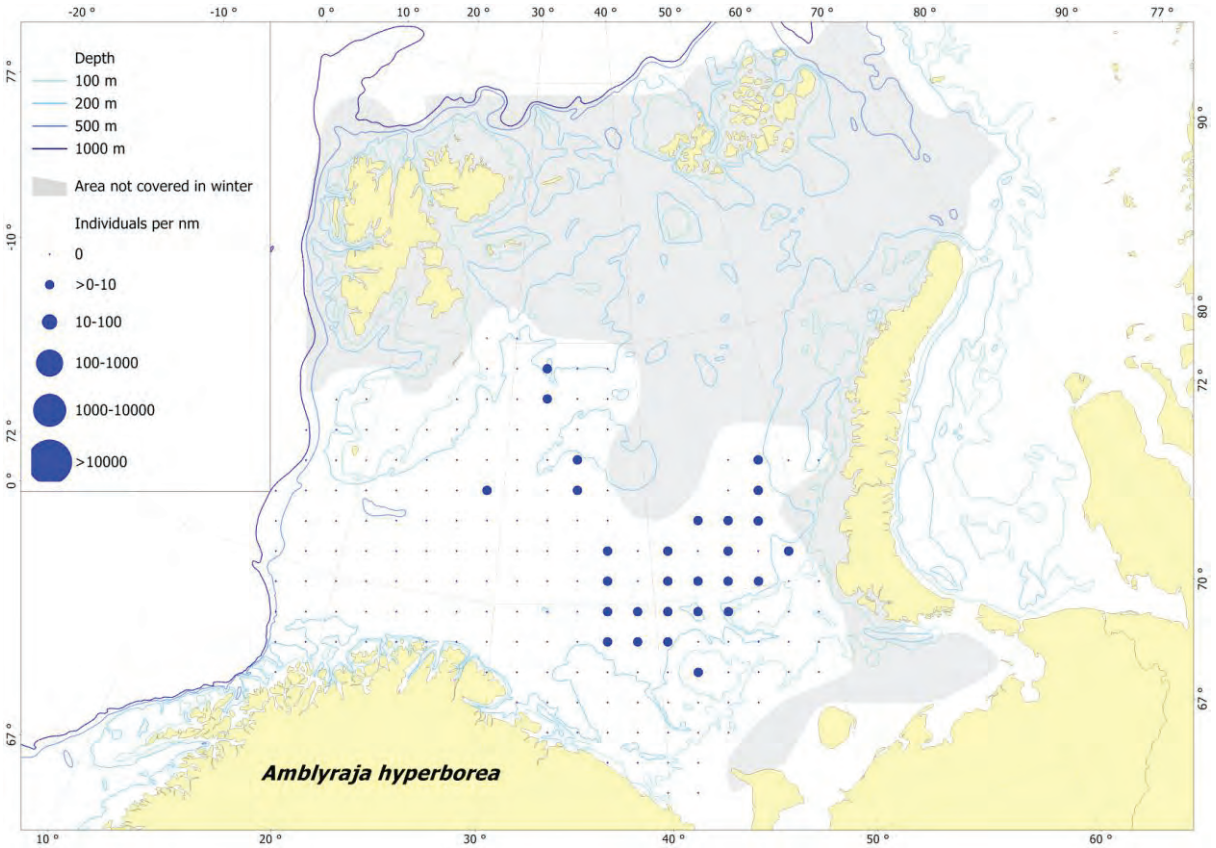
Family: Rajidae
English name: Arctic skate
Norwegian name: isskate
Russian name: северный скат
(severniy skat)

Photo: Thomas. de Lange Wenneck

Spatial distribution

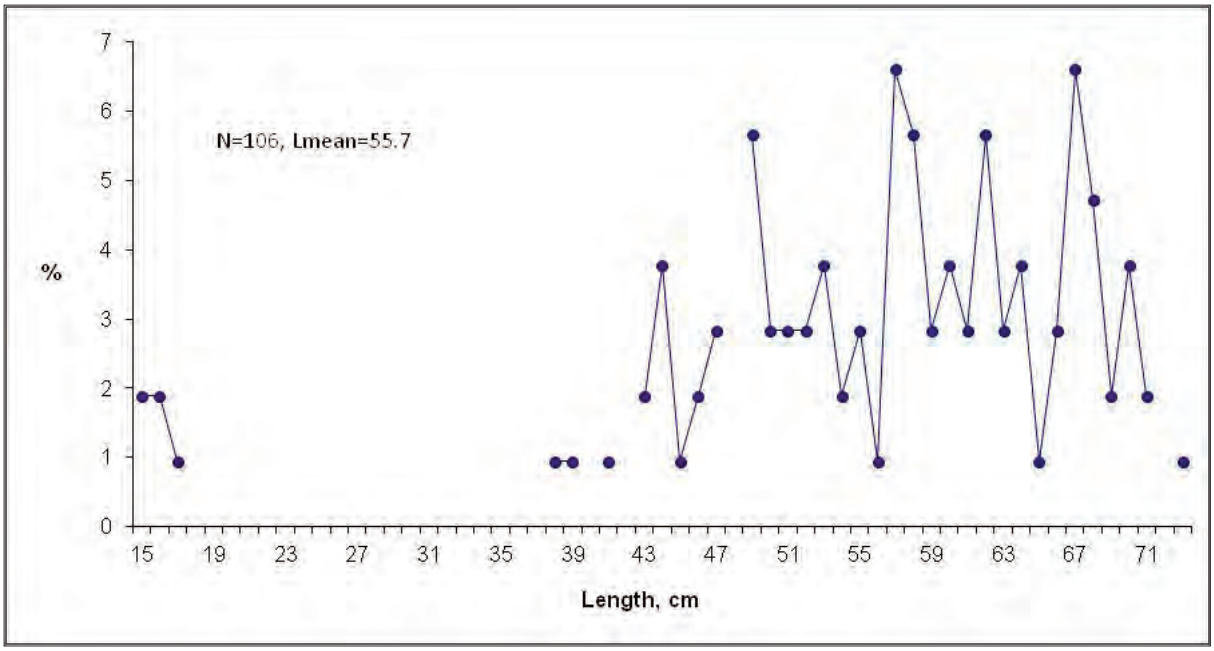
Known from Iceland and the Faroese Islands northward to the Barents Sea and the Svalbard/Spitsbergen archipelago, also in the western North Atlantic, off South Africa, southern Australia and New Zealand, in the Southwest and East Pacific.

Found in the central and eastern part of the surveyed area, in the same area as during the ecosystem survey (see page 33 in “Atlas of the Barents Sea Fishes”).



Length composition

Only few specimens smaller than 38 cm were caught during the winter, although this size class was very numerous in autumn.



Life history

Arctic, demersal on muddy bottom at 280-2460 m (deeper in its southern distribution area) in cold water (mainly between -1.0 and +1.5 ºC). Reaches at least 92 cm and 5.2 kg. Feeds on demersal and pelagic crustaceans as well as on fishes. Oviparous, egg cases measure 8-12.5 by 5-8 cm, the young 15-16 cm when hatched.

Population and exploitation

Based on Russian annual surveys (October – December) between 1997 and 2003 the average biomass in the Barents Sea was estimated to approximately 3 000 tonnes. Of no economic importance, bycatch in trawl and long-line fisheries, but due to living in great depths less affected.

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Bjelland O, Bergstad OA, Skjæraasen JE, Meland K. 2000. Trophic ecology of deep-water fishes associated with the continental slope of the eastern Norwegian Sea. Sarsia 85:101-117

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Williams T, Helle K, Aschan M. 2008. The distribution of chondrichthyans along the northern coast of Norway. ICES Journal of Marine Science, 65:1161-1174

Amblyraja radiata (Donovan 1808)

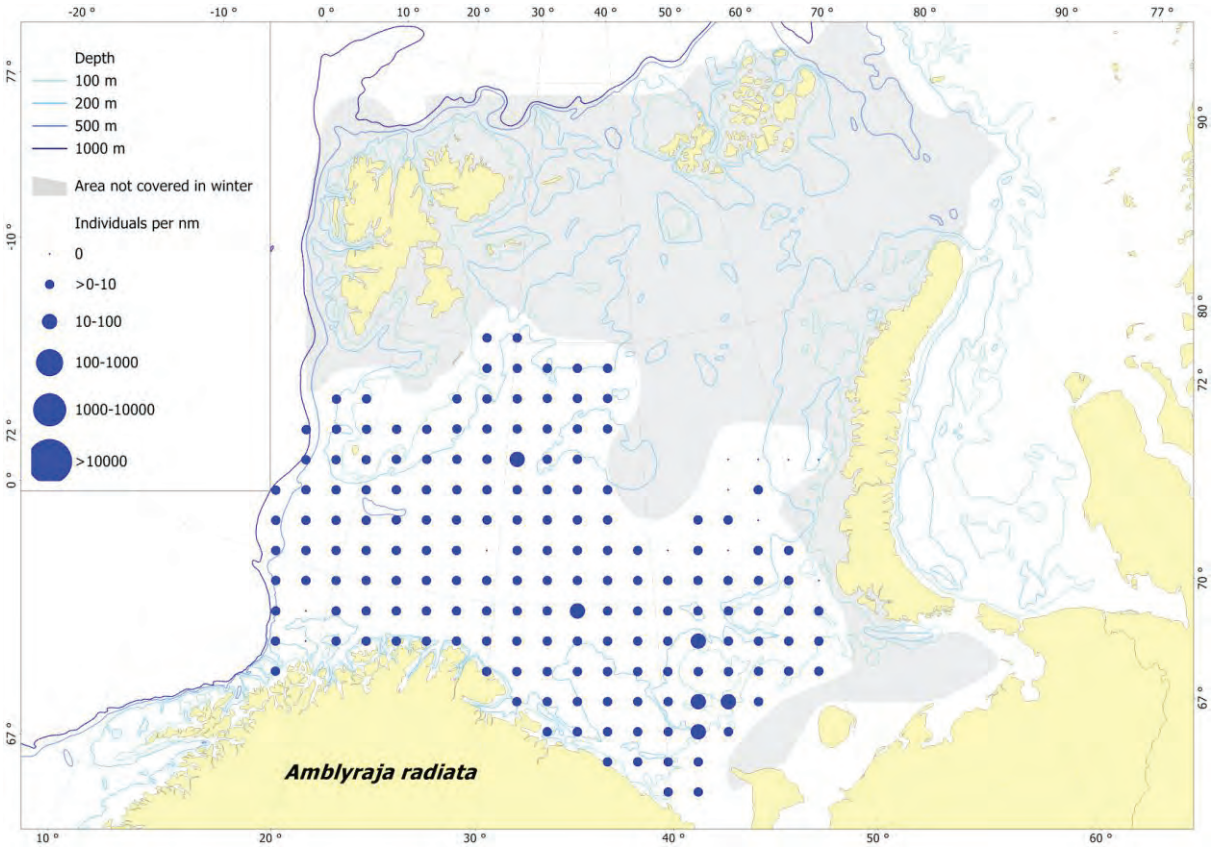
Family: Rajidae
English name: starry ray
Norwegian name: kloskate
Russian name: звездчатый скат
(zvezdtchatiy skat)

Photo: Thomas de Lange Wenneck

Spatial distribution

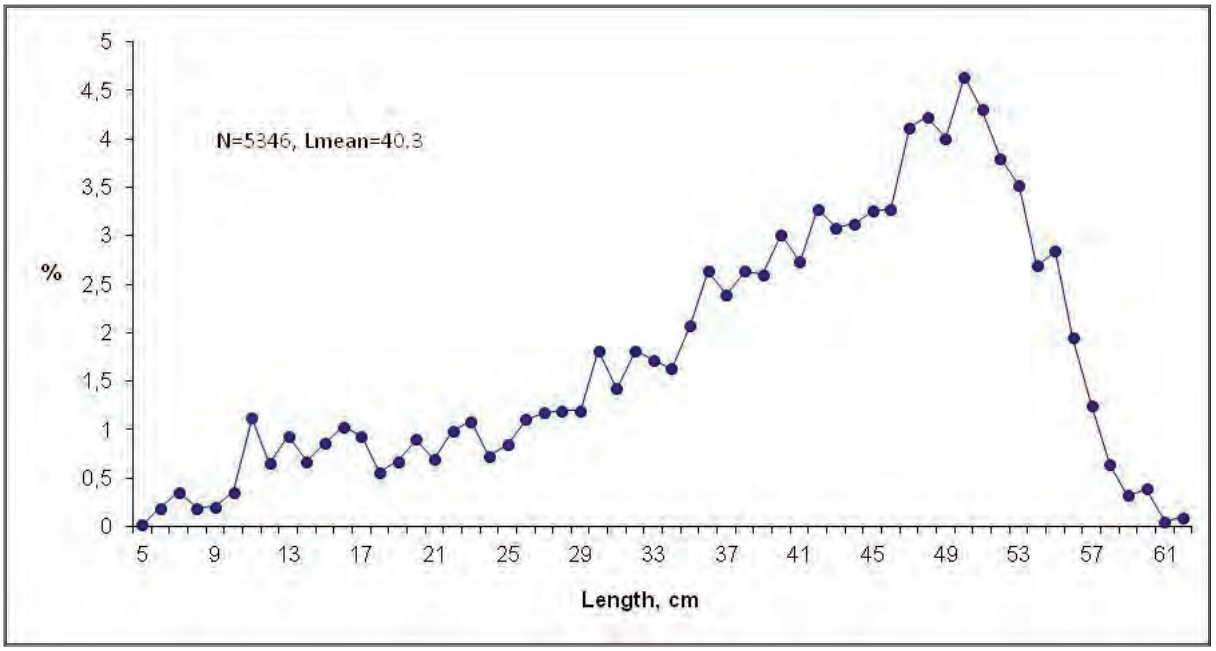
Known from the British Isles northward to Svalbard/Spitsbergen, the Barents and the White Sea; also off Iceland, Greenland and in the western North Atlantic.

Like in the ecosystem survey (see page 35 in "Atlas of the Barents Sea Fishes"), widely distributed in the surveyed area.



Length composition

Size distribution was similar to data from the ecosystem survey, but mean length was somewhat larger in winter.



Life history

Mainly boreal, demersal on sandy and muddy bottom at 20-400 m, known down to 1000 m in arctic latitudes, also common in fjords. Prefers temperatures from -1 to +8 ºC (most common at 1-4 ºC). Reaches up to 90 cm, 17 kg (in the Barents Sea commonly up to 65 cm and 3.2 kg), and 20 years. Most of the specimens larger than 40 cm have reached maturity. Feeds on benthic and pelagic fish and crustaceans. In spring mature females migrate to coastal areas, followed by mature males. 15-20 egg cases are disposed at a time, with a disposal peak in March-August. Egg cases measure 4-7 by 2.5-5 cm, 9-11 cm long young hatch after 16-20 weeks, but observations under aquarium conditions showed incubation period of up to 2-2.5 years.

Population and exploitation

Based on Russian annual surveys (October – December) between 1997 and 2003 the average biomass of the species in the Barents Sea was estimated to 98 000 tonnes. The most common of all skate species occurring in the Barents Sea and the stock is in stable condition.

Of no economic importance. A common bycatch species, 200-1 500 tonnes were caught in Russian bottom trawl fisheries during the past years.

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Gibson C, Valenti SV, Fordham SV, Fowler SL. 2008. The Conservation of Northeast Atlantic Chondrichthyans: Report of the IUCN Shark Specialist Group Northeast Atlantic Red List Workshop. viii + 76pp

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Stehmann M, Bürkel DL. 1984. Rajidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 163-196

Williams T, Helle K, Aschan M. 2008. The distribution of chondrichthyans along the northern coast of Norway. ICES Journal of Marine Science, 65:1161-1174

***Rajella lintea* (**Fries 1838)

Family: Rajidae
English name: sailray
Norwegian name: hvitskate
Russian name: парусный скат
(parusniy skat)

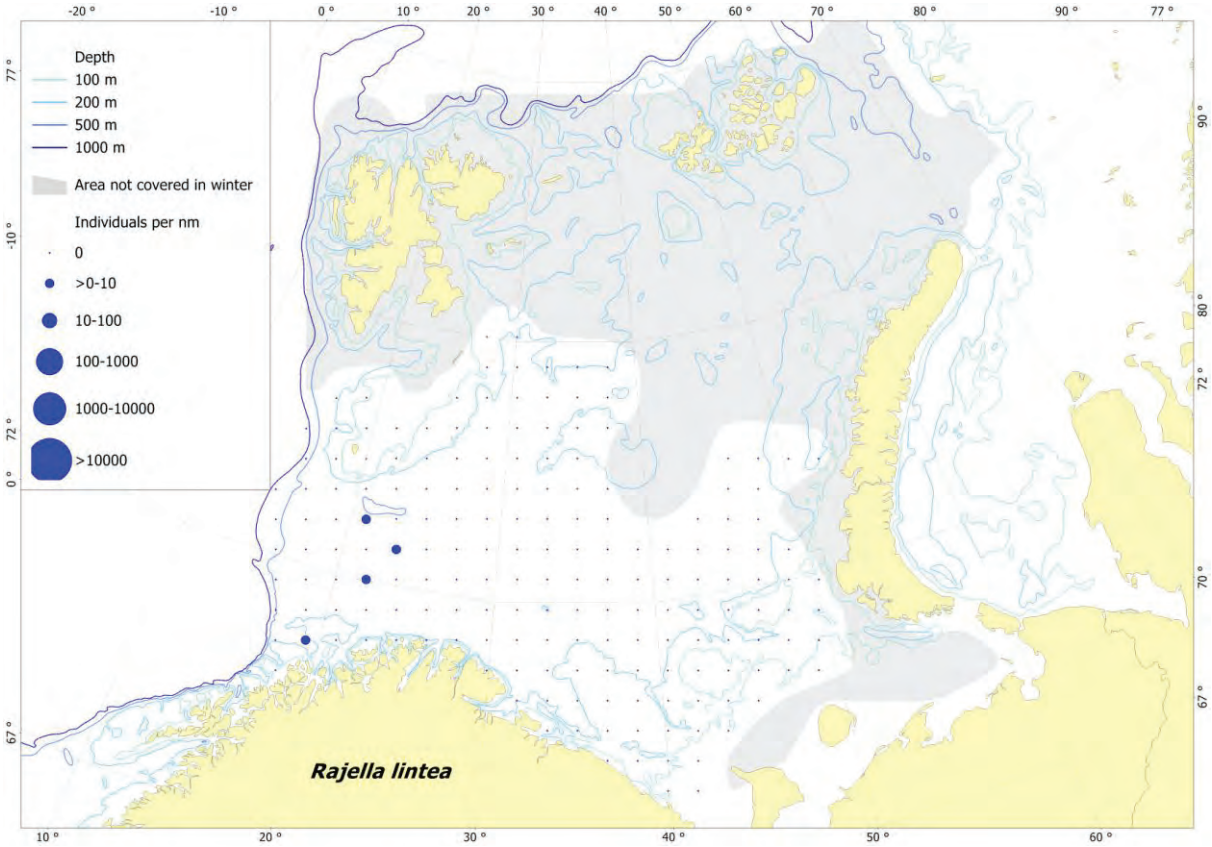
Photo: Andrey Dolgov

Note on taxonomy: A recent revision puts this species in the genus *Rajella*.

Spatial distribution

Known from Iceland westward to the Norwegian coast, also off western Greenland.

Found in the southwestern part of the surveyed area, in the same area as during the ecosystem survey (see page 38 in “The Atlas of the Barents Sea fishes”, as *Dipturus linteus* (Fries 1838)).



Length composition

Four specimens (47-104 cm, mean length 75.80 cm) were caught. The mean length was larger than for specimens caught during the ecosystem survey.

Life history

Boreal, demersal on soft bottom at 150-1900 m, commonly deeper than 400 m, prefers higher temperatures (4-6 ºC) and salinities. Reaches up to 124 cm, males mature at length 100 cm. Feeds on a variety of demersal crustaceans and fishes. Oviparous, egg cases measure about 11 by 8 cm.

Population and exploitation

Catches of this species are rare, and it is suggested that the majority occurs in deeper waters than usually surveyed and fished. Of no economic importance. Bycatch in trawl and long-line fisheries along the continental shelf slope between the Norwegian coast and the Svalbard/Spitsbergen archipelago.

References

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Dolgov AV, Grekov AA, Shestopal IP, Sokolov KM. 2005. By-catch of Skates in Trawl and Long-Line Fisheries in the Barents Sea. Journal of Northwest Atlantic Fishery Science, 35:357-366

Gibson C, Valenti SV, Fordham SV, Fowler SL. 2008. The Conservation of Northeast Atlantic Chondrichthyans: Report of the IUCN Shark Specialist Group Northeast Atlantic Red List Workshop. viii + 76pp

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Williams T, Helle K, Aschan M. 2008. The distribution of chondrichthyans along the northern coast of Norway. ICES Journal of Marine Science, 65:1161-1174

Rajella fyllae (Lütken 1887)

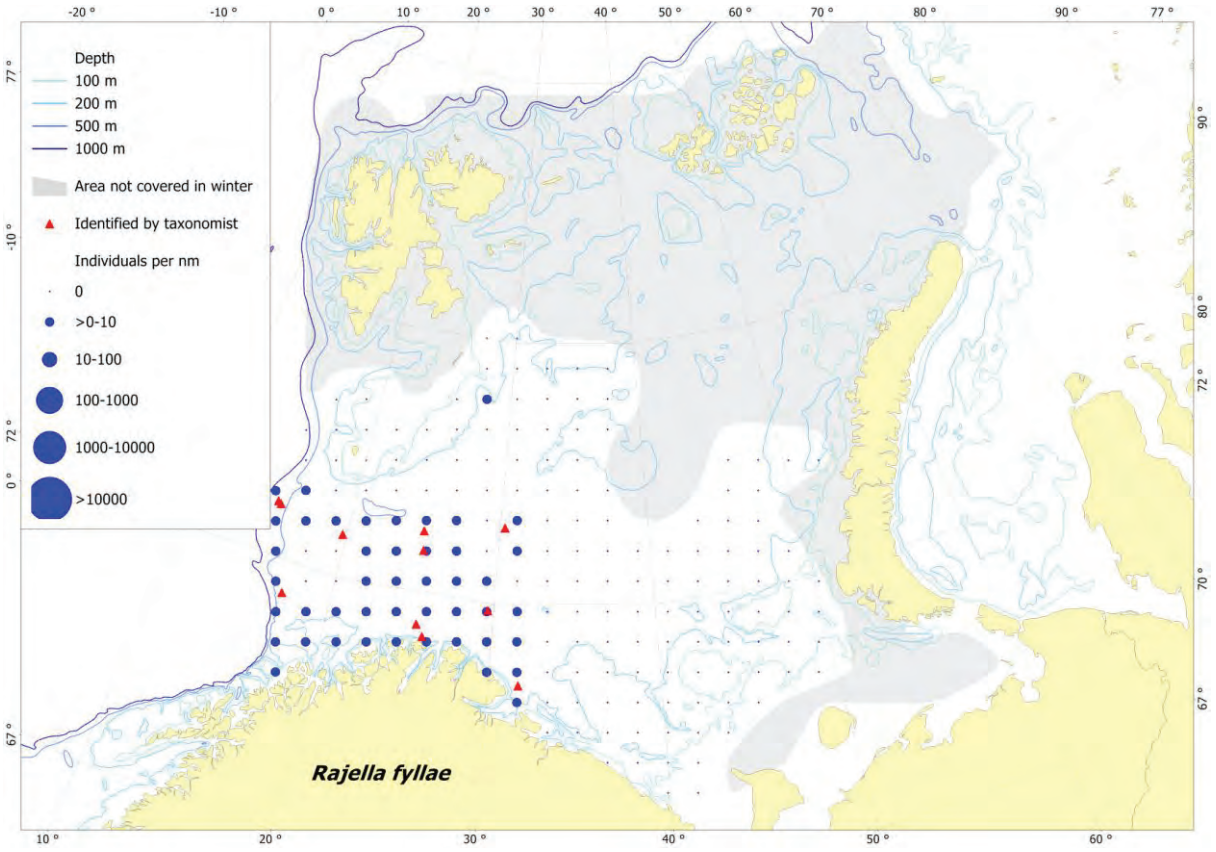
Family: Rajidae
English name: round ray
Norwegian name: rundskate
Russian name: круглый скат
(krugliy skat)

Photo: Thomas de Lange Wenneck

Spatial distribution

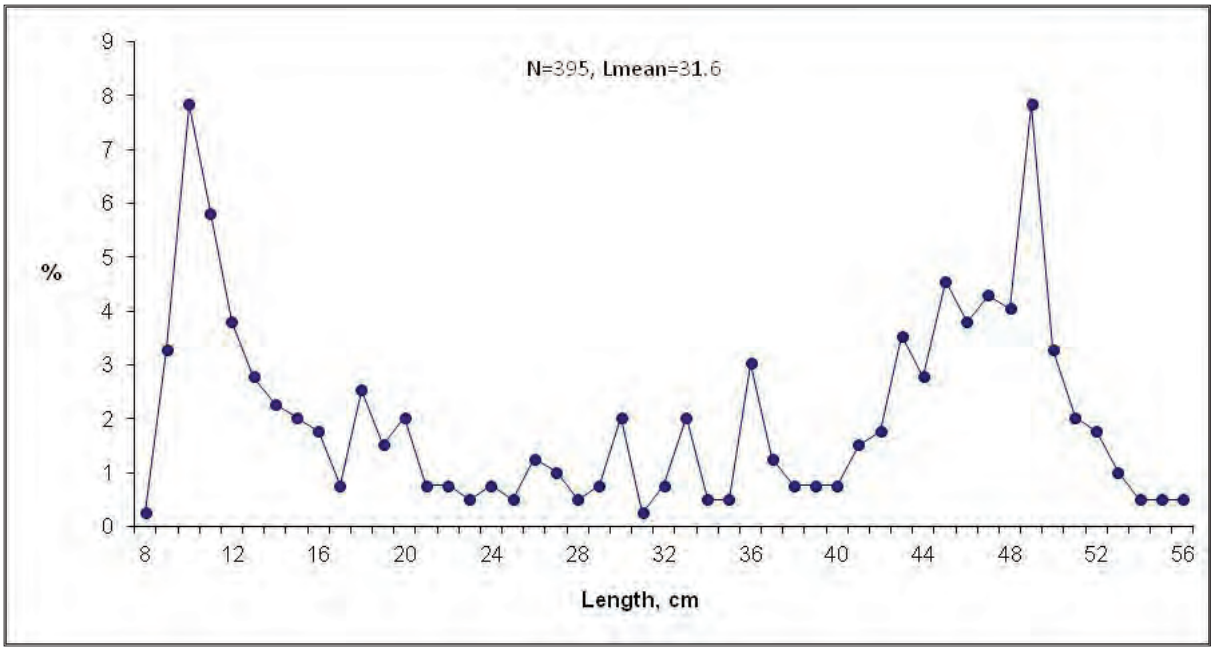
Known from Iceland eastward, along the whole Norwegian coast, northward to the Barents Sea, also west of the British Isles and in the western North Atlantic.

Like during the ecosystem survey (see page 40 in “Atlas of the Barents Sea Fishes”) found in warm water areas in the southwestern part of the surveyed area.



Length composition

Length distribution was similar in winter and autumn, with mean length slightly higher during the winter survey.



Life history

Boreal, demersal along the continental slope at 170-2050 m, most common between 300-800 m, prefers temperatures above 2 ºC and high salinities. Reaches up to 68 cm, in the Barents Sea up to 52 cm and 925 g. Feeds on small demersal animals, preferring invertebrates. Oviparous; egg cases measure about 4.2 by 2.5 cm, newly hatched young about 7 cm. Egg capsules are biconvex, observations under aquarium conditions showed an incubation period of up to 1-1.5 years.

Population and exploitation

Based on Russian annual surveys (October – December) between 1997 and 2003 the average biomass of the species in the Barents Sea was estimated to 1 400 tonnes.

Taken as bycatch in trawl and longline fisheries, but of no economic importance and discarded. Due to the wide depth range, the population is considered to be stable.

References

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Gibson C, Valenti SV, Fordham SV, Fowler SL. 2008. The Conservation of Northeast Atlantic Chondrichthyans: Report of the IUCN Shark Specialist Group Northeast Atlantic Red List Workshop. viii + 76pp

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Williams T, Helle K, Aschan M. 2008. The distribution of chondrichthyans along the northern coast of Norway. ICES Journal of Marine Science, 65:1161-1174

Chimaera monstrosa Linnaeus 1758

Family: Chimaeridae
English name: rabbit fish
Norwegian name: havmus
Russian name: европейская химера
(evropeyskaya khimera)

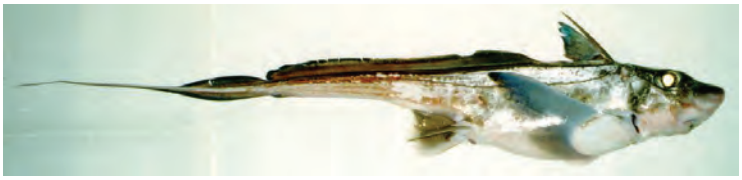
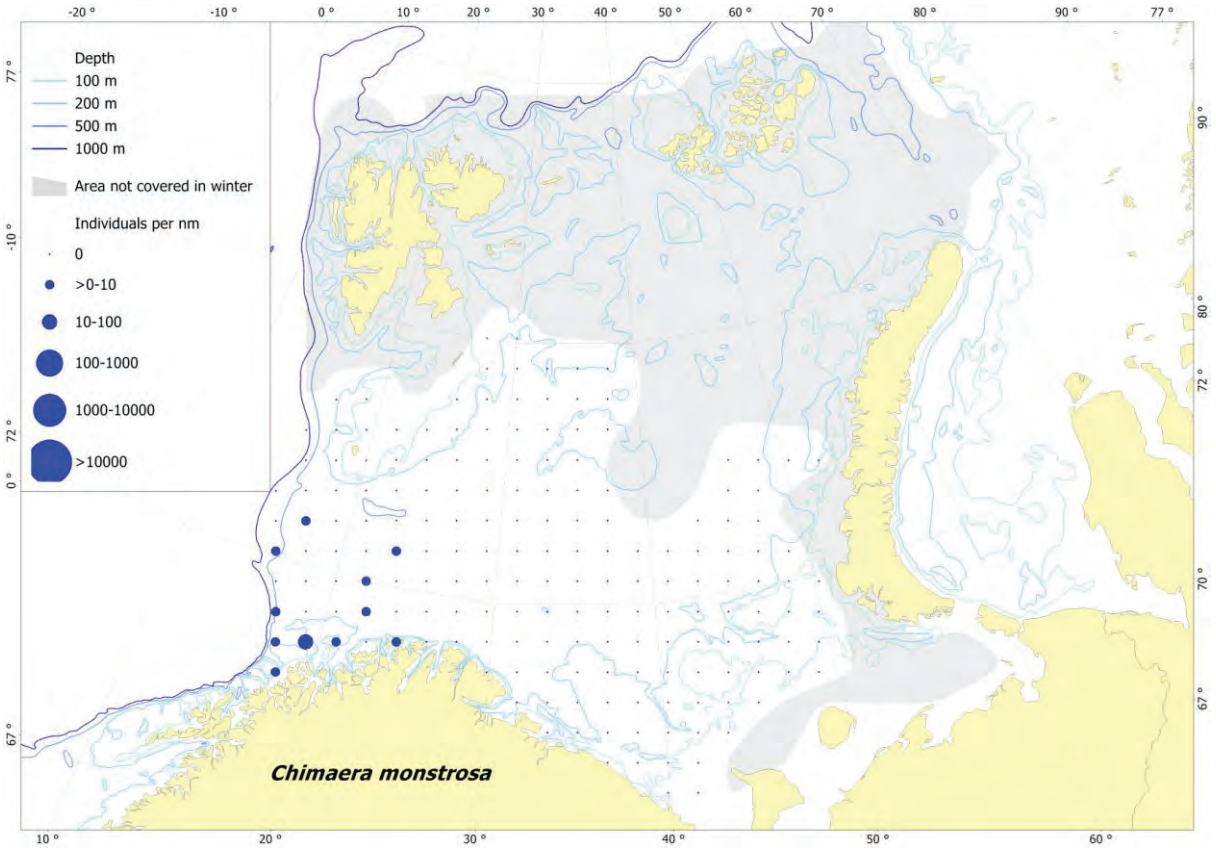


Photo: Andrey Dolgov

Spatial distribution

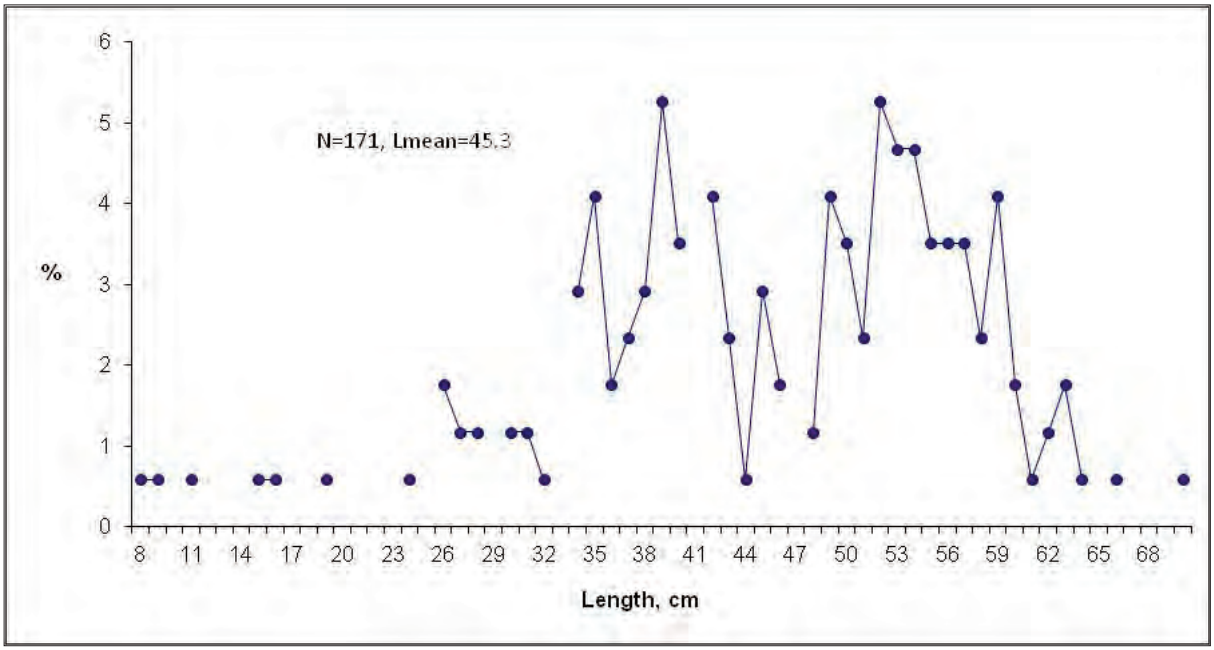
Known from northwestern Africa northward to Iceland and the southern Barents Sea, also in the Mediterranean.

Like in the ecosystem survey (see page 43 in “Atlas of the Barents Sea Fishes”), found in the deeper southwestern part of the surveyed area.



Length composition

Length distribution was similar in winter and autumn.



Life history

Boreal, benthopelagic, preferring soft bottom on the upper continental slope. During winter most common at depths of 300-500 m, found deeper in its southern distribution area and performing inshore migrations to 40-100 m depth during summer in its northern distribution area. Can reach 1.5 m (including caudal filament) and 2.5 kg, females grow larger than males. Feeds on bottom invertebrates (echinoderms, crustaceans, mollusks) and small fish. Oviparous with internal fertilization, each ovary contains about 100 eggs, but not all develop. Egg capsules are slender (16-18 by 3 cm) and deposited in spring and summer in shallow waters. Juveniles are about 11 cm long when hatched and similar in appearance to adults.

Population and exploitation

Common bycatch species with low economic importance.

References

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Clupea harengus Linnaeus 1758

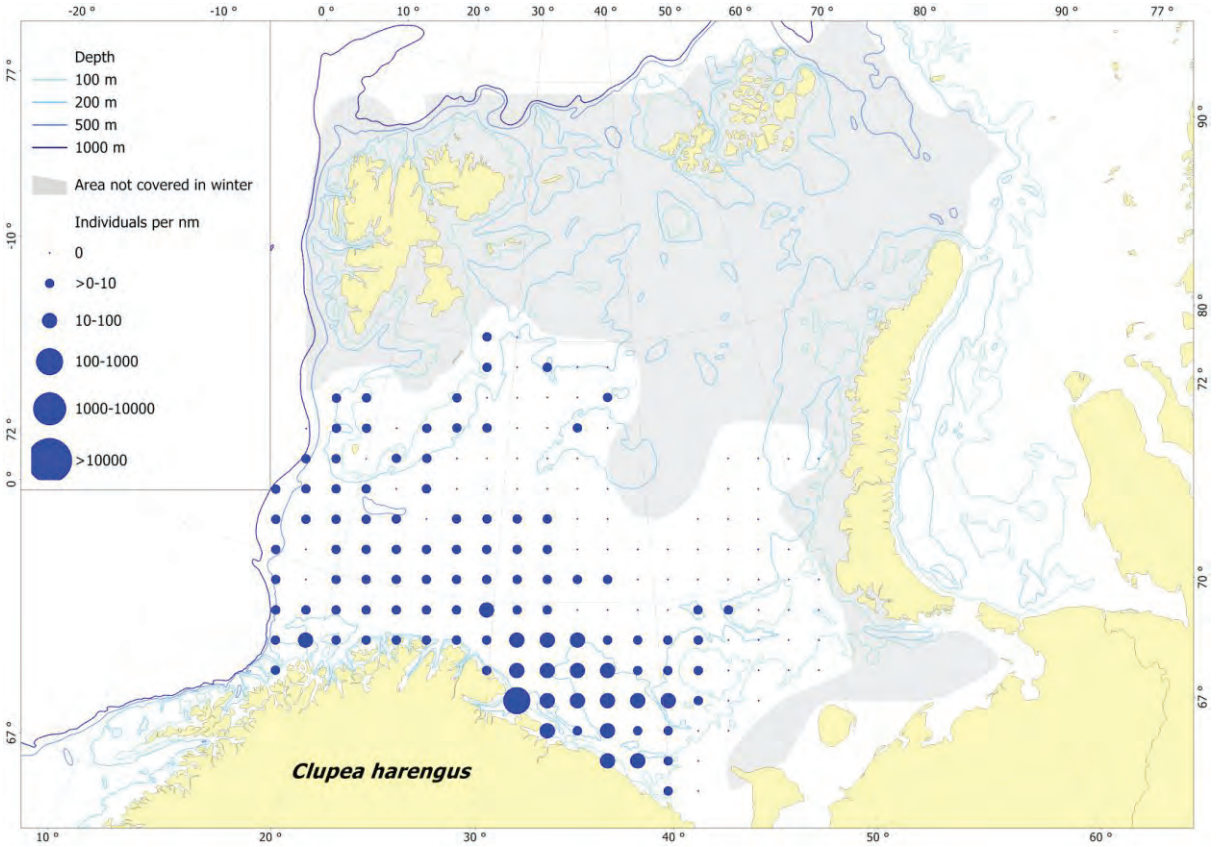
Family: Clupeidae
English name: Atlantic herring
Norwegian name: sild
Russian name: атлантическая сельдь (atlanticheskaya seld)

Photo: Andrey Dolgov

Spatial distribution

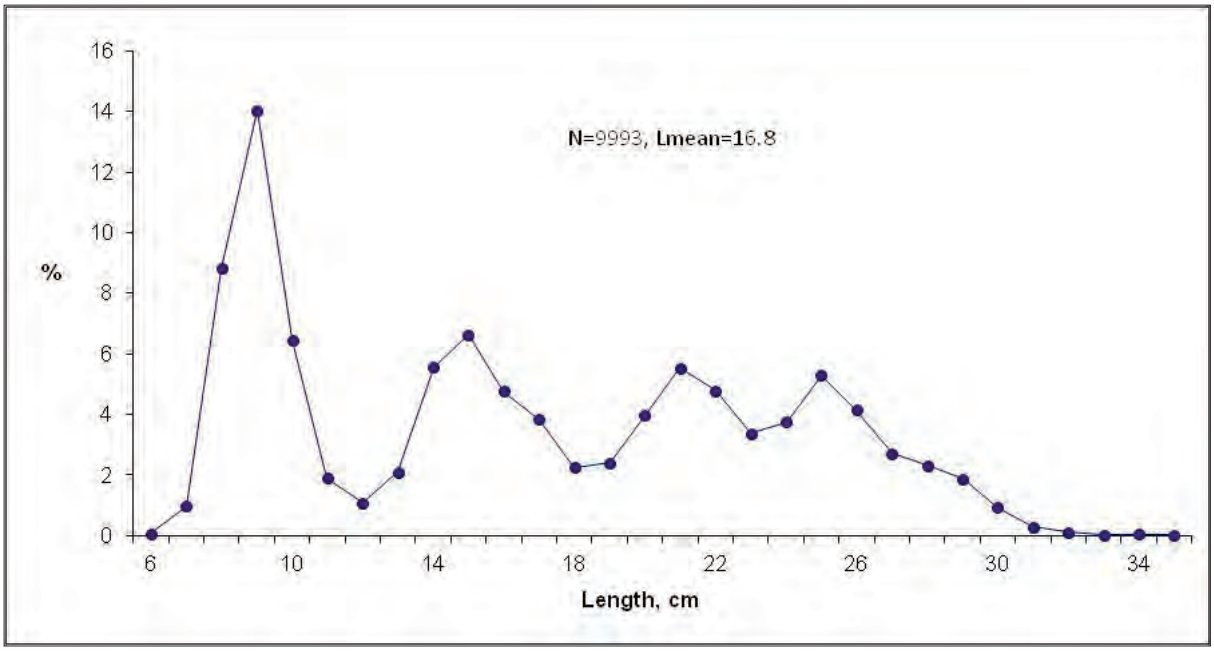
Known from the Gulf of Biscay northward to Iceland, the Barents Sea, the White Sea and the Kara Sea, also on the west side of the North Atlantic. Within *C. harengus* several subspecies, populations, and stocks are recognized, differing in average size, growth rate, migration and spawning behavior, number of finrays and vertebrae. In the Barents Sea and the eastern Norwegian Sea the Norwegian spring-spawning herring is found, which compared to other stocks has a wider distribution, performs more extensive migrations, possesses a longer life cycle and has a greater stock abundance and a higher vertebrae count. Information on life history and population given below refers to this stock.

Like during the ecosystem survey (see page 47 in “Atlas of the Barents Sea Fishes”), found in large parts of the covered area, but its distribution might not be well reflected by demersal trawl catches.



Length composition

The overall size range was similar, but the percentage of small individuals (10 cm and smaller) was higher during the winter survey.



Life history

Mainly boreal, nerito-pelagic, forming schools of up to 500 million specimens at depths of 0-200 m. Can reach 40 cm, 0.5 kg and up to 25 years. Growth rates vary within and between years, as well as between areas. Matures at age 3-9 years. Key species in the ecosystem, feeds on plankton organisms, food source for many other fish and whale species. Demersal spawning takes place in February and March off the Norwegian coast between Møre and Vesterålen, primarily at 150-250 m. In winter the gonads account for about 20 % of the fish's weight, thus spawning products provide an enormous food source for animals along the coast. A female of 32-33 cm length spawns 50 000 demersal eggs, after 3 weeks hatch 7-9 mm long larvae. The newly hatched larvae drift northward to their nursery areas in northern Norway and the Barents Sea. They migrate back to their spawning area after 3-4 years and join the spawning stock. After spawning they undertake long feeding migrations into the central and western Norwegian Sea, where they forage on copepods. The stock aggregates off Troms and Finnmark in autumn where it also overwinters, before returning to the spawning areas. Migration patterns are quite complex and have been researched repeatedly.

Population and exploitation

The Norwegian spring-spawning herring is presently (2011) the largest herring stock in the world. Due to a high spawning stock and an efficient management plan the stock is in good condition and on the same level as in the 1950s. The spawning stock in 2009 was estimated to 9 million tonnes with full reproductive capacity. Studies based on historic samples of scales

have shown that when stock level is high, a larger proportion of a given year class seems to originate from the Barents Sea than when stock level is low.

The fishery in the Norwegian Sea takes place all the year round (except March and April), but the fish quality is best at the spawning and overwintering areas.

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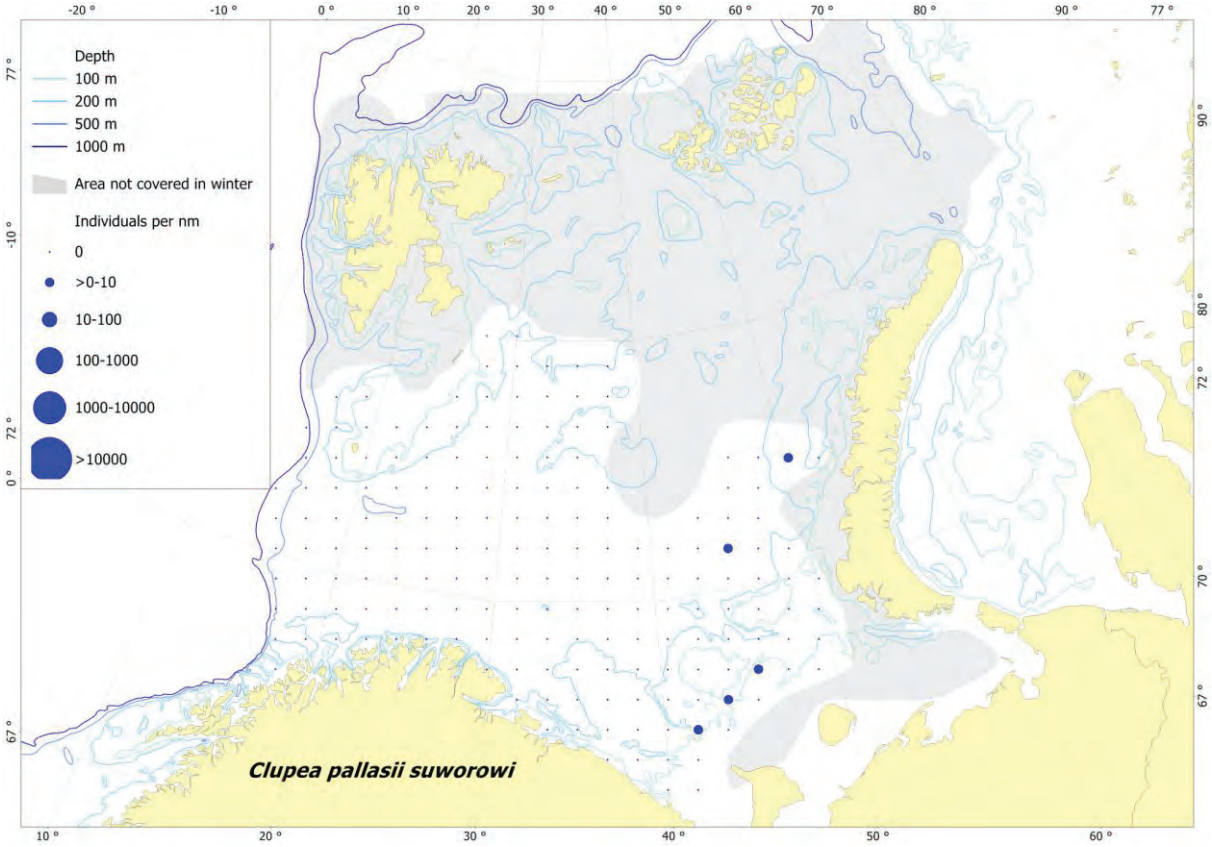
Clupea pallasii suworowi Rabinerson 1927

Family: Clupeidae
English name: Chosa herring
Norwegian name: kaninsild
Russian name: чёшско-печорская сельдь, канинско-печорская сельдь
(cheshsko-pechorskaya seld), (kaninsko-petchorskaya seld)

Spatial distribution

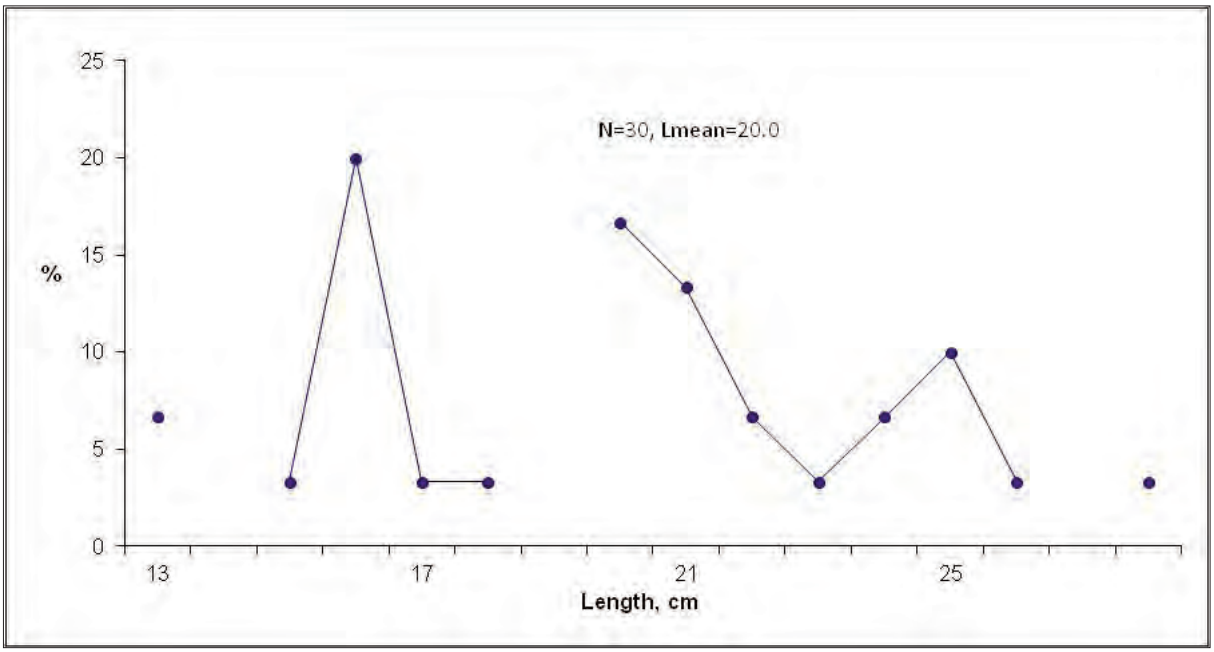
The subspecies occurs in the southeastern Barents Sea, the northern White Sea and the southwestern Kara Sea.

Found in the eastern part of the surveyed area, further north than during the ecosystem survey (see page 50 in the "Atlas of the Barents Sea Fishes"), but distribution might be poorly reflected by demersal trawl catches.



Length composition

Length range is similar to the ecosystem survey, but far less specimens were caught during winter.



Life history

Nerito-pelagic, arctic. Reaches 30 cm, 300 g and up to 15 years, matures at age 4-5 years. Feeds on euphausiids, copepods, mysids as well as juvenile fish. Spawning takes place in spring-summer in coastal areas of the Barents, White and Kara Sea (mainly in Chesha Bay and Mezen Bay) at depths of less than 5-10 m and in waters with low salinity. Fecundity up to 92 000 eggs. During summer-autumn extensive feeding migrations in the southeastern Barents Sea, overwinters on the Goose bank.

Population and exploitation

Since the 1990s the fishery has practically stopped or became irregular. Stock size varied between 1 500-188 000 tonnes during 1978-1994, mean annual catch during the past years (1995-2008) varied between 0.6-4 200 tonnes (mean annual catch 490 tonnes).

References

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Svetovidov AN. 1952. Clupeidae. In: Fauna of the USSR. Fish. Vol. 2. Issue 1. Academy of Sciences of the USSR, Moscow. pp 163-166 (in Russian)

Argentina silus (Ascanius 1775)

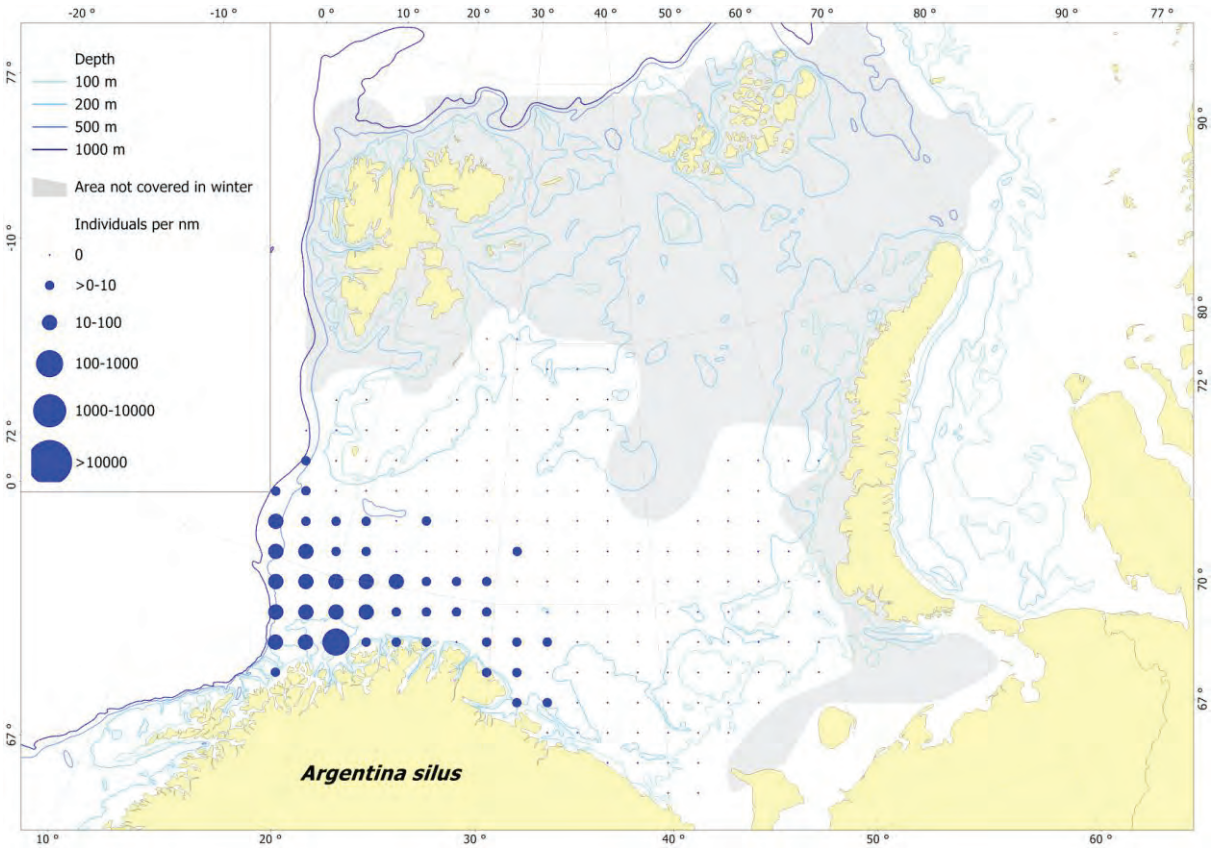
Photo: Andrey Dolgov

Family: Argentinidae
English name: greater argentine
Norwegian name: vassild
Russian name: североатлантическая аргентина
(severoatlantitcheskaya argentina)

Spatial distribution

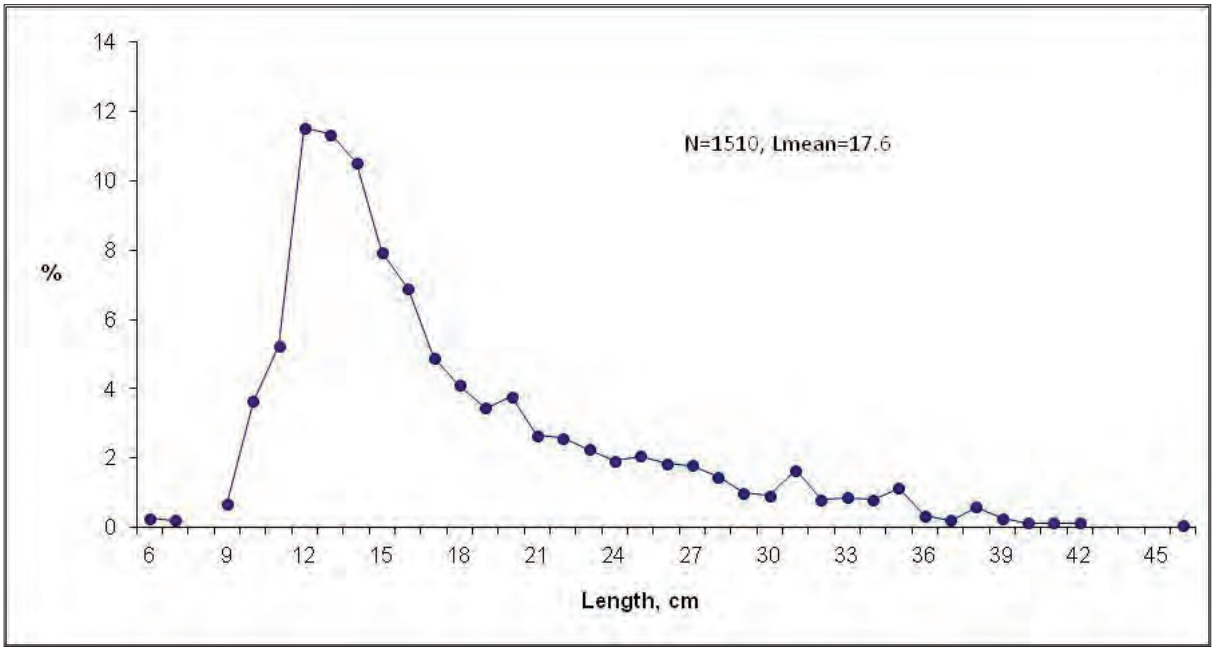
Known from the British Isles northward to the western and southern Barents Sea and westward to Iceland and southern Greenland; also in the western North Atlantic.

Found in the southwestern part of the surveyed area, in the same area as during the ecosystem survey (see page 52 in the "Atlas of the Barents sea fishes).



Length composition

In contrast to the ecosystem survey smaller individuals dominated in the winter survey, while larger ones were rare.



Life history

Boreal, schooling, pelagic at depths of 100-900 m. In Norwegian waters common at 200-600 m along the continental slope, but also found in deeper fjords above muddy bottom. Can reach 70 cm (commonly less than 50 cm) and about 35 years. Growth rates low, a specimen of 50 cm is usually more than 20 years old. Matures at age 8-15 years (depending on area). Feeds on plankton invertebrates (euphausiids, chaetognaths, copepods), small pelagic fishes and cephalopods. Spawns on the continental shelf in spring, fecundity up to 7 500 eggs (3-3.5 mm in diameter). Eggs and juveniles are pelagic at 400-500 m. During autumn and winter found shallower in coastal areas.

Population and exploitation

Commercially used in Norway, caught along the coast of Norway and at Trænabanken with semipelagic trawl, no economic importance in Russia.

References

Dolgov AV. 2006. New Data on the Distribution of Rare and New Fish Species in Russian Waters of the Barents Sea. Journal of Ichthyology 46:139-147

Muus BJ, Nielsen JG. 1998. Våre saltvannsfisker. NKS, Oslo

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Mallotus villosus (Müller 1776)

Family: Osmeridae
English name: capelin
Norwegian name: lodde
Russian name: мойва (moyva)

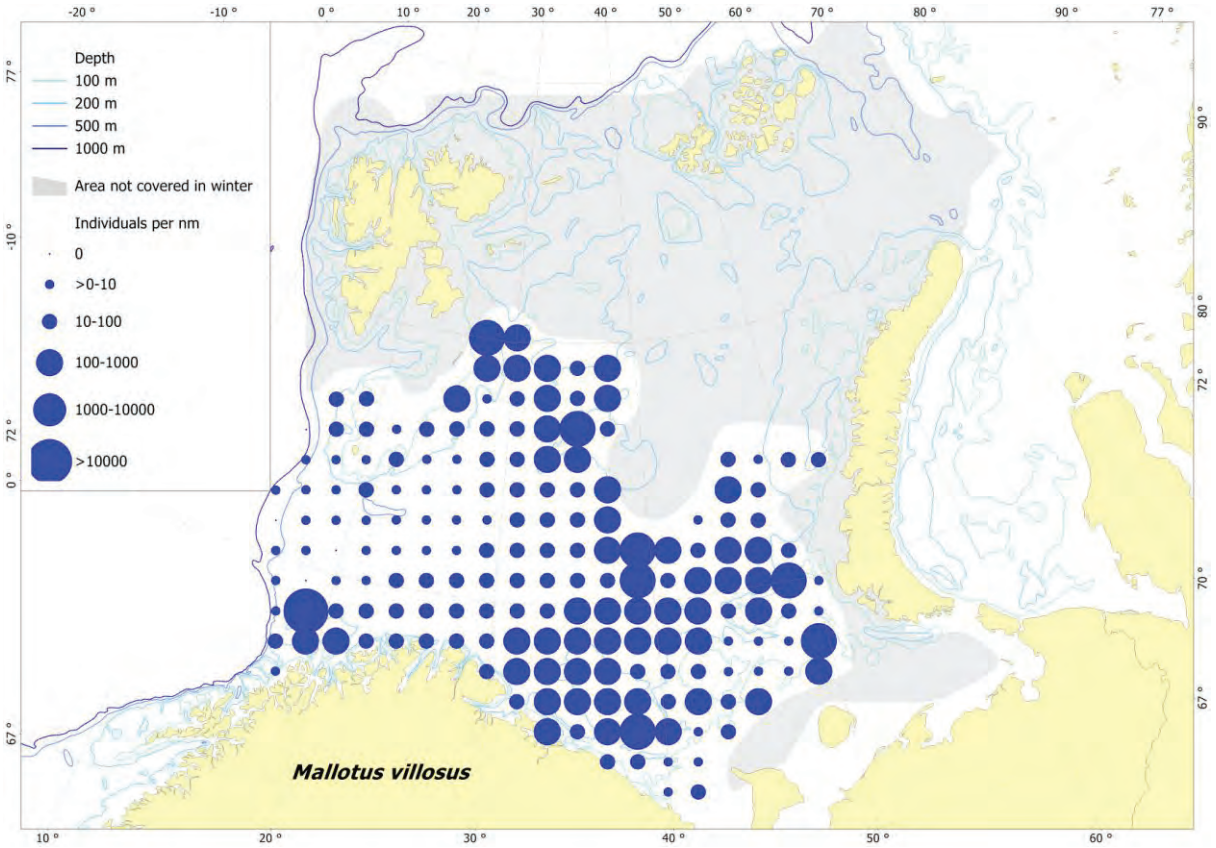
Photo: Andrey Dolgov

Spatial distribution

Found circumpolar in the Arctic, including the Norwegian and the Barents Sea.

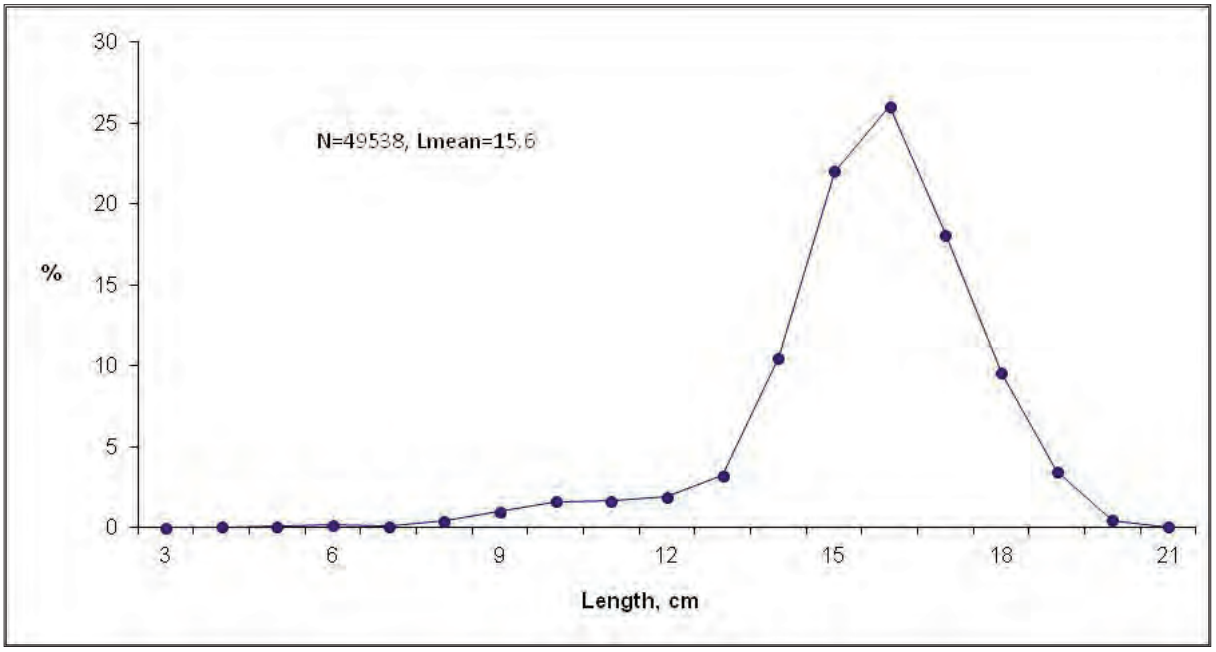
Within *M. villosus* several populations and stocks are recognized, the Barents Sea stock being one of the largest. Information on life history and population given below refers to this stock.

Found throughout the covered area, but (due to the spawning season and area) closer to the mainland coast during the winter survey than during the ecosystem survey (see page 56 in the "Atlas of the Barents Sea fishes). Although a highly pelagic species, its overall distribution in the Barents Sea might be well reflected by demersal trawl catches.



Length composition

Length distribution was similar in winter and autumn, but mean length was slightly higher during the winter survey.



Life history

Mainly boreal, nerito-pelagic, schooling at depths of 0-300 m. Reaches rarely more than 20 cm, 50 g, and 5 years. Matures at age 3-5 years (about 14 cm), most of the specimens die after their first spawning. Feeds primarily on copepods and krill, important food source for many other fish species and sea mammals. Main feeding grounds in the northern Barents Sea, demersal spawning takes place in the southern coastal areas at depths of 15-70 m, mainly in March and April. Females spawn 10 000-30 000 demersal eggs. 4-5 mm long larvae hatch after one month and drift in surface layers north- and eastwards into the central and eastern Barents Sea.

Population and exploitation

The Barents Sea capelin is a joint stock of Russia and Norway and the largest of all capelin stocks (2010). Population size shows large variations which is due to the short life span, considerable consumption by different predators and the fishery. In the past 20 years the fishery for capelin has been closed three times, but the stock is now on a sustainable level. The total catch in 2009 was 306 000 tonnes, maximum catch in 1977 was 3 million tonnes.

References

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Argyropelecus hemigymnus Cocco 1829

Family: Sternoptychidae
English name: half-naked hatchetfish
Norwegian name: flekket perlemorfisk
Russian name: малый топорик
(maliy toporik)

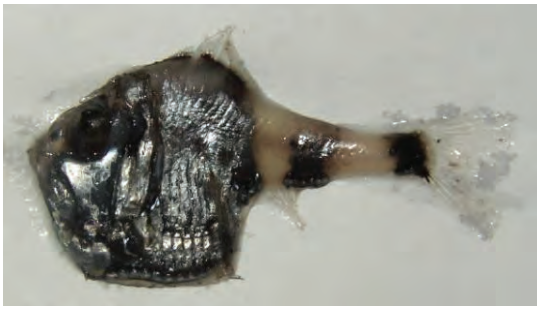
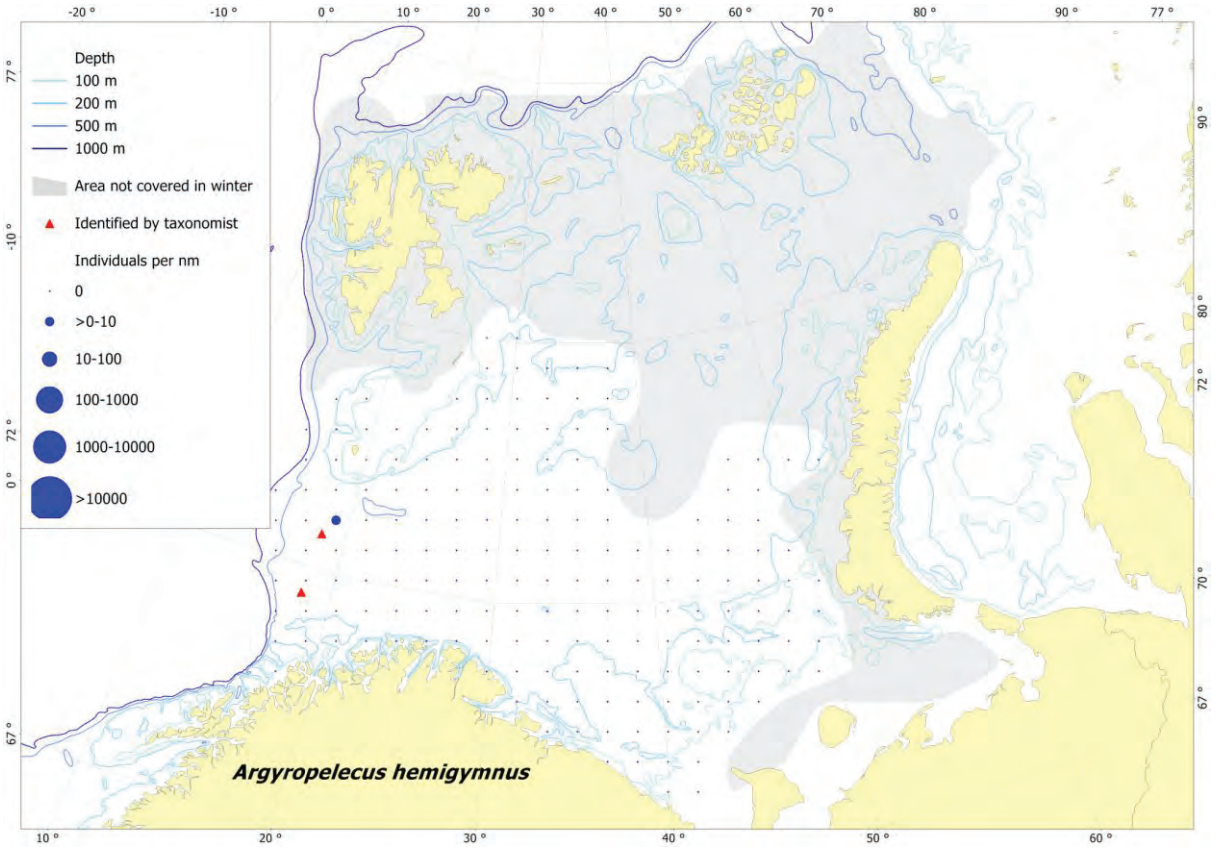


Photo: Andrey Dolgov

Spatial distribution

Circumglobally widespread distributed, common in the eastern North Atlantic to about 60° N.

Found in the warmwater western part of the surveyed area. Not found during the ecosystem survey (2004-2009).



Length composition

Two specimens (3 and 4 cm) were caught.

Life history

Widely distributed, mesopelagic at 50-800 m, depending on developmental stage, time, latitude and season. Males reach 28 mm, females 39 mm standard length. Opportunistic feeder on copepods, ostracods and small fishes. Spawning north of 40° N restricted, only in early summer to mid-summer. Females mature at about 25-30 mm, spawning 50-500 eggs. Larvae shallower than adults. Perfoms diel vertical migrations.

Population and exploitation

Not common in the Barents Sea, of no economic importance.

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Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Maurolicus muelleri (Gmelin 1789)

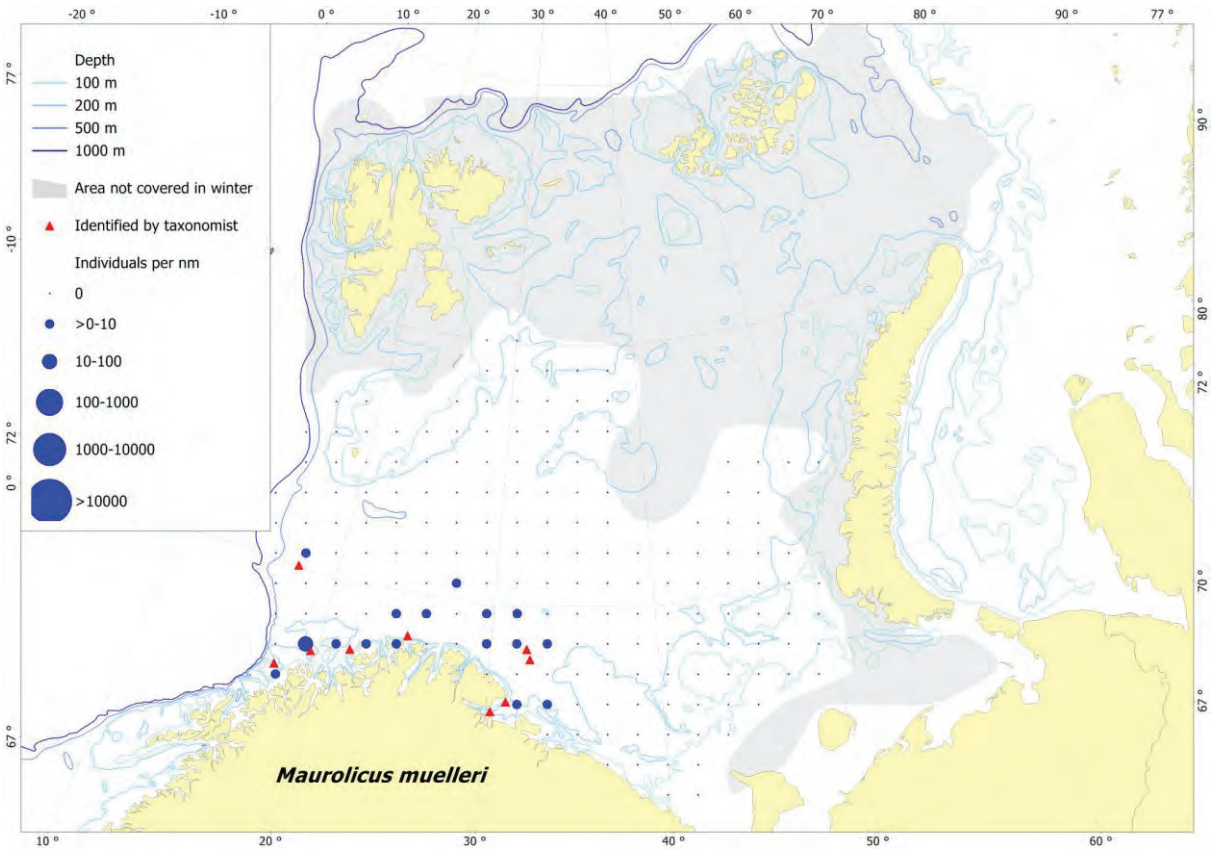
Family: Sternoptychidae
English name: silvery lightfish
Norwegian name: laksesild
Russian name: мавролик (mavrolik)

Photo: Ingvar Byrkjedal

Spatial distribution

Known in the North Atlantic from 40-45º N to Svalbard/Spitsbergen and Novaya Zemlya. Common along the Norwegian coast, fewer specimens further north. Local populations in many Norwegian fjords.

Found in the southwestern part of the surveyed area, closer to the mainland coast than during the ecosystem survey (see page 63 of the "Atlas of the Barents Sea Fishes"), but the distribution might be poorly reflected by demersal trawl catches.



Length composition

17 specimens (5-7 cm, mean length 6.5 cm) were measured.

Life history

Boreal, mesopelagic, schooling, commonly found at depths between 100-500 m. Can reach 7.6 cm and 3 years in the Norwegian Sea, 4.9 cm and 5 years in fjords. Females grow larger than males, with increasing size the sex ratio skews towards females. Matures at age 1 year (about 2.5 cm). Feeds on small zooplankton, fish eggs and all kinds of larvae, important food source for larger fish. Batch spawner that releases 200-500 pelagic eggs per batch in the upper part of the water column from March to September, the number of batches is unknown. Performs diel vertical migrations, found near the surface during night and at mesopelagic depths during day. These migrations are adapted to the light conditions in the Arctic, i.e. there are no specimens found near the surface during the light nights, when schools are formed at 20-40 m depth. There are differences in life history and genetics between populations, e.g. fjord populations have lower adult mortality, larger gonads and smaller maximum size than Norwegian Sea populations.

Population and exploitation

The total biomass in the Nordic Seas (Norwegian, Greenland, Iceland and western-most part of the Barents Sea) in 1994 was estimated to 0.25 million tonnes. The Barents Sea population represents probably only a small percentage. Of no economic importance.

References

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Salvanes AGV. 2004. Mesopelagic fish. In: Skoldal HR (ed) The Norwegian Sea ecosystem. Tapir, Trondheim, pp 301-314

Arctozenus risso (Bonaparte 1840)

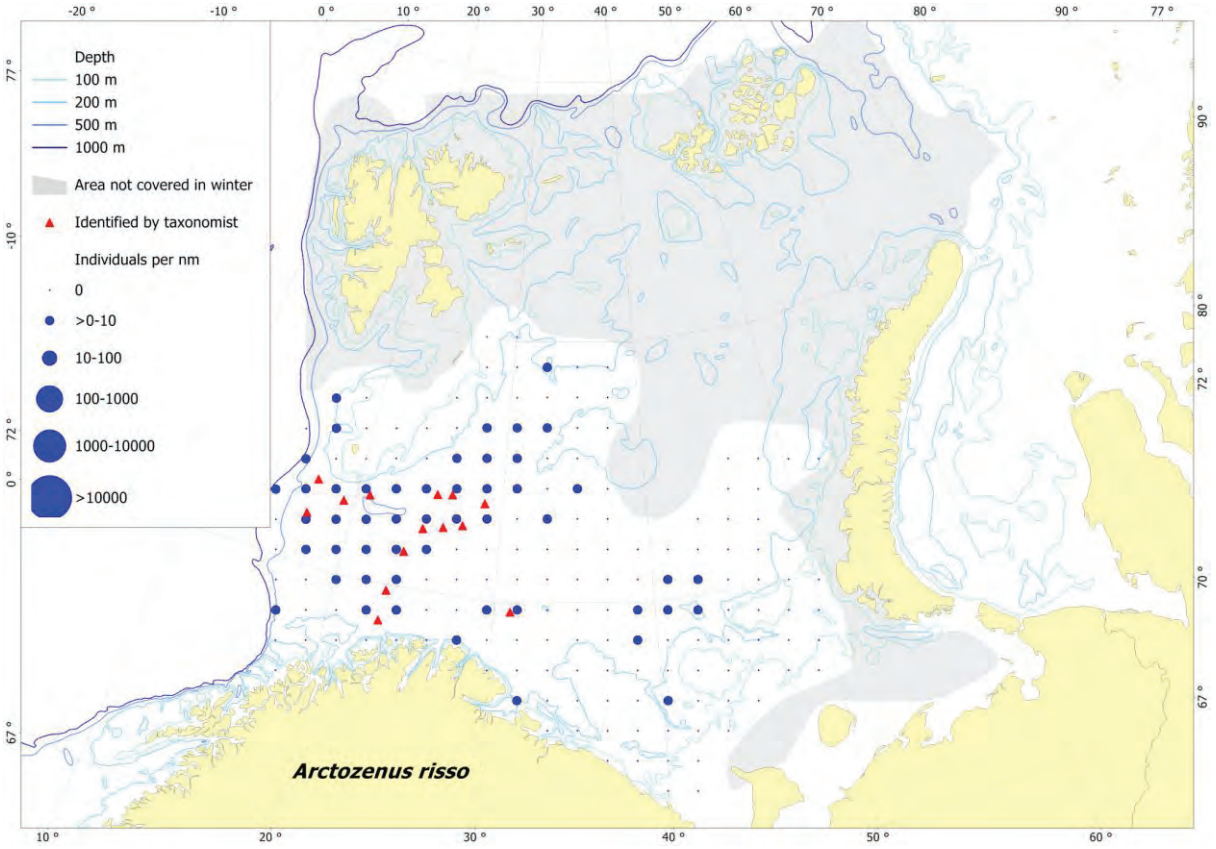
Family: Paralepididae
English name: spotted barracudina
Norwegian name: liten laksetobis
Russian name: северный веретенник
(severniy veretennik)

Photo: Andrey Dolgov

Spatial distribution

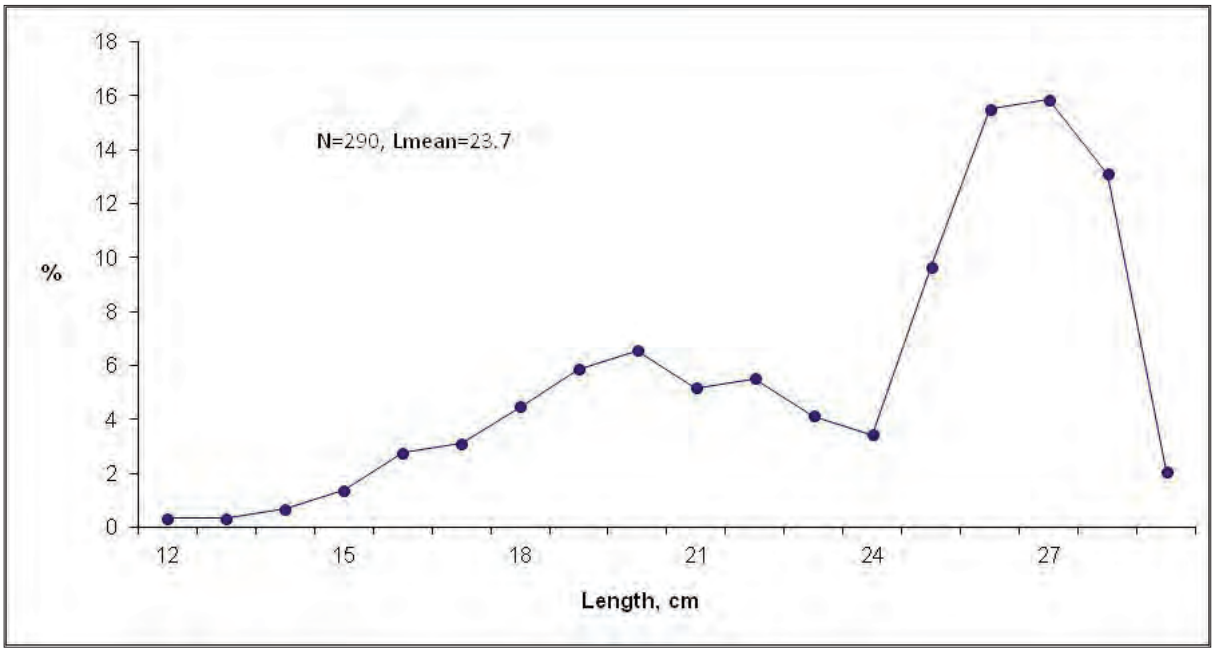
Occurs worldwide from the Arctic to the Antarctic.

Found in large parts of the surveyed area, in the same areas as during the ecosystem survey (see page 66 in “Atlas of the Barents Sea Fishes”).



Length composition

Length distribution was similar in winter and autumn.



Life history

Mesopelagic, mainly at 200-700 m. Reaches up to 30 cm, females grow larger than males. Maximum age is uncertain (5 years at 23 cm), but 11 years and more are likely. Feeds on other mesopelagic fish species, krill and shrimps, mainly plankton in the Barents Sea. Little known about life cycle, probably not reproducing in Norwegian waters or the Barents Sea.

Population and exploitation

The total biomass in the Nordic Seas (Norwegian, Greenland, Iceland and western-most part of the Barents Sea) in 1994 was estimated to 1.3 million tonnes. The Barents Sea population represents probably only a small percentage. Of no economic importance.

References

Dalpadado P, Ellertsen B, Melle W, Skjoldal HR. 1998. Summer distribution patterns and biomass estimates of macrozooplankton and micronekton in the Nordic Seas. Sarsia 83:103-116

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Salvanes AGV. 2004. Mesopelagic fish. In: Skoldal HR (ed) The Norwegian Sea ecosystem. Tapir, Trondheim, pp 301-314

Myctophidae

Note on identification: Specimens of mesopelagic fishes are often in a bad shape when coming on board, thus complicating the species identification. The most abundant species in the Barents Sea is *Benthosema glaciale*, no verified observations of other species have been made during the winter survey.

Benthosema glaciale (Reinhardt, 1837)

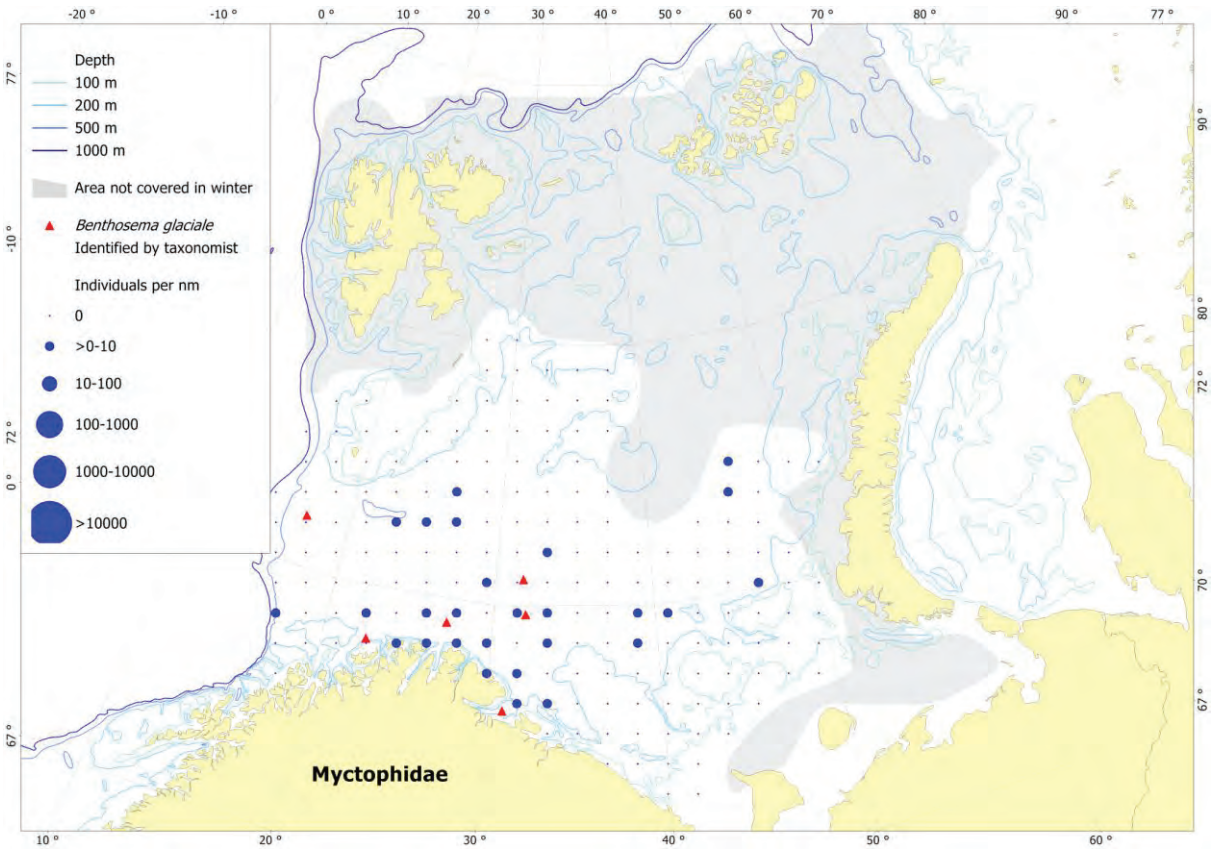
Family: Myctophidae
English name: glacier lanternfish
Norwegian name: nordlig lysprikkfisk
Russian name: северная бентозема (severnaya bentozema)

Photo: Andrey Dolgov

Spatial distribution

Widely distributed in the whole North Atlantic, including the Barents Sea. Although an oceanic species and mainly absent in areas with bottom depths of less than 300 m, there are local populations in some Norwegian fjords. Found in deeper, Atlantic water masses.

Found in large parts of the surveyed area, in the same area as during the ecosystem survey (see page 69 in “Atlas of the Barents Sea Fishes”).



Length composition

Six verified specimens of *B. glaciale* (6-8 cm, mean length 6.8 cm) were measured.

Life history

Mainly boreal, mesopelagic, schooling at depths of 0-1000 m. Can reach 9.5 cm and 8 years, both in the open ocean and in the fjords, but fjord populations grow faster. Matures at age 2-3 years (4.5-5.0 cm). Filter feeder mainly on zooplankton and krill, important food source for many larger fish species of economic importance. Spawning takes place pelagically in June-July, on average females spawn 750-800 eggs. Performs diel vertical migrations, found near the surface during night and at mesopelagic depths during day. These migrations are adapted to the light conditions in the Arctic, i.e. there are no specimens found near the surface during the light nights. Life history can vary between populations.

Population and exploitation

The total biomass in the Nordic Seas (Norwegian, Greenland, Iceland and western-most part of the Barents Sea) in 1994 was estimated to 2.3 million tonnes. The Barents Sea population represents probably only a small percentage. Of no economic importance.

References

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Macrourus berglax Lacepède 1801

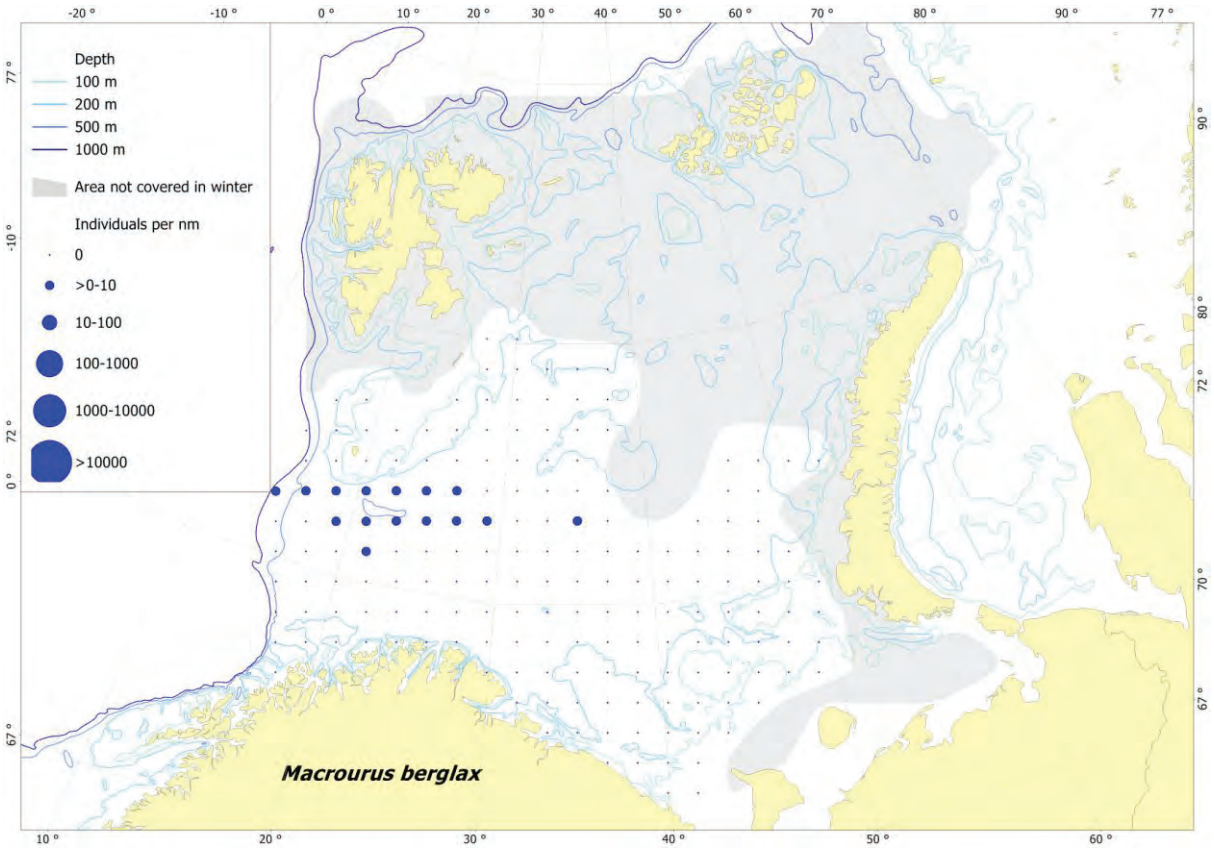
Family: Macrouridae
English name: roughhead grenadier
Norwegian name: isgalt
Russian name: северный макрурус (severniy makrurus)

Photo: Thomas de Lange Wenneck

Spatial distribution

Known from the northern North Sea northward to the Barents Sea and northwestward to Iceland and Greenland, also in the western North Atlantic.

Like in the ecosystem survey (see page 78 in “Atlas of the Barents Sea Fishes”) found in deeper, Atlantic water masses of the surveyed area.



Length composition

Eight specimens (8-19 cm preanal length, mean length 13.8 cm) were measured.

Life history

Boreal, benthopelagic, on soft bottom at 100-1000 m, prefers temperatures around 0 ºC. Can reach 110 cm, 4-5 kg and at least 25 years. Growth rates for both sexes are the same until an age of 8-9 years (about 16 cm pre-anal length), matures at age 15 years (males at 53.7 cm, females at 42 cm). However, length at age as well as age at reaching maturity may vary with prevailing temperature conditions and region. Feeds mainly on shrimp and other bottom invertebrates (ophiurids, mollusks, gammarids), also on fish. Spawning varies with region, taking place off Troms in January, depending on female's size, 2 000-71 000 eggs are spawned.

Population and exploitation

Of minor economic importance in the Barents Sea, occurs as bycatch on bottom trawl and long-line fisheries of Greenland halibut, sometimes landed by Russian vessels.

References

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Boreogadus saida (Lepechin 1774)

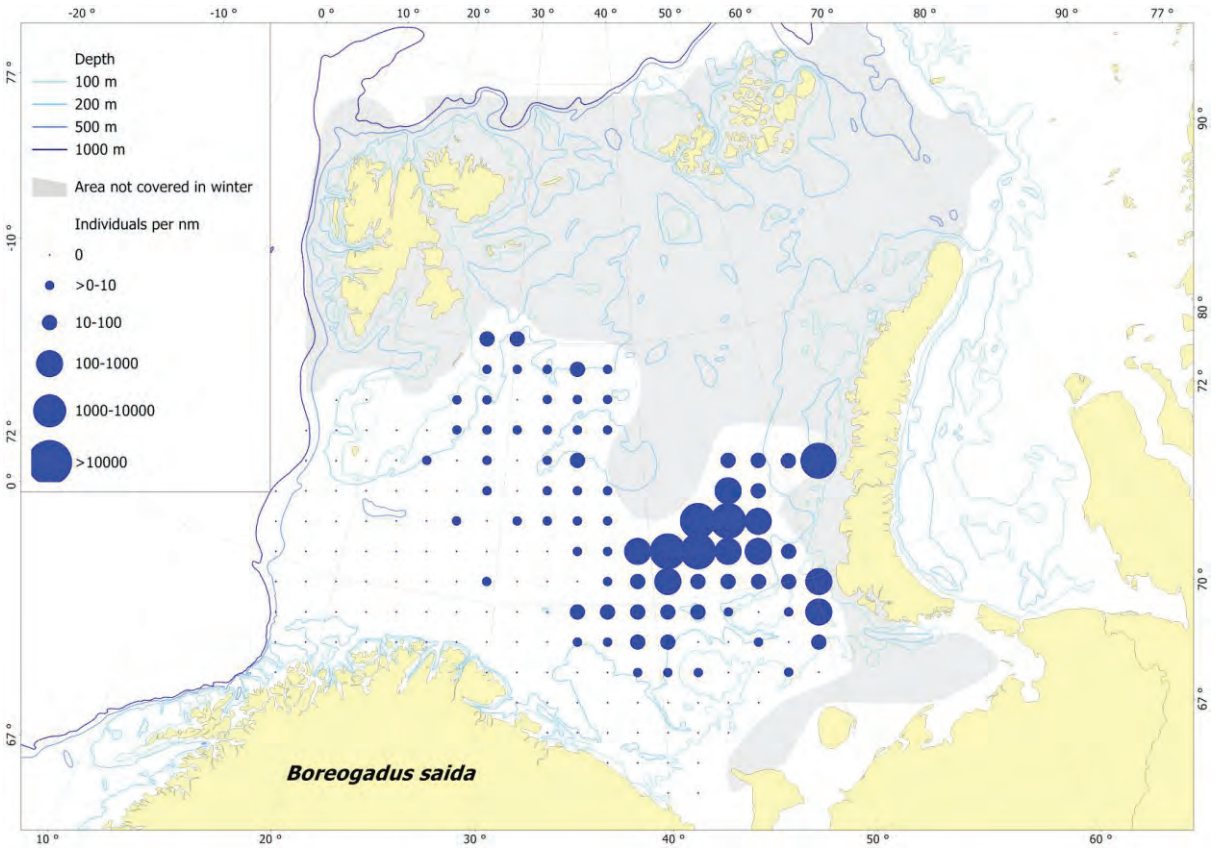
Family: Gadidae
English name: Polar cod
Norwegian name: polartorsk
Russian name: сайка, полярная тресочка (saika), (polyarnaya tresochka)

Photo: Thomas de Lange Wenneck

Spatial distribution

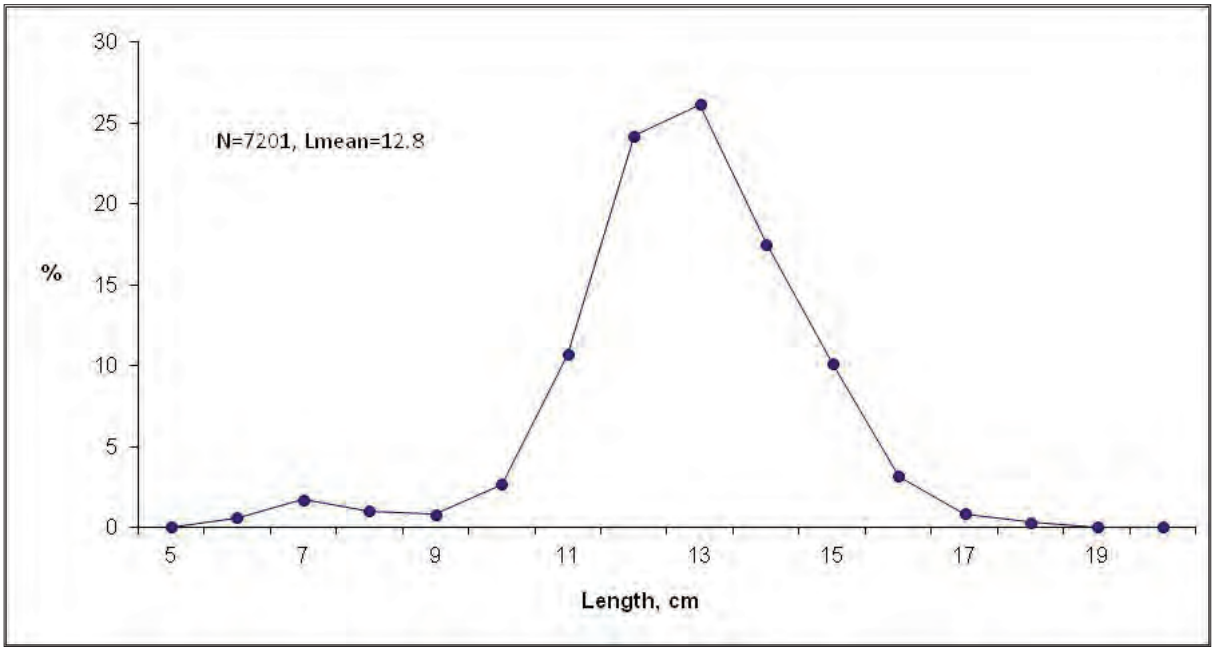
Known throughout the entire North Polar Basin, also in the areas around Greenland and Iceland.

Similar to the ecosystem survey found in the northeastern part of the surveyed area (see page 82 in “Atlas of the Barents Sea Fishes”). However, the winter survey has a poor coverage of this species’ distribution area in the Barents Sea, with the main concentrations north of the surveyed area.



Length composition

The overall size range was smaller, but the mean length was larger during the winter than during the ecosystem survey.



Life history

Arctic, pelagic to benthopelagic, often found in high concentrations, tolerates temperatures below 0 ºC. Can reach 46 cm (commonly 20-30 cm), 0.1 kg, 5 years, and matures usually at age 2 years. Feeds on larger plankton and is an important food source for many other fish, sea mammal and bird species. Spawns near the ice edge from December to March in the southeastern and northeastern Barents Sea and east of Svalbard/Spitsbergen. Females spawn 9 000-21 000 pelagic eggs, hatching after 1.5-2 months. Reported to be found closer to the Norwegian coast during winter, but this is not supported by our data.

Population and exploitation

Highest densities are found in the eastern Barents Sea and the area off the Svalbard/Spitsbergen archipelago. The stock in the Barents Sea is estimated to more than one million tonnes, in addition there is a separate small population in the Porsangerfjord.

Since the early 1980s only Russia is catching the species for commercial purposes.

References

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Polar cod of the Barents Sea. 2013. Murmansk, PINRO Press, 249 pp. (in Russian)

Tjelmeland S. 2010. Polartorsk. In: Gjøsæter H, Haug T, Hauge M, Karlsen Ø, Knutsen JA, Røttingen I, Skilbrei O, Sunnsett BH (eds) Havforskningsrapporten 2010. Fisken og havet I-2010:132 (in Norwegian)

Gadiculus argenteus Guichenot 1850

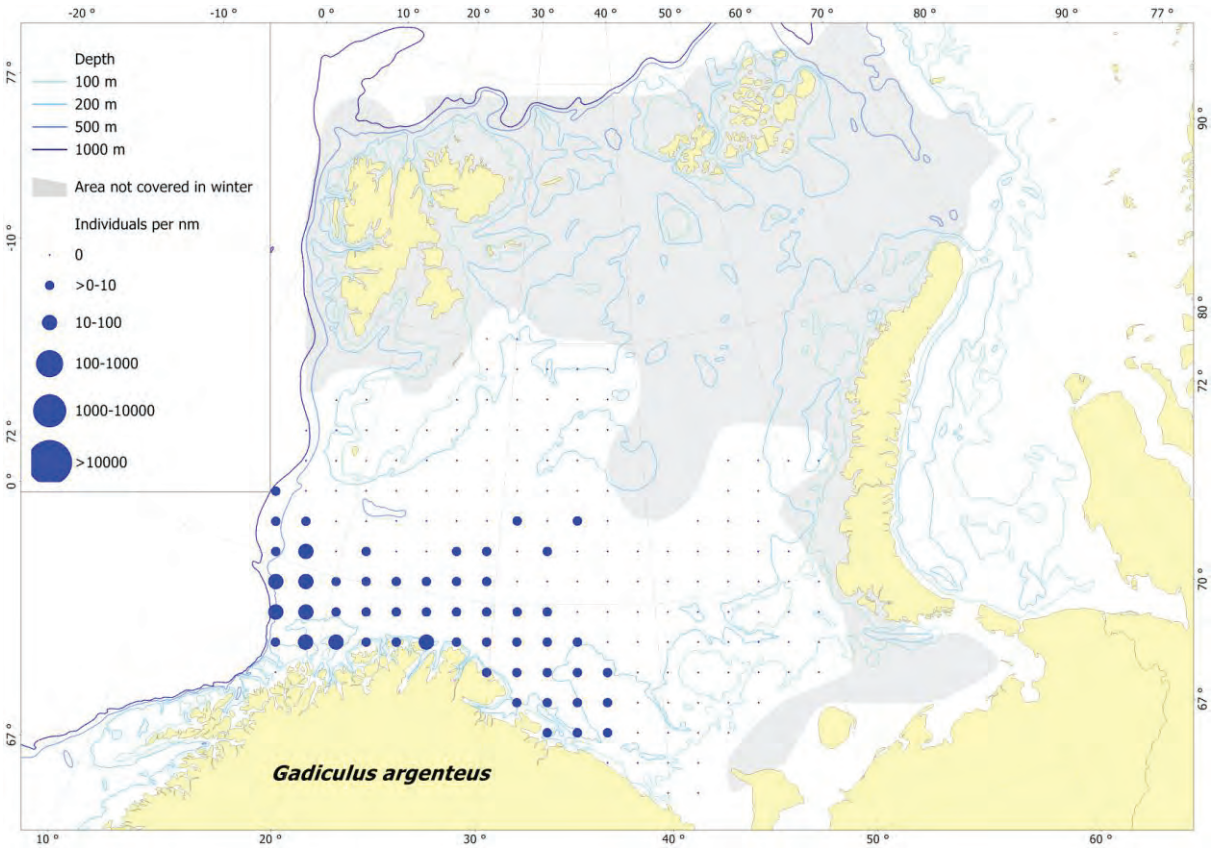
Family: Gadidae
English name: silvery pout
Norwegian name: sølvtorsk
Russian name: большеглазая тресочка
(bolsheglazaya tresotchka)

Photo: Andrey Dolgov

Spatial distribution

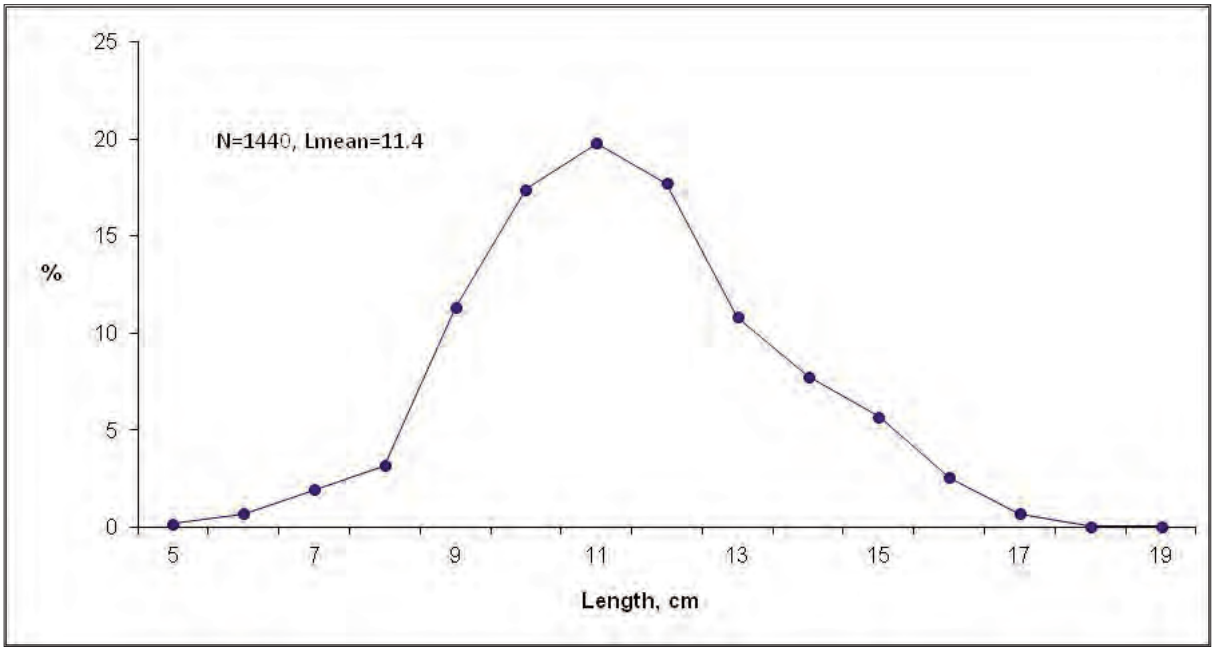
Known in the eastern North Atlantic from the northwestern African coast, in the Mediterranean up to the southwestern Barents Sea.

Found in the southwestern part of the surveyed area, in the same area as during the ecosystem survey (see page 87 in “Atlas of the Barents Sea Fishes”).



Length composition

The mean length of individuals in the winter survey was similar to the ecosystem survey, but the distribution is more unimodel and symmetric in winter compared to autumn.



Life history

Boreal, pelagic, schooling, over soft bottom at 60-1000 m, most common in 200-500 m along the continental slope, but also abundant in the fjords. Can reach 15 cm (commonly not more than 13 cm) and 3 years. Growth rates in the first year very high. Feeds on planktonic crustaceans as well as polychaetes, food source for other commercially important fish species. Spawning takes place in deep waters, in Norway in the area south of Møre and Romsdal in spring. Eggs and larvae pelagic, normally found deeper than 200 m.

Population and exploitation

Of no particular economic importance, but bycatch rates can be very high.

References

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Cohen DM, Inada T, Iwamoto T, Scialabba N. 1990. FAO species catalogue. Vol. 10. Gadiform fishes of the world (Order Gadiformes). An annotated and illustrated catalogue of cods, hakes, grenadiers and other gadiform fishes known to date. FAO Fish Synop 10 (125), 442 p

Dolgov AV. 2006. New Data on the Distribution of Rare and New Fish Species in Russian Waters of the Barents Sea. Journal of Ichthyology 46:139-147

Muus BJ, Nielsen JG. 1998. Våre saltvannsfisker. NKS, Oslo

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Gadus morhua Linnaeus 1758

Family: Gadidae
English name: Atlantic cod
Norwegian name: torsk
Russian name: треска
(treska)

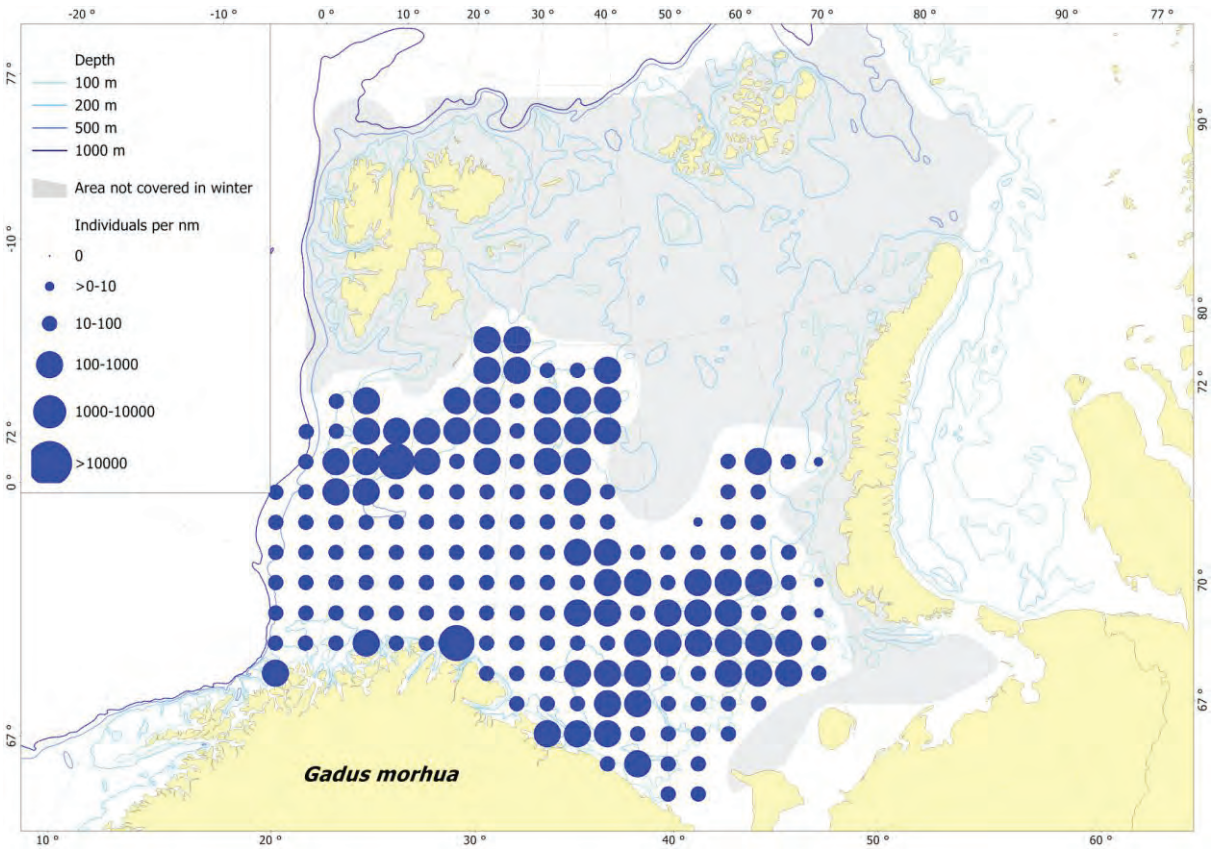
Photo: Thomas de Lange Wenneck

Spatial distribution

Known from the Bay of Biscay northward to Iceland, Svalbard/Spitsbergen, and Novaya Zemlya, also around Greenland and in the western North Atlantic.

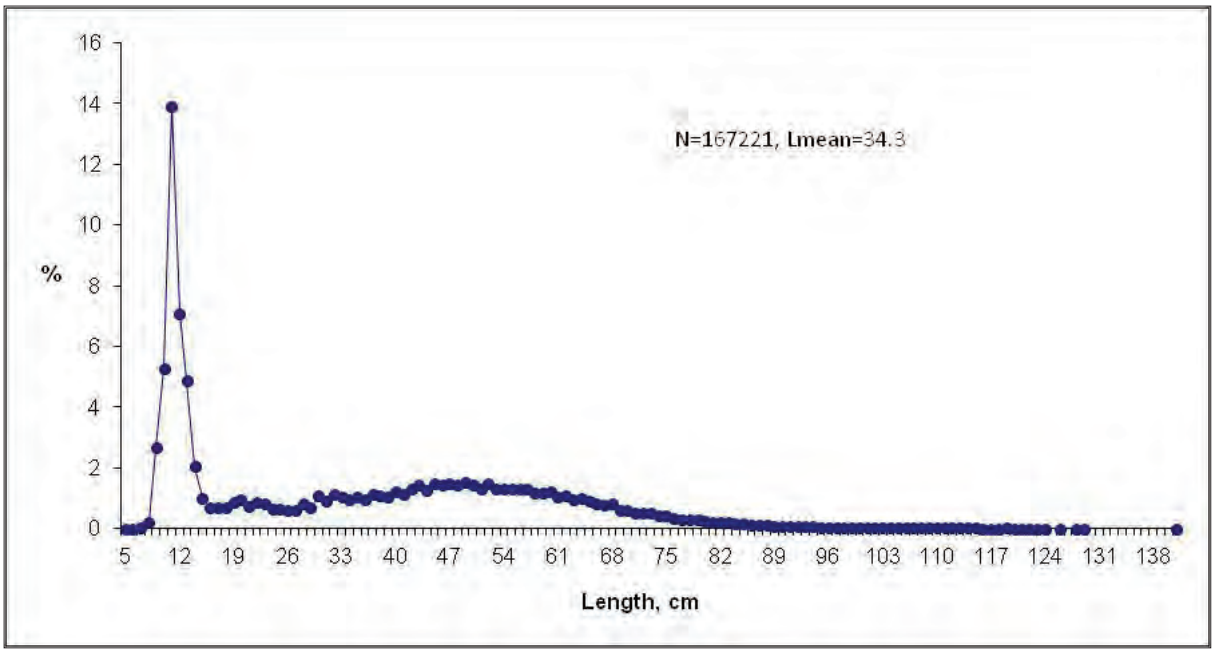
There are two ecological groups distinguished within *G. morhua*: migrating oceanic cod and a more stationary coastal cod, both again divided into several stocks. The Northeast Arctic cod is the oceanic stock in the Barents Sea, while the Norwegian coastal cod is a mixture of several more stationary stock components in fjords and coastal areas north of 62° N. Apart from migration behaviour the oceanic and coastal cod differ in the structure of the growth zones in the otoliths.

Like in the ecosystem survey distributed throughout the surveyed area (see page 89 in "Atlas of the Barents Sea fishes), but higher catches along the coast of Norway during winter.



Length composition

Compared to the ecosystem survey the average length was slightly higher, but there was still a high proportion of individuals between 10-15 cm. Please note that the length distributions are not directly comparable and representative (see introduction).



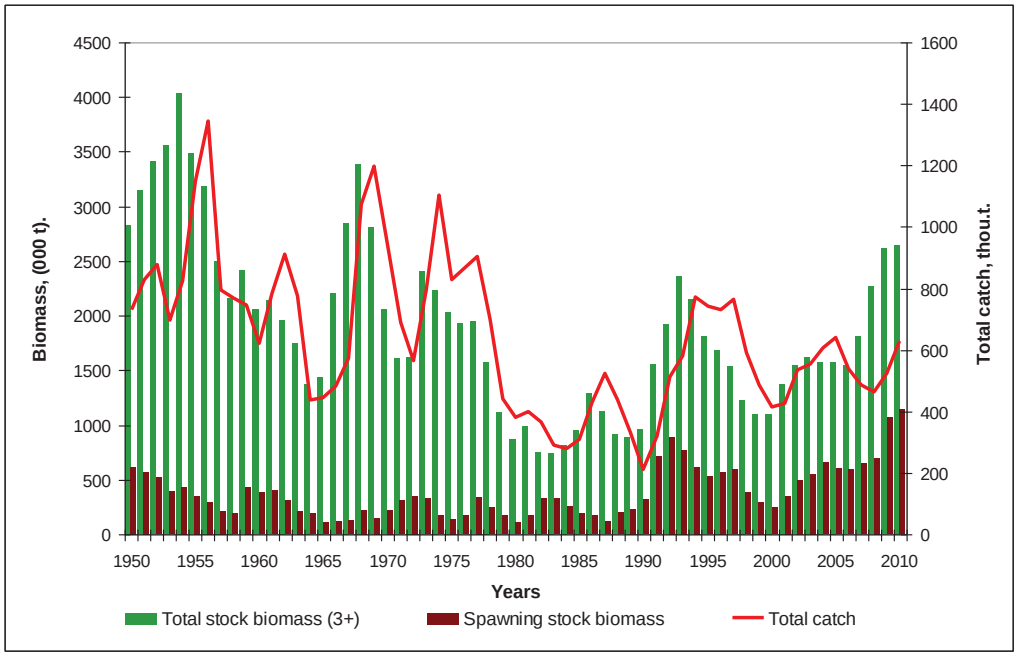
Life history

Northeast Arctic cod: found on the warmer side of the polar front in the Barents Sea, benthopelagic from the surface down to 600 m depth. Can reach 1.69 m, 55 kg, and 30 years. Matures at age 8-10 years (80-90 cm), age at maturity and growth rates have shown large changes over time. Juveniles up to 2 years feed on zooplankton, older cod on demersal fauna, fishes, large crustaceans and zooplankton. Spawning takes place in February-May in the area off Lofoten and Vesterålen at 50-200 m. A large female can spawn portionally up to 9 million pelagic eggs, 4 mm long larvae hatch after 2-5 weeks (depending on temperature). Eggs and larvae drift into the Barents Sea, arriving there in autumn and changing to a more benthic way of living. They stay in their nursing area until 3-4 years old, before starting feeding migrations towards the Finnmark and Murmansk coast, following the capelin. The main spawning areas have moved northward recently, which is regarded as an effect of higher sea temperature. Temperature- and climate-related changes in the distribution of the stocks have been observed several times previously.

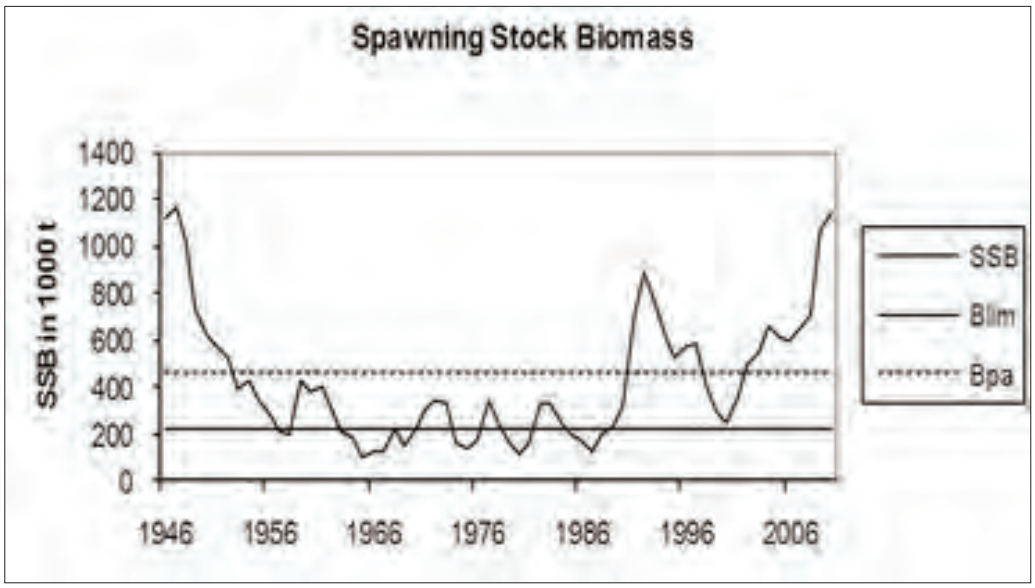
Norwegian coastal cod north of 62º N: benthopelagic from the kelp belt down to 500 m depth. Can reach 1.3 m, 40 kg, and 20 years (commonly less than 15), matures at age 3-6 years. Matures earlier, growths faster but lives shorter than Northeast Arctic cod. Top predator, feeding on anything from plankton to fish. Depending on age females spawn 400 000 to 15 million pelagic eggs. Juveniles benthic at 0-20 m, hardly deeper before older than 2 years. Stationary, with spawning, nursing and feeding grounds in the fjords and coastal areas.

Population and exploitation

Northeast Arctic cod is the world's largest stock of cod. Between 1950 and 2009 the biomass varied from 738 000 to 4 039 000 tonnes (mean 1 898 000 tonnes). It is in good condition and above the long-time average (2010). The spawning stock is increasing and close to the historical high level.



There are indications for several separated populations within the stock of Norwegian coastal cod, differing in growth rate and maturity age. However, the assessment is done for the whole stock and is now on a low level after a decline from 1994 to 2003. The calculated spawning stock of 2009 is one of the lowest and is not expected to increase in the next years.



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Melanogrammus aeglefinus (Linnaeus 1758)

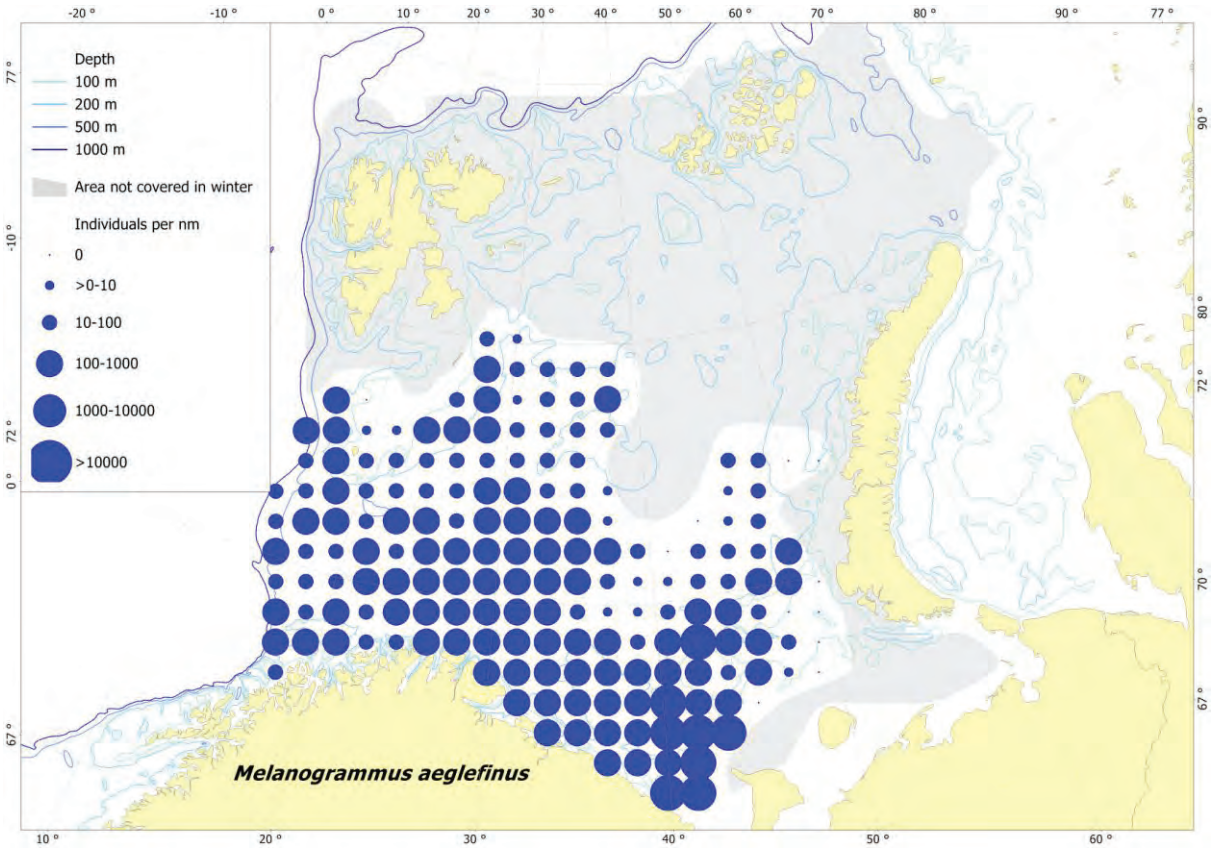
Family: Gadidae
English name: haddock
Norwegian name: hyse
Russian name: пикша
(piksha)

Photo: Andrey Dolgov

Spatial distribution

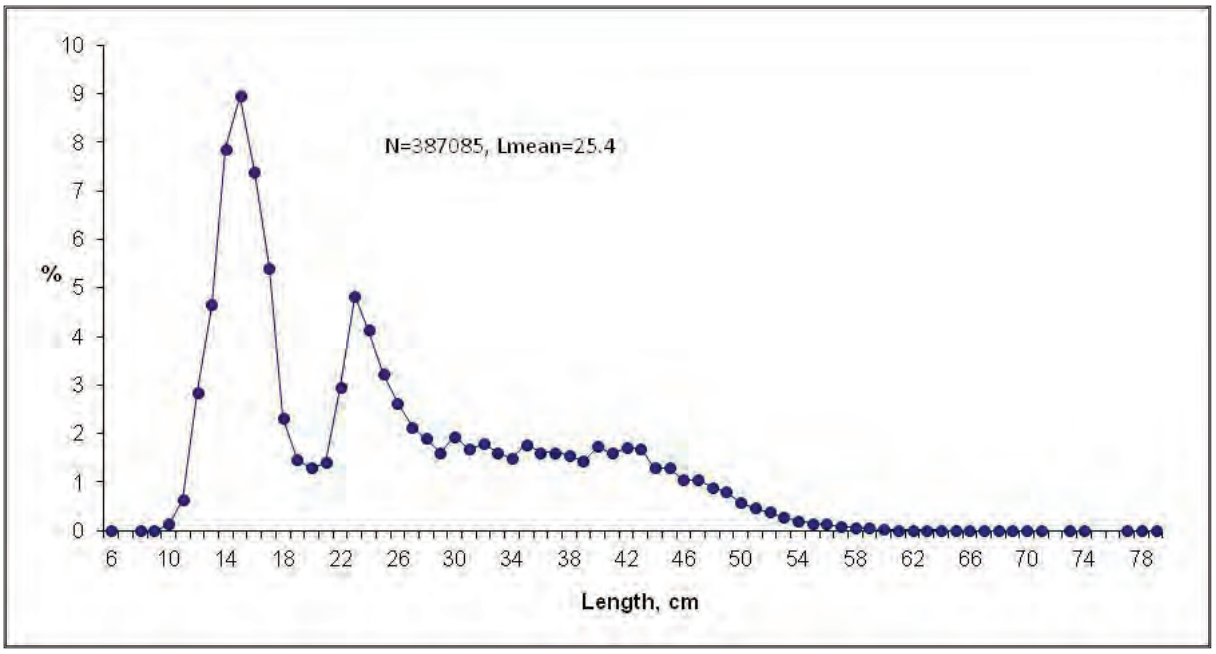
Known from the Bay of Biscay northward to Iceland, Svalbard/Spitsbergen and Novaya Zemlya, also in the western North Atlantic. Northeast Arctic haddock, the largest stock of the species, is found along the Norwegian coast north of 62° N, in the Barents Sea, and west of the Svalbard/Spitsbergen archipelago.

Found throughout the surveyed area, with higher concentrations in the western area than during the ecosystem survey (see page 92 in “Atlas of the Barents Sea Fishes”).



Length composition

Compared to the ecosystem survey, the average length is smaller and the distribution less unimodal. Please note that the length distributions are not directly comparable and representative (see introduction).

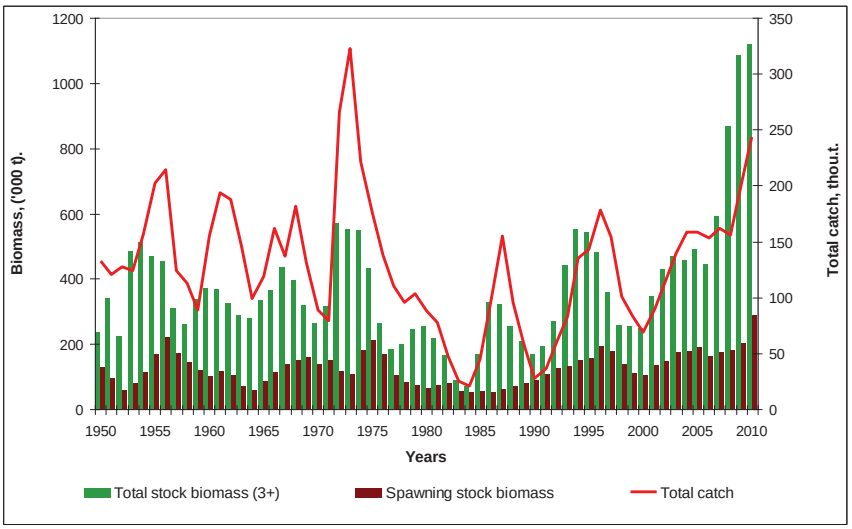


Life history

Mainly boreal, benthopelagic at depths of 40-300 m, also found pelagic, prefers higher temperatures. Reaches 110 cm, up to 19 kg and 20 years, matures at age 4-7 years (40-60 cm). Average growth in the Barents Sea: 17.6 cm (1 year), 24.7 cm (2 years), 41-46 cm (4-5 years), and 61.3 cm (8 years). Juveniles and medium sized fish feed primarily on benthic invertebrates (ophiuroids, polychaetes, mollusks) and large plankton (euphausiids), adult fishes also on fish. Spawning takes place between March and June at 100-150 m off the Norwegian coast. Large and old females can spawn up to 3 million pelagic eggs (1.2-1.7 mm in diameter). Larvae are 3.5-4 mm long when hatched after 12-14 days. Small fishes in the Barents Sea are stationary, whereas large fishes undertake extensive migrations in the Barents Sea and spawning migrations southward.

Population and exploitation

Between 1950 and 2009 the biomass varied from 70 000 to 1 085 000 tonnes (mean 361 000 tonnes). The stock is at a historically high level (2010), caused by several strong year-classes since 2000. Mainly Norway and Russia are harvesting the stock commercially. Some of the catches are bycatch when trawling for cod, but there is also a directed trawl and long-line fishery.



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Merlangius merlangus (Linnaeus 1758)

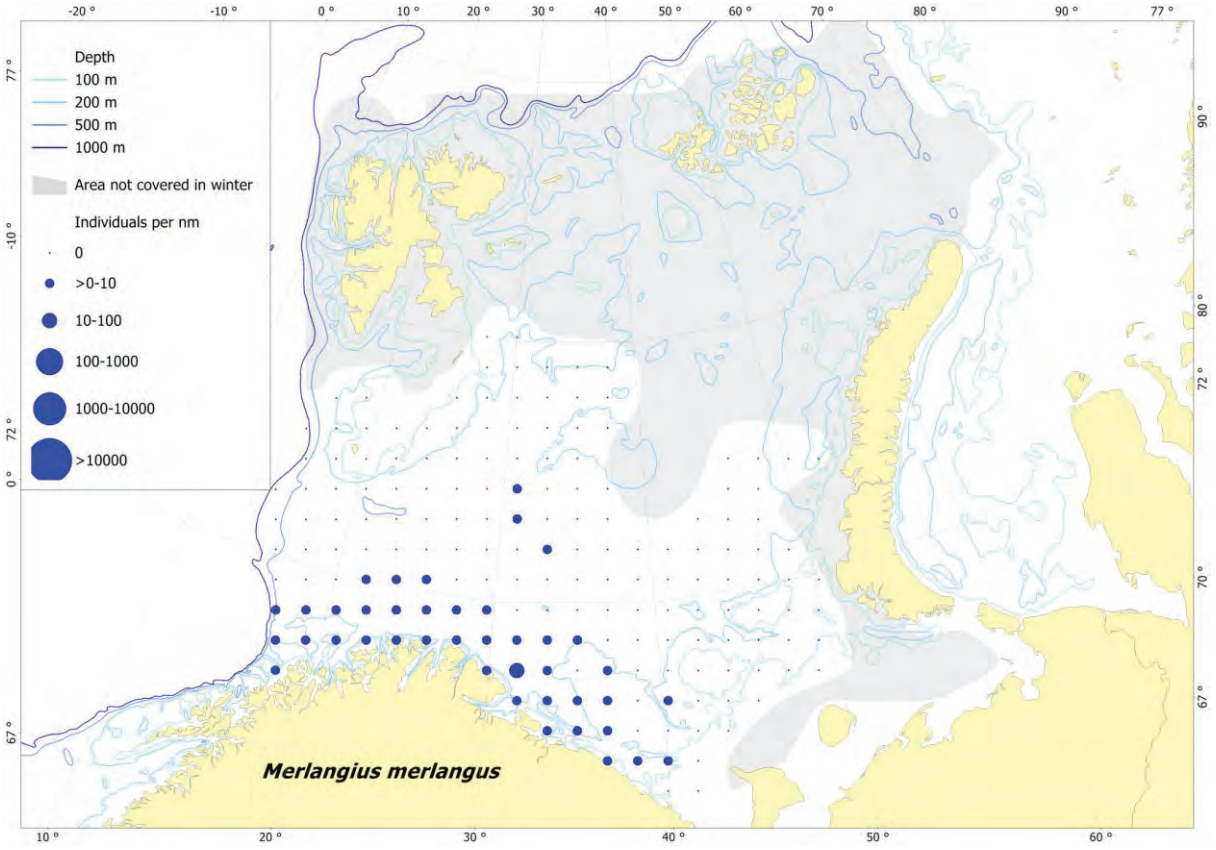
Family: Gadidae
English name: whiting
Norwegian name: hvitting
Russian name: мерланг (merlang)

Photo: Andrey Dolgov

Spatial distribution

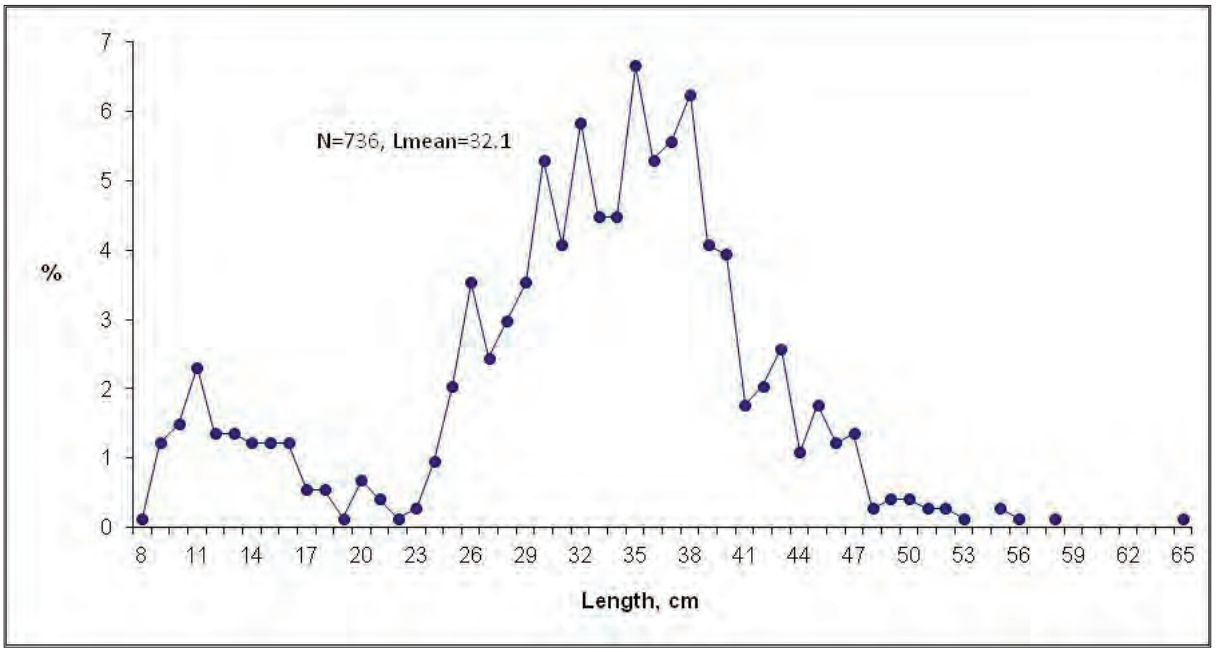
Endemic in the eastern North Atlantic from Gibraltar to Iceland and the southwestern Barents Sea, also in the Mediterranean and Black Sea.

Like in the ecosystem survey found mainly in warmer, coastal water along the coast of Norway and Russia (see page 95 in “Atlas of the Barents Sea fishes).



Length composition

Length distribution was similar in winter and autumn.



Life history

Boreal, benthopelagic at 10-200 m, to some extent pelagic. Can reach 55 cm, 1.5 kg, and 20 years, matures at age 2 years (25-30 cm). Feeds mainly on fish and crustaceans. The main spawning area is the North Sea (but it can spawn as far north as Trøndelag), taking place during several months from January to July. A female spawns up to 300 000 pelagic eggs (1.0-1.3 mm in diameter) at 40-100 m. Newly hatched larvae measure 3.2-3.5 mm, juveniles hiding below jellyfish when 12 mm long, changing to benthopelagic at length 5-10 cm. Large specimens are known to migrate but patterns are hardly known.

Population and exploitation

The population in the North Sea has reached a low and recruitment was low the last years.

No fishery for the species in the Barents Sea.

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Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo.

Micromesistius poutassou (Risso 1827)

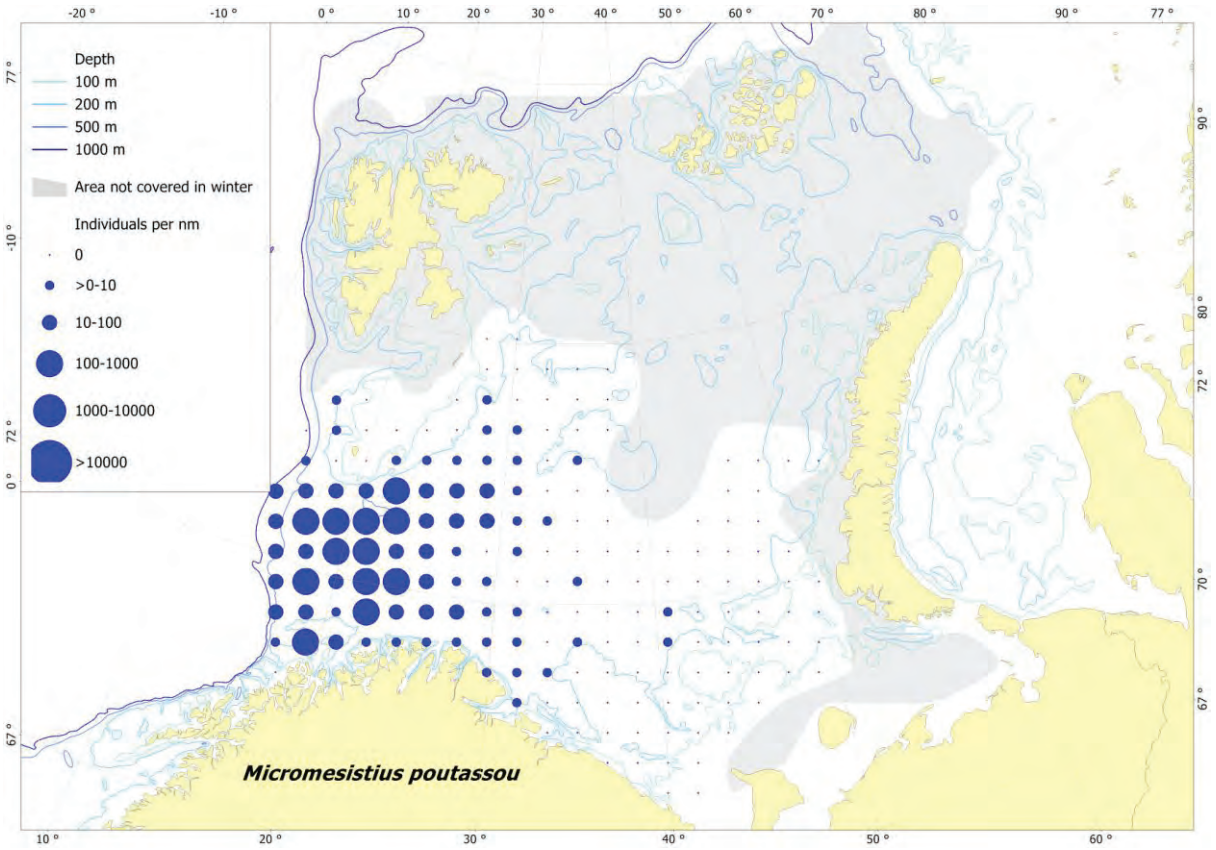
Family: Gadidae
English name: blue whiting
Norwegian name: kolmule
Russian name: путассу
(putassu)

Photo: Andrey Dolgov

Spatial distribution

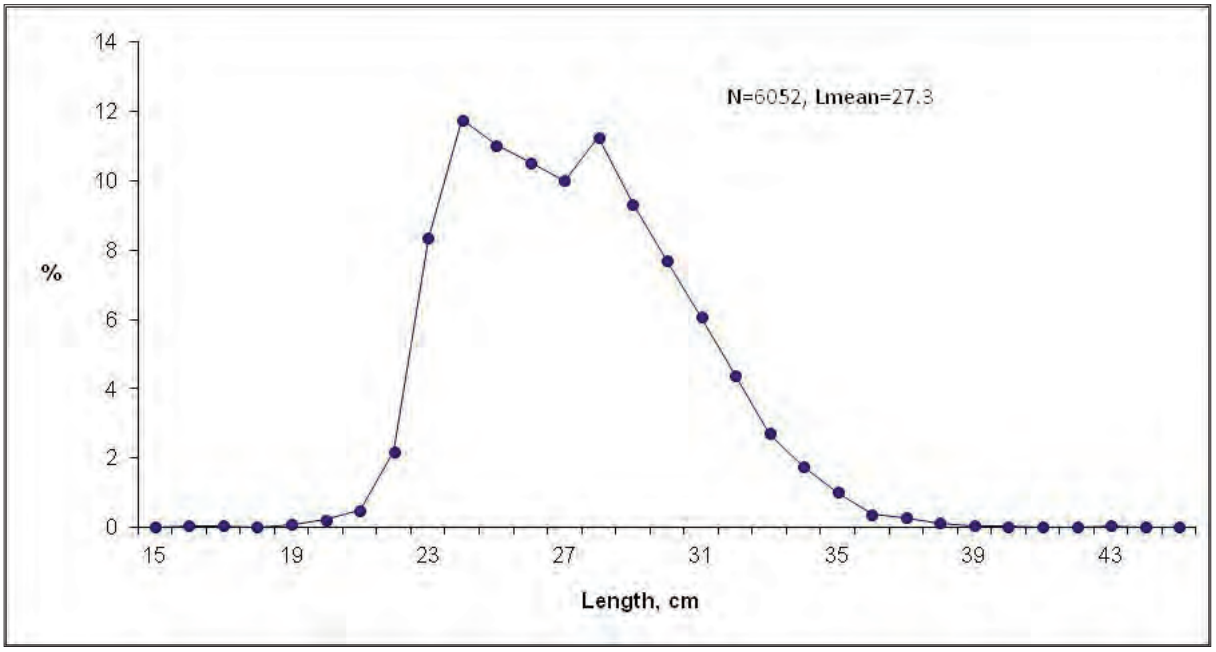
Known in the eastern North Atlantic from North Africa to Greenland, Iceland and Svalbard/Spitsbergen, also in the Mediterranean and occasionally in the western North Atlantic.

Found mainly in the southwestern part of the surveyed area, in the same area as during the ecosystem survey (see page 97 in “Atlas of the Barents Sea fishes).



Length composition

Compared to the ecosystem survey the length distribution in the winter was wider and bimodal with a slightly higher mean value.



Life history

Mainly boreal, nerito-pelagic, highly abundant in the northeastern Atlantic, common at depths of 100-600 m, but as daily vertical migrator also observed in surface waters. Reaches 50 cm, 0.8 kg, and up to 20 years (rarely more than 10 years and 35-40 cm), matures at age 2-7 years. Feeds on krill, amphipods and small fish, food source for saithe, halibut and whales. The main spawning area is west of the British Isles, where it spawns from February to April. Eggs and larvae drift with the currents. Drifting patterns vary from year to year, but the Norwegian Sea is the most important feeding and nursing ground. Dense schools can be found in early summer from Iceland and Jan Mayen to the Svalbard/Spitsbergen archipelago, with the largest fishes furthest north and east.

Population and exploitation

It is managed as one stock, even if there is a northern and a southern population with a rough boundary at the Porcupine bank west of Ireland. There are small local populations in the Barents Sea and in some fjords which hardly migrate at all, but the bigger part belongs to the oceanic, Atlantic, main population. Stock size reached a top in the mid 2000s. The abundance in the Barents Sea is dependent on recruitment to the main stock, in years of high recruitment more migration into the area is observed.

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Pollachius virens (Linnaeus 1758)

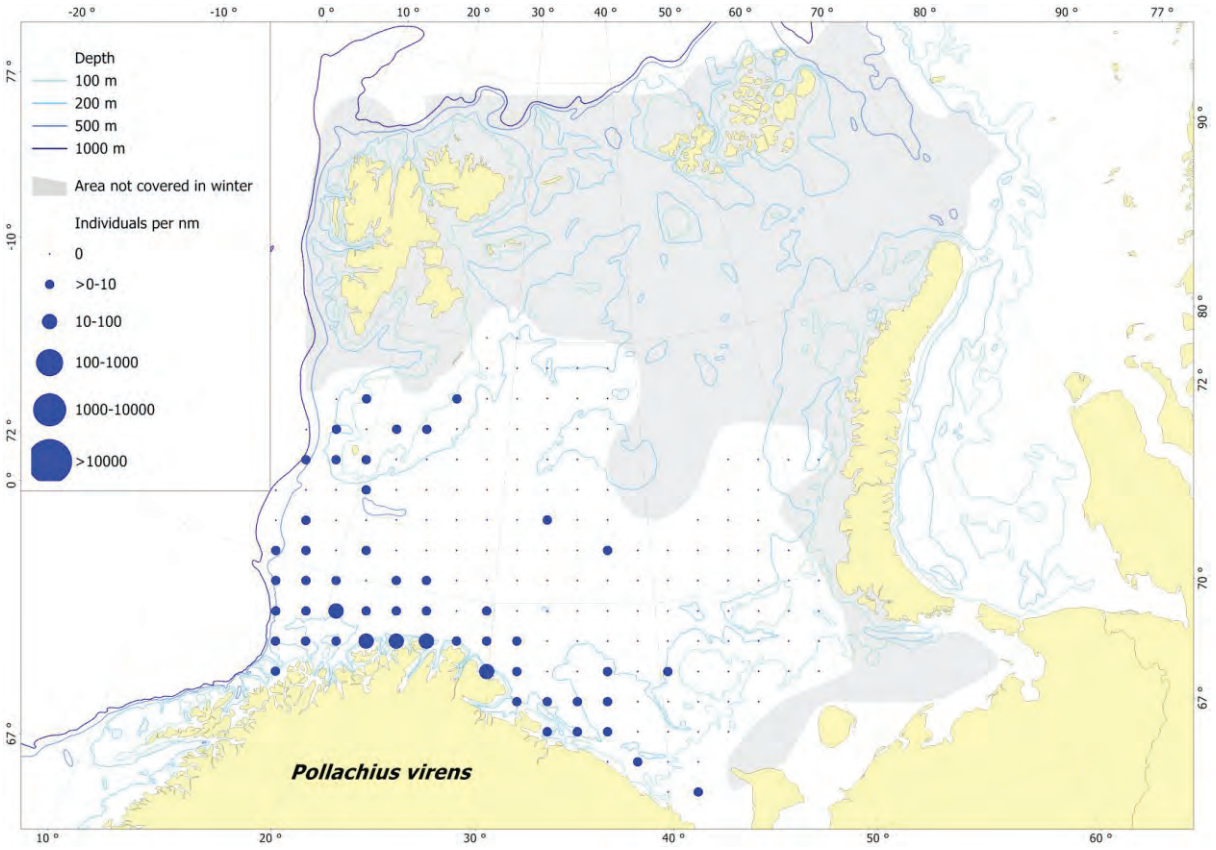
Family: Gadidae
English name: saithe
Norwegian name: sei
Russian name: сайда (saida)

Photo: Andrey Dolgov

Spatial distribution

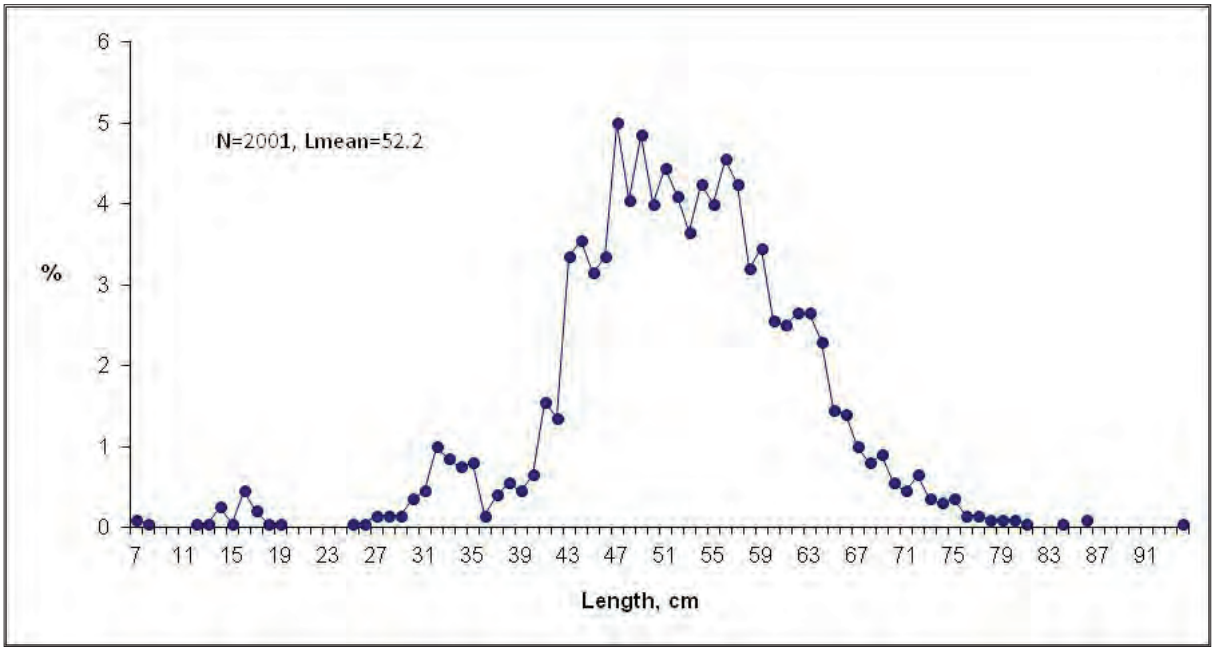
Known in the eastern North Atlantic from Spain to Novaya Zemlya, including Iceland and the Faroe Islands, also off western Greenland and in the western North Atlantic on the border area between Canada and USA. In the northeastern Atlantic six stocks of the species are recognized, the Barents Sea population belongs to the Northeast Arctic saithe, which is found along the Norwegian coast north of 62° N to the Kola Peninsula.

Found in western, southern and central parts of the surveyed area, in higher numbers only along the coast of Finnmark, in the same area as during the ecosystem survey (see page 102 in "Atlas of the Barents Sea Fishes").



Length composition

Compared to the ecosystem survey the average length in winter was somewhat larger but with lower proportions of both small and large individuals.

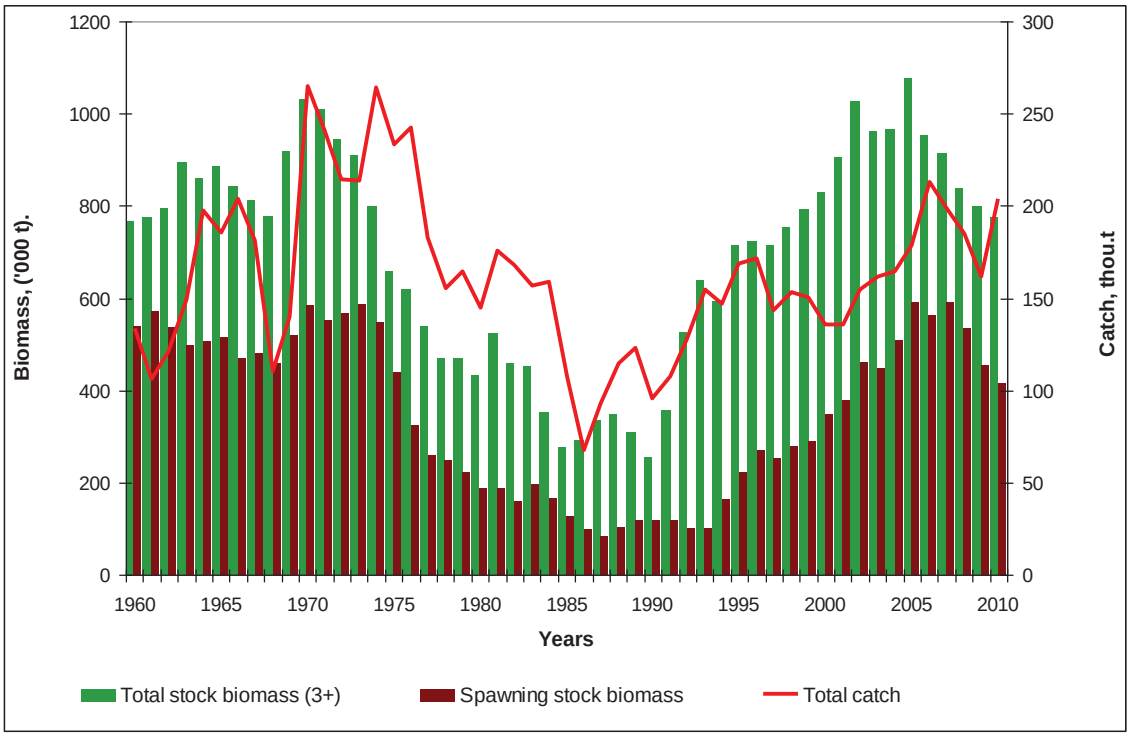


Life history

Pelagic and benthopelagic at 0-300 m, often in schools where prey assembles. Can reach 130 cm, 20 kg, and up to 30 years, matures at age 5-6 years. Juveniles prey on planktonic crustaceans, adults on a variety of crustaceans and fish, food source for sea mammals. Spawning takes place during the winter (peak in February) on the coastal banks from Lofoten to the North Sea. Females spawn 5-8 million pelagic eggs, 3.2 mm long larvae hatch after 6-15 days, juveniles live in coastal areas until 2-4 years old. Highly migratory between spawning, nursing and feeding grounds. Large specimens follow Norwegian spring-spawning herring far into the Norwegian Sea.

Population and exploitation

Between 1960 and 2009 the biomass varied from 257 000 to 1 075 000 tonnes (mean 670 000 tonnes). The stock size was on a high level from 2000 to 2005, but has been decreasing between 2005 and 2009. Fishery quotas are adjusted accordingly. The main catches are taken by Norwegian and Russian bottom trawl fisheries.



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Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Trisopterus esmarkii (Nilsson 1855)

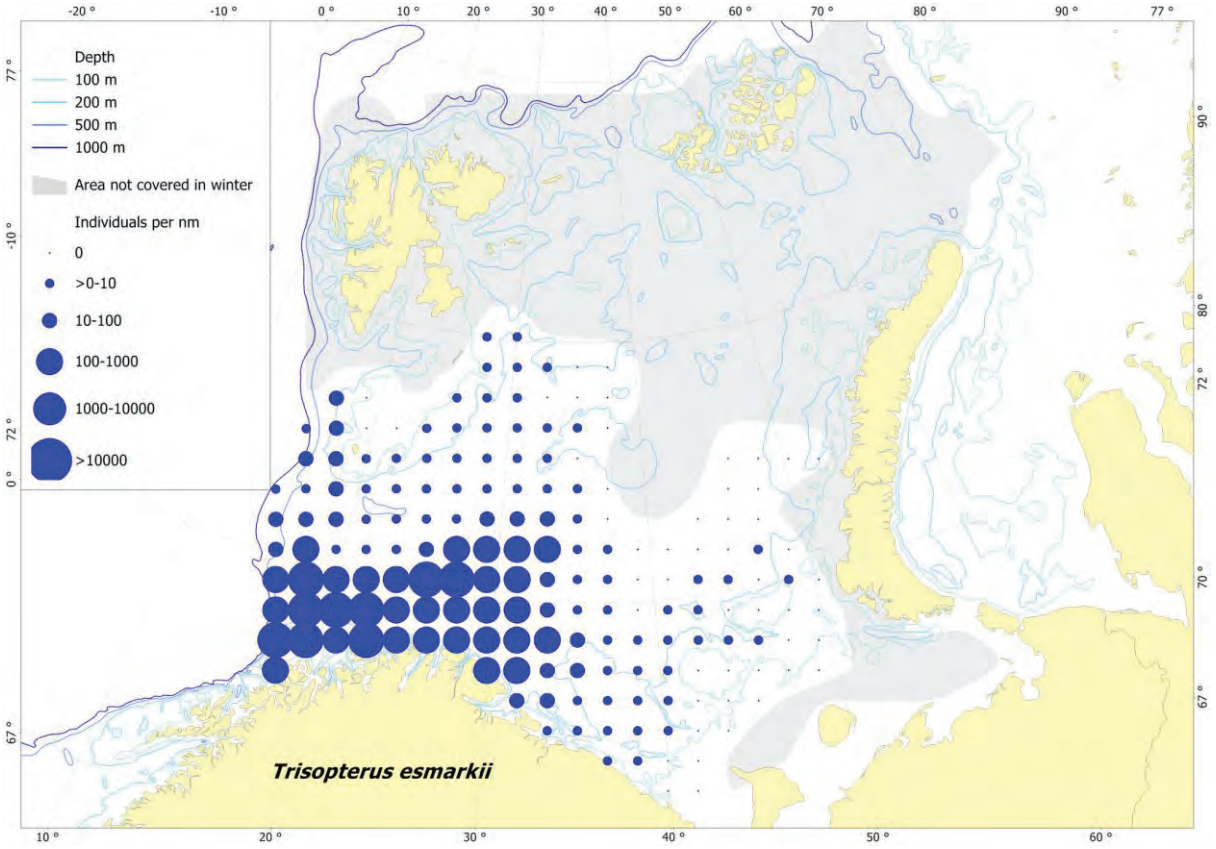
Family: Gadidae
English name: Norway pout
Norwegian name: øyepål
Russian name: тресочка Эсмарка
(tresotchka Esmarka)

Photo: Andrey Dolgov

Spatial distribution

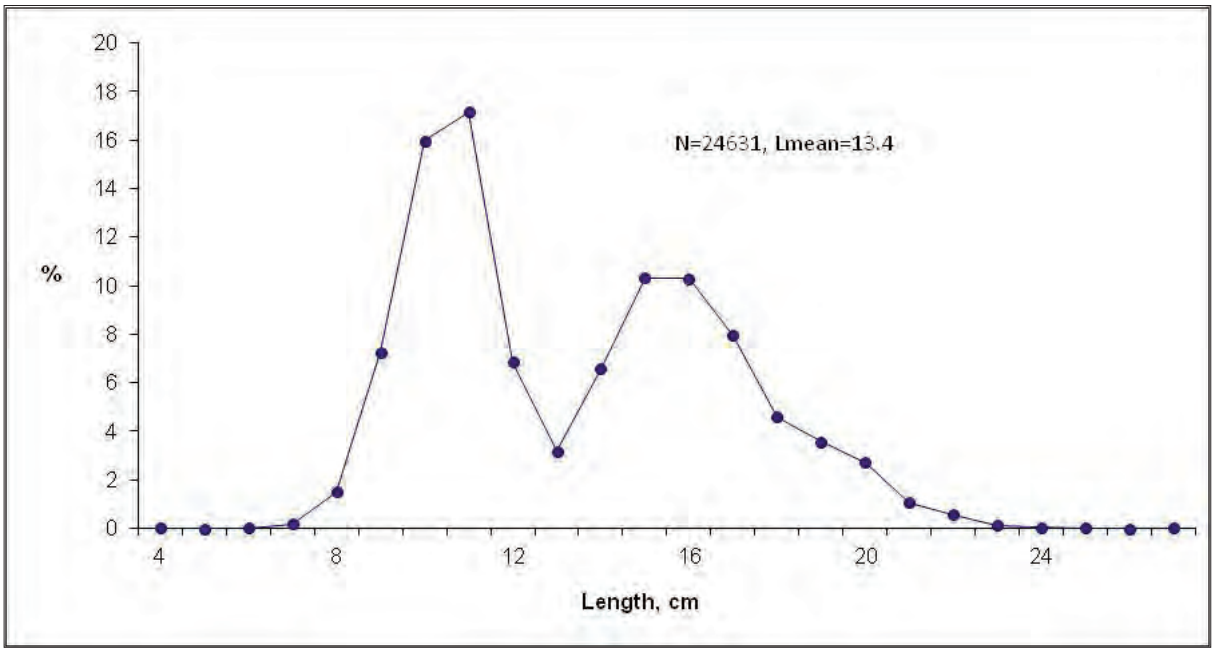
Known around the British Isles and northward to Iceland and the Barents Sea.

Found in coastal and Atlantic waters in the surveyed area, with similar distribution in winter and autumn (see page 105 in “Atlas of the Barents Sea Fishes”).



Length composition

Compared to the ecosystem survey a higher proportion of small individuals was caught and the average size was lower.



Life history

Boreal, nerito- to benthopelagic, forms schools at 50-250 m, usually above muddy bottom. Can reach 25 cm, 0.1 kg, and up to 5-6 years (rarely more than 3 years), matures at age one (10 %) or two (90 %) years. Feeds on planktonic crustaceans (copepods, euphausiids) as well as fishes, important food source for larger fish and marine mammal species. Spawning takes place between January and May in the northern North Sea. Females spawn 60 000-380 000 pelagic eggs, which drift like the juveniles with the currents.

Population and exploitation

There are likely separate populations west of the British Isles, off Iceland, along the Norwegian coast, and the largest one in the North Sea. The species is short-lived, has high variation in recruitment and is foraged by a number of other species. This causes high variations in the size of the stock, making prognoses difficult. The North Sea fishery was temporarily closed in recent years, no fishery in the Barents Sea.

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Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Trisopterus minutus (Linnaeus 1758)

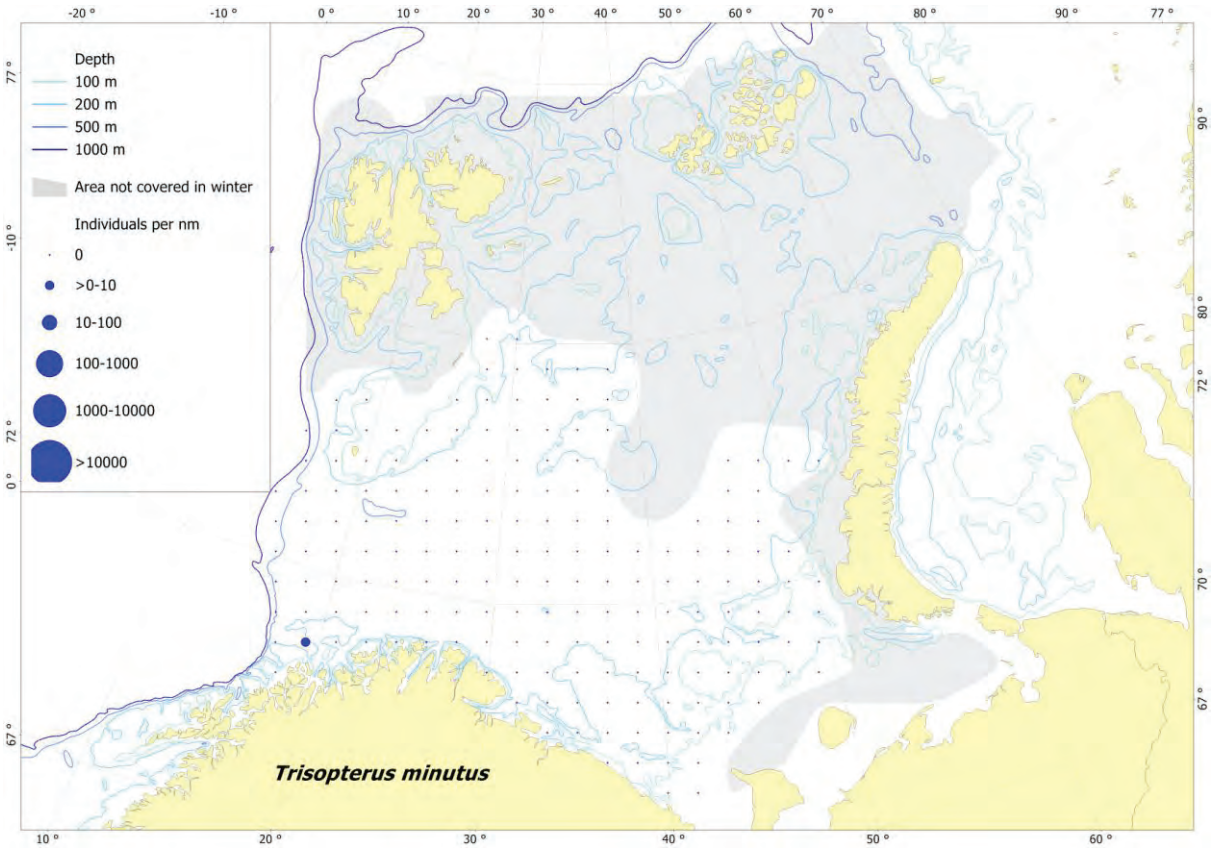
Family: Gadidae
English name: poor cod
Norwegian name: sypike
Russian name: сипика (sipika)

Photo: Ingvar Byrkjedal

Spatial distribution

Known from the Atlantic coasts from Trondheim to Morocco, also around the British Isles and in the Mediterranean.

Found close to the Norwegian coast in southwestern part of the surveyed area. Not found during the ecosystem survey (2004-2009). NB: Due to the gridding of the data, the recording appears further from the coast than the position of the actual catch.



Length composition

Two specimens (15 and 19 cm) were caught.

Life history

Benthopelagic, forms schools at depth down to 400 m, mostly from 15-200 m (in its northern area of distribution down to 100 m) on muddy and sandy bottoms, small fishes found shallower. Can reach 40 cm total length, in its northern area of distribution hardly over 20 cm, females grow larger and older (6 years) than males (4 years). Feeds on crustaceans, small fishes and polychaetes. Spawning depending on area, in the English Channel from February to March. Grows fast, mature after one year with 12-14 cm. Eggs and small juveniles pelagic.

Population and exploitation

Not previously found in the Barents Sea, of no economic importance in its northern area of distribution.

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Brosme brosme (Ascanius 1772)

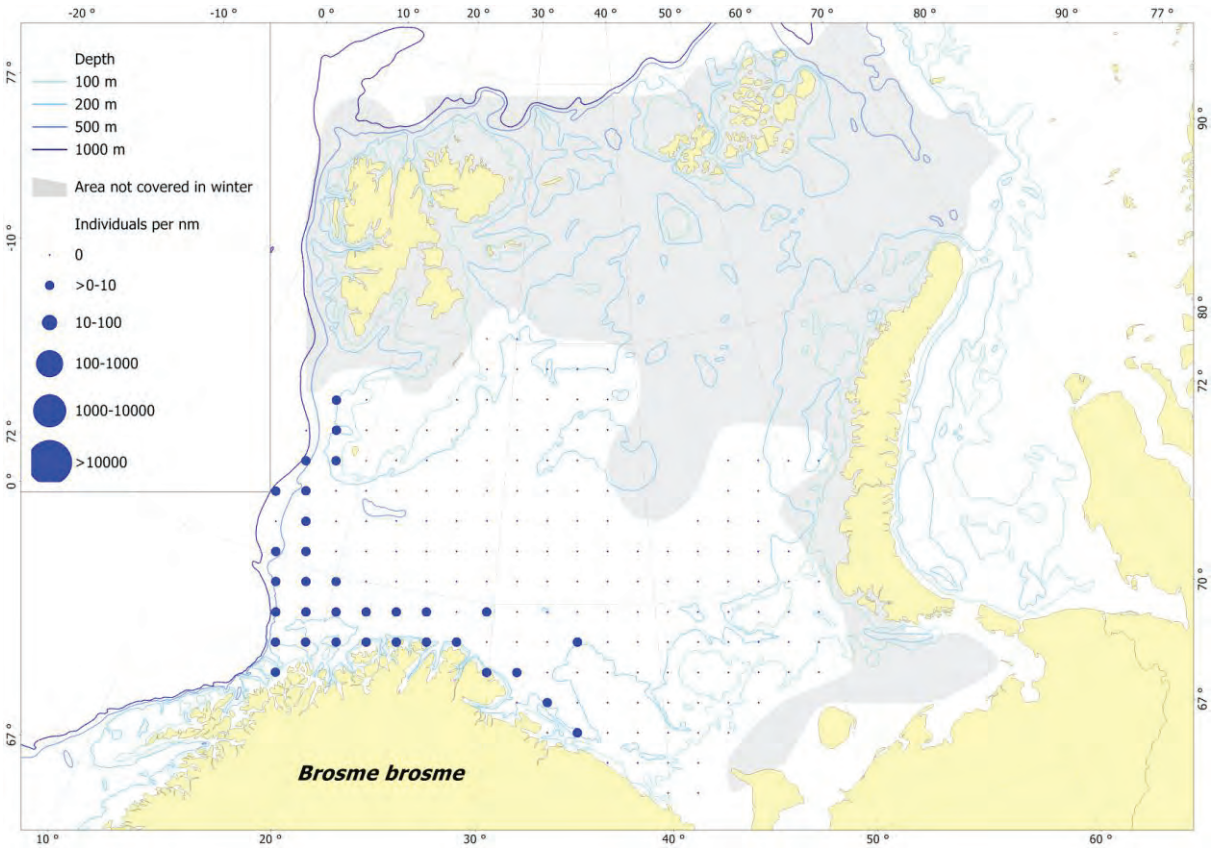
Family: Lotidae
English name: tusk
Norwegian name: brosme
Russian name: менек (menyok)

Photo: Thomas de Lange Wenneck

Spatial distribution

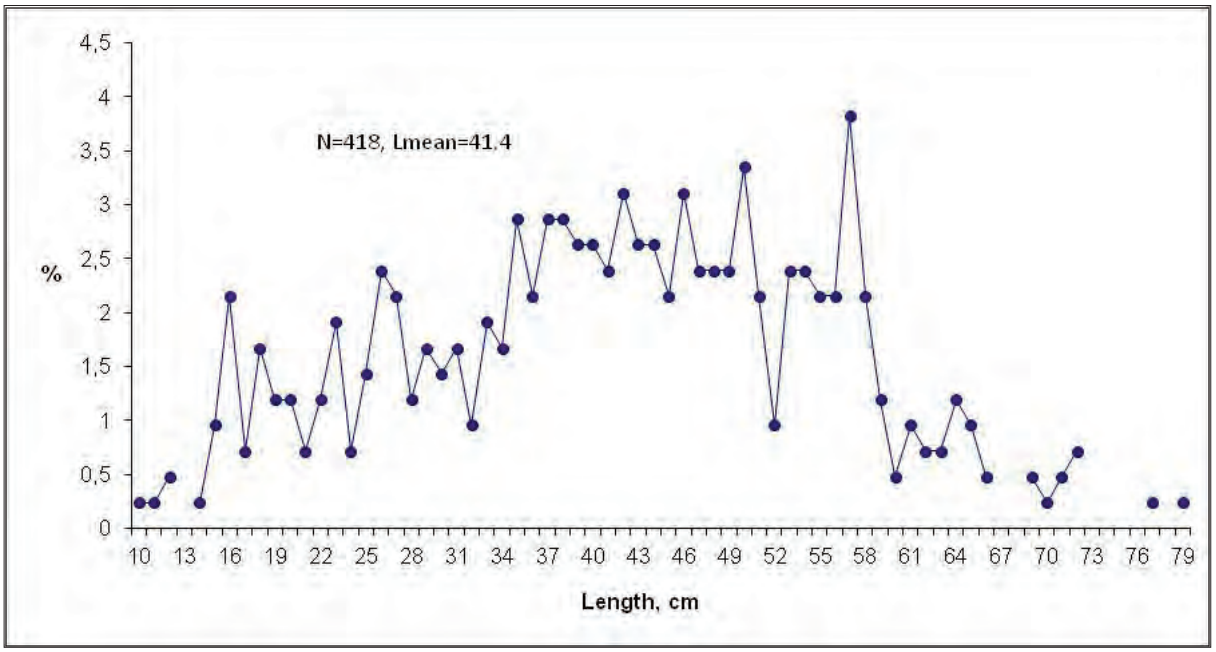
Known from the British Isles, the northern North Sea and along the coast of Norway to the Murman coast and Svalbard/Spitsbergen, also from off Iceland and in the western North Atlantic.

Like during the ecosystem survey found in the southern and western parts of the surveyed area (see page 107 in the “Atlas of the Barents Sea Fishes”), mostly in deeper water influenced by Atlantic water masses.



Length composition

The mean length was slightly higher in winter compared to autum.



Life history

Mainly boreal, demersal, solitary or in small schools on hard, rocky grounds along the continental slope and shelf as well as in the fjords at depths of 100-1000 m. Reaches 110 cm, at least 15 kg, and more than 20 years. Growth rates are low, matures at age 8-10 years (50 cm). Feeds on large crustaceans, polychaetes, mollusks and fish. Spawning takes place from April to June, the main spawning areas are the coasts of south and mid Norway, as well as the areas south and southwest of Iceland and the Faroe Islands. A female can spawn up to 2.3 million eggs (1.2-1.5 mm in diameter); 4 mm long larvae hatch after 9 days. Eggs and juveniles up to a length of about 5 cm are pelagic. Larger fishes live in deeper waters.

Population and exploitation

A decrease in number of fishing vessels and hours of fishery influenced the population size positively. A recent assessment (2010) by ICES indicate an increasing stock size in the north-east Arctic waters. Bycatch in Russian fisheries for cod and Greenland halibut.

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Dolgov AV. 2006. New Data on the Distribution of Rare and New Fish Species in Russian Waters of the Barents Sea. Journal of Ichthyology 46:139-147

Helle K. 2010. Lange, brosme og blålange. In: Gjøsæter H, Haug T, Hauge M, Karlsen Ø, Knutsen JA, Røttingen I, Skilbrei O, Sunnsett BH (eds) Havforskningsrapporten 2010. Fisken og havet I-2010:124-125 (in Norwegian)

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Enchelyopus cimbrius (Linnaeus 1766)

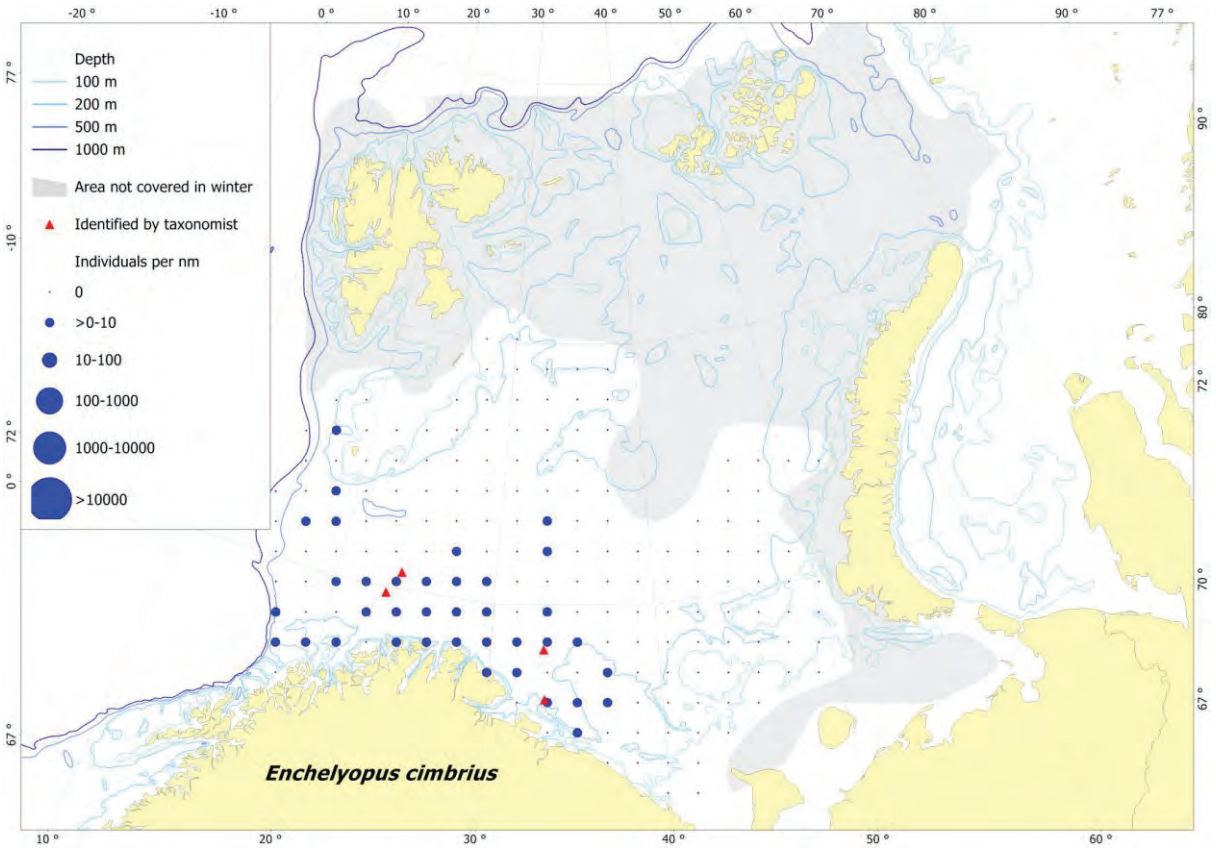
Family: Lotidae
English name: fourbeard rockling
Norwegian name: firetrådet tangbrosme
Russian name: четырехусый налим
(tcheteryokh-usiy nalim)

Photo: Andrey Dolgov

Spatial distribution

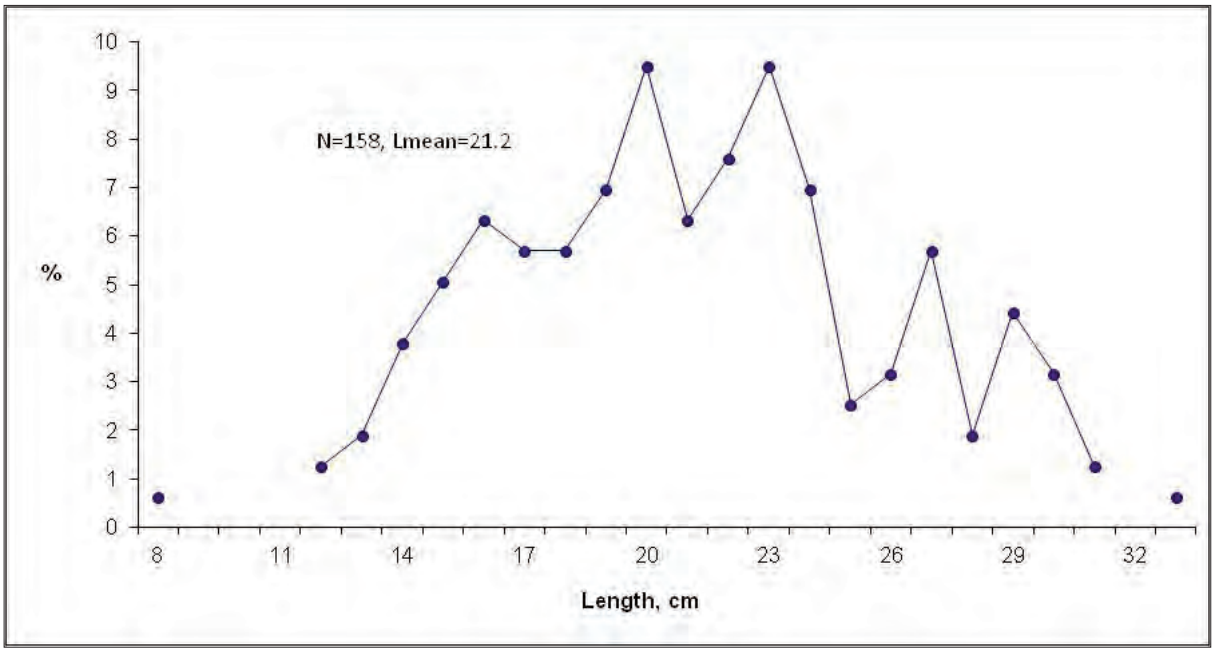
Known from the Gulf of Biscay to the southern Barents Sea, including off Iceland and the Baltic Sea; also found in the western North Atlantic.

Like during the ecosystem survey (page 109 in the “Atlas of the Barents Sea Fishes”) found in warm Atlantic waters in the southwestern part of the surveyed area.



Length composition

The overall size range and mean length were similar in winter and autumn.



Life history

Boreal, demersal to benthopelagic, preferring muddy or sandy bottom at 20-50 m, found down to 650 m. Can reach 42 cm (rarely more than 30 cm) and 9 years. Growth rate low, matures at age 3 years (about 15 cm). Feeds on benthic crustaceans, polychaetes and small fishes. Depending on size, females spawn up to 500 000 eggs (0.7-1.0 mm in diameter). Spawning season ranges from June to September, eggs and juveniles are pelagic. Quite stationary apart from local inshore migrations in autumn and offshore migrations in spring.

Population and exploitation

Caught as bycatch but of no economic importance.

References

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Cohen DM, Inada T, Iwamoto T, Scialabba N. 1990. FAO species catalogue. Vol. 10. Gadiform fishes of the world (Order Gadiformes). An annotated and illustrated catalogue of cods, hakes, grenadiers and other gadiform fishes known to date. FAO Fish Synop 10 (125), 442 pp

Dolgov AV. 2006. New Data on the Distribution of Rare and New Fish Species in Russian Waters of the Barents Sea. Journal of Ichthyology 46:139-147

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Gaidropsarus argentatus (Reinhardt 1837)

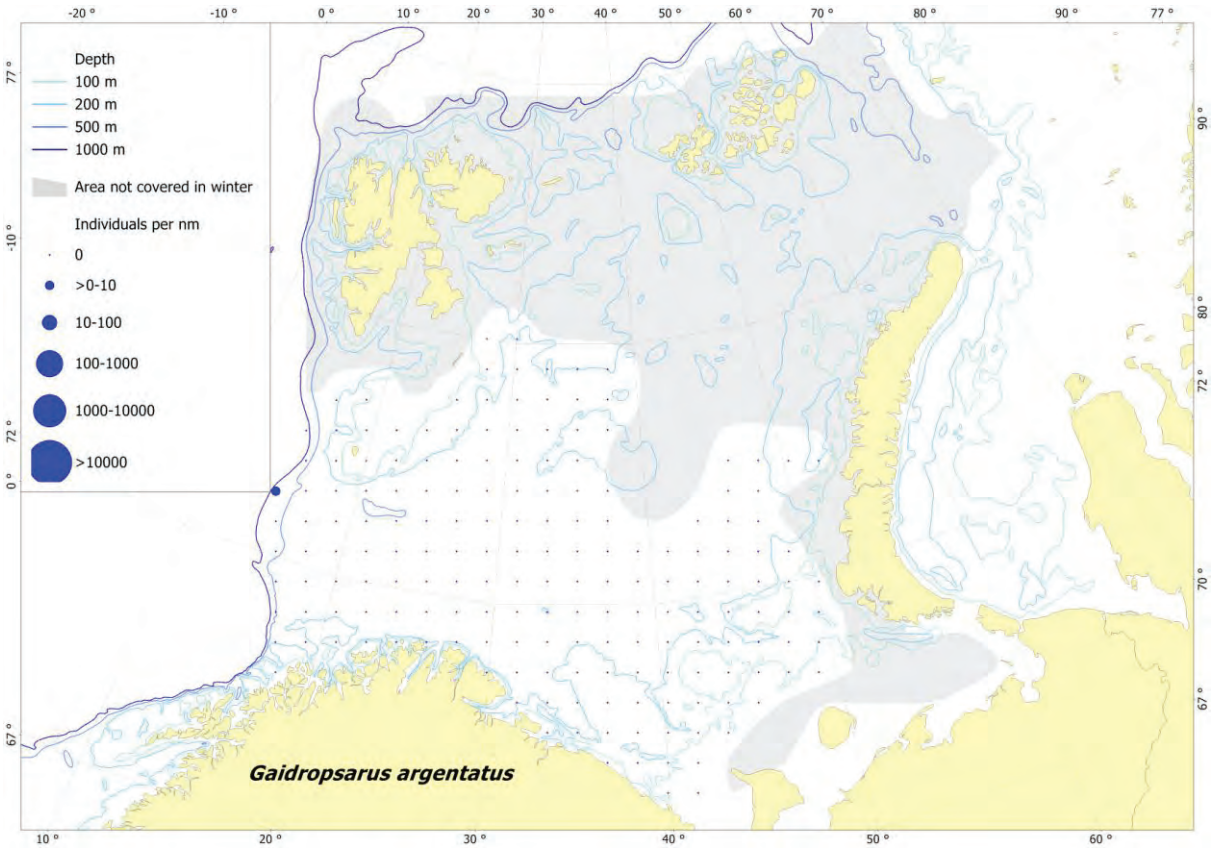
Family: Lotidae
English name: Arctic rockling
Norwegian name: sølvtangbrosme
Russian name: полярный налим (polyarniy nalim)

Photo: Thomas de Lange Wenneck

Spatial distribution

Known from off southeastern Greenland, off Iceland and the Faroe Islands to the Norwegian coast and northward to the Barents Sea.

Like in the ecosystem survey (page 111 in the "Atlas of the Barents Sea Fishes") found in deeper waters along the continental slope in the western part of the surveyed area.



Length composition

Two specimens (16 and 31 cm) were caught.

Life history

Arctic, benthopelagic to pelagic at depths of 150-2000 m (usually deeper than 500 m), prefers low temperatures (around 0 ºC). Can reach 45 cm, 8-9 years, males mature at age 2, females at age 4 years. Feeds on demersal and bathypelagic crustaceans (shrimp, gammarids and hyperiids) as well as fish. Larvae are pelagic and have been found near the Arctic Circle in June-August.

Population and exploitation

Of no economic importance, but bycatch in bottom-trawl and longline fisheries for cod and Greenland halibut in depths below 300-400 m.

References

Bjelland O, Bergstad OA, Skjæraasen JE, Meland K. 2000. Trophic ecology of deep-water fishes associated with the continental slope of the eastern Norwegian Sea. Sarsia 85:101-117

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Dolgov AV. 2004. Non-target fishes. In: Shevelev MS (ed) Investigations by PINRO in the Spitsbergen archipelago area. Murmansk, PINRO Press pp 230-265 (in Russian)

Dolgov AV. 2006. New Data on the Distribution of Rare and New Fish Species in Russian Waters of the Barents Sea. Journal of Ichthyology 46:139-147

Muus BJ, Nielsen JG. 1998. Våre saltvannsfisker. NKS, Oslo

Neyelov AV, Chernova NV. 2005. Results of fish investigations of the Spitsbergen shelf and continental slope waters during the cruise of RV "Polarstern" ARK VIII/2 1991 ('EPOS II'='SEAS'. In : Kotlyakov VM. (ed) Arctic and Antarctic, 4(38). Moscow, Nauka Publishing. pp 130-170 (in Russian)

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Svetovidov AN. 1986. Gadidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 680-710

Molva molva (Linnaeus 1758)

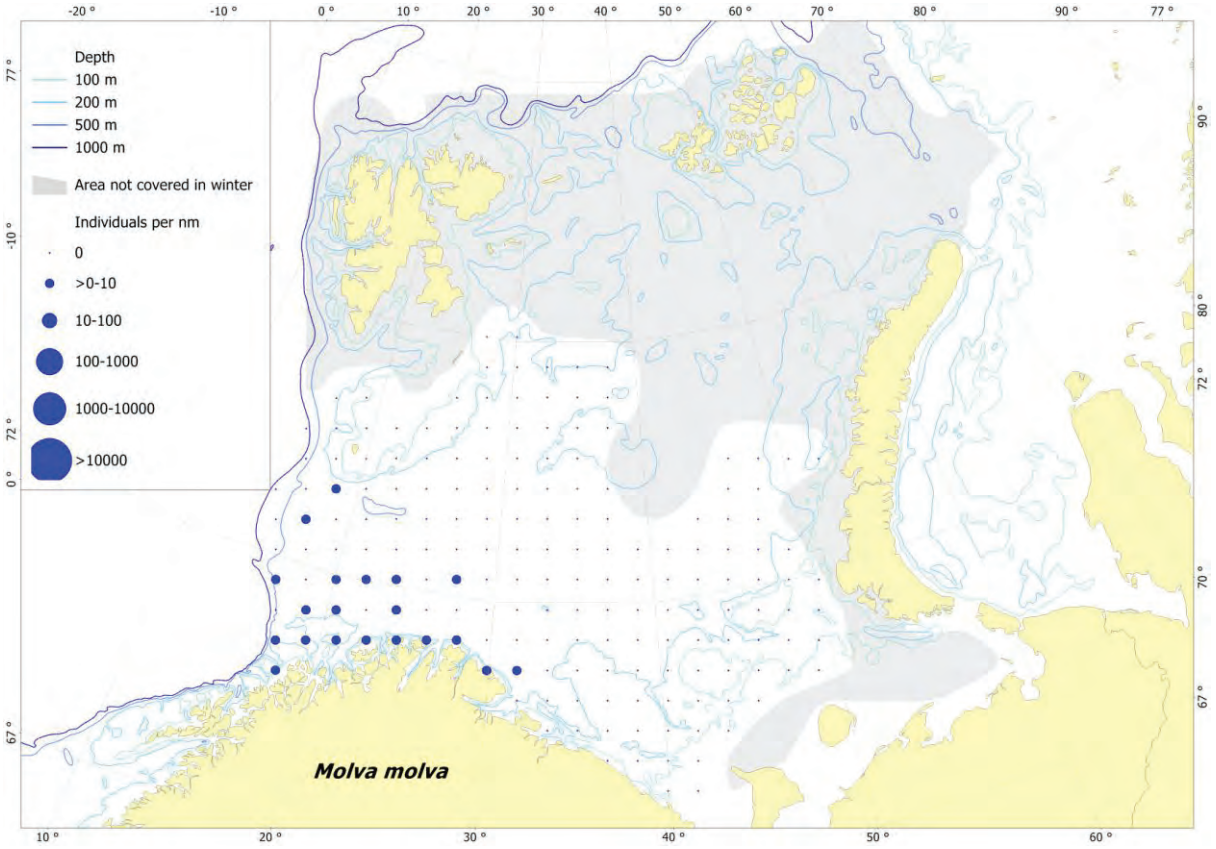
Family: Lotidae
English name: ling
Norwegian name: lange
Russian name: мольва (molva)

Photo: Otte Bjelland

Spatial distribution

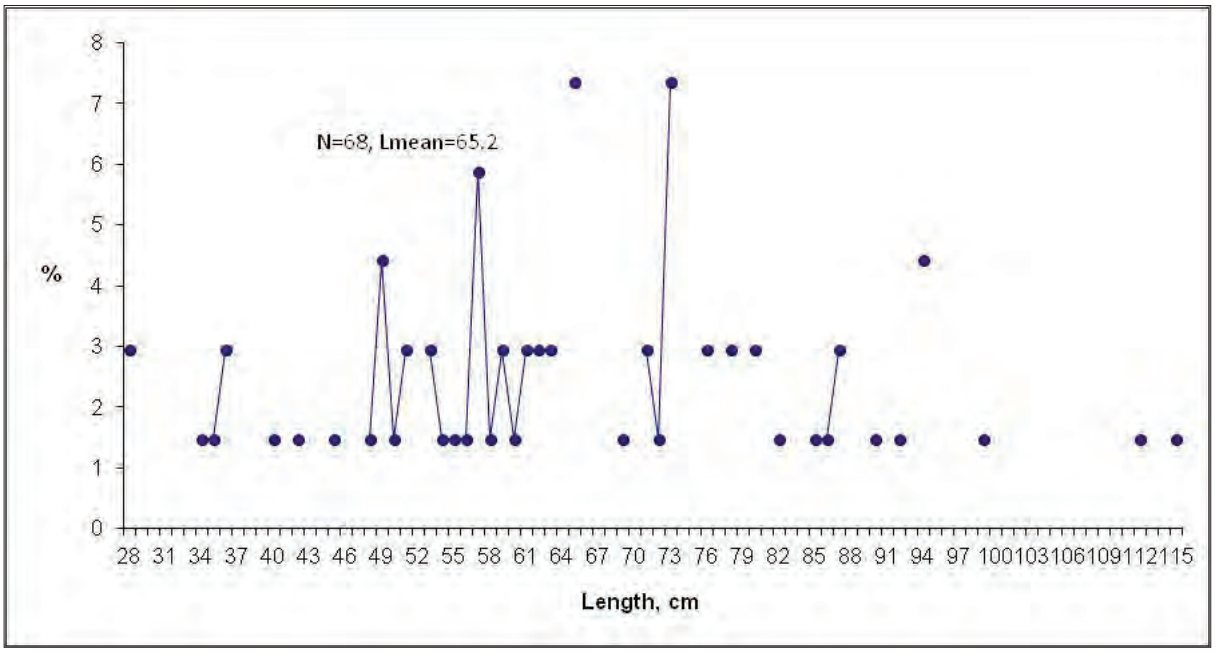
Known from the Gulf of Biscay to Island, the northern North Sea and along the Norwegian coast to the southern Barents Sea.

Found in the southwestern part of the surveyed area, in the same area as during the ecosystem survey (page 113 in the “Atlas of the Barents Sea Fishes”), but also further north and east.



Length composition

The mean length in the winter survey was smaller but the overall range larger than in the ecosystem survey.



Life history

Boreal, demersal on the continental shelf and in the fjords, mainly on hard bottom at 300-400 m, but also found both shallower and deeper. Reaches 2 m, 40 kg, and 30 years, matures at age 5-7 years (80-100 cm). Juveniles feed on benthic invertebrates, adults on fish, large crustaceans, cephalopods and echinoderms. Spawning areas are in the North Sea, off Faroese Islands, west of the British Isles and southwest of Iceland, with spawning taking place from March to July. A large female can spawn 20-60 million eggs. Eggs and larvae are pelagic, never found shallower than at 50 m. Juveniles live pelagic near the coast, migrating with age and size to deeper areas.

Population and exploitation

A decrease in number of fishing vessels and hours of fishery influenced the population size positively. A recent assessments (2010) by ICES indicate an increasing stock size in the north-east Arctic waters.

References

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Cohen DM, Inada T, Iwamoto T, Scialabba N. 1990. FAO species catalogue. Vol. 10. Gadiform fishes of the world (Order Gadiformes). An annotated and illustrated catalogue of cods, hakes, grenadiers and other gadiform fishes known to date. FAO Fish Synop 10 (125), 442 pp

Dolgov AV. 2006. New Data on the Distribution of Rare and New Fish Species in Russian Waters of the Barents Sea. Journal of Ichthyology 46:139-147

Helle K. 2010. Lange, brosme og blålange. In: Gjøsæter H, Haug T, Hauge M, Karlsen Ø, Knutsen JA, Røttingen I, Skilbrei O, Sunnsett BH (eds) Havforskningsrapporten 2010. Fisken og havet I-2010:124-125 (in Norwegian)

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Phycis blennoides (Brünnich 1768)

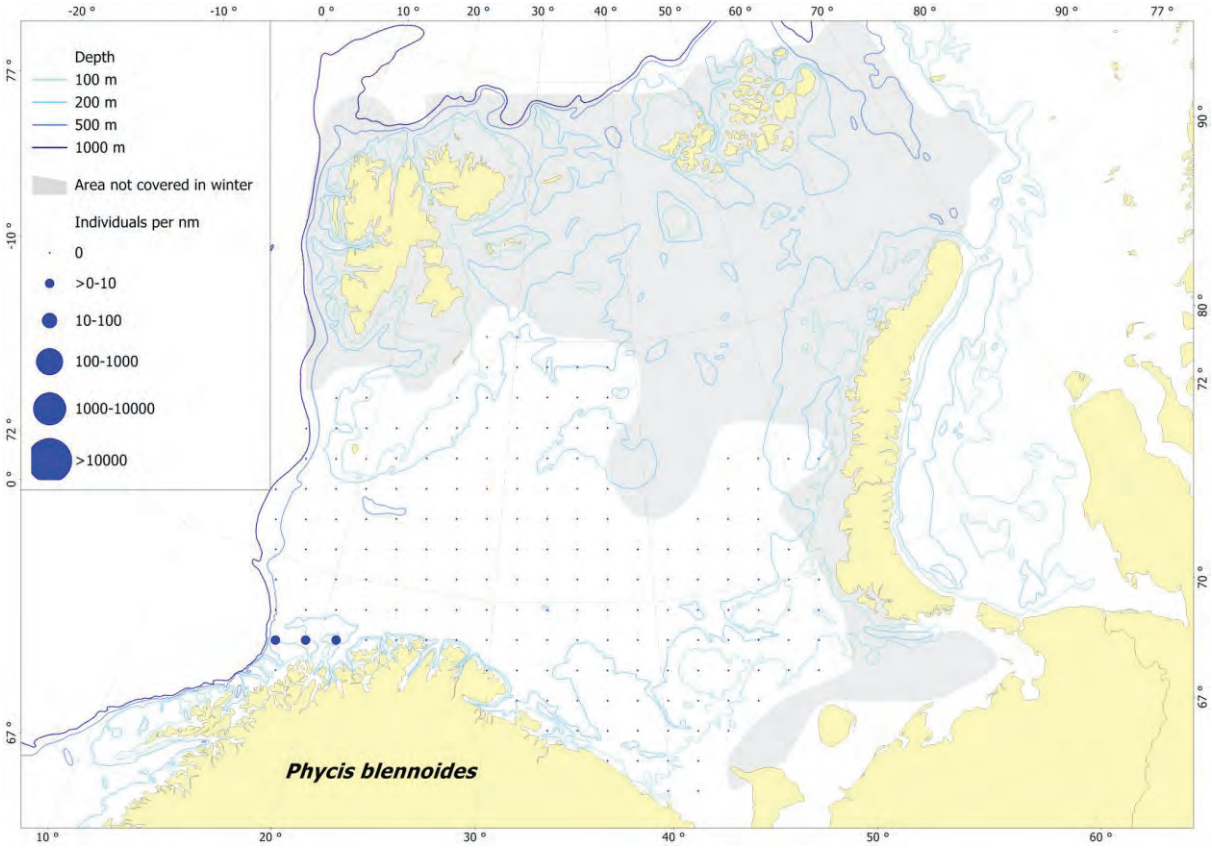
Family: Phycidae
English name: greater forkbeard
Norwegian name: skjellbrosme
Russian name: нитеперый налим (nitepioriy nalim)

Photo: Thomas de Lange Wenneck

Spatial distribution

Known from the northwestern African coast to northern Norway, also off Iceland and in the Mediterranean.

Like during the ecosystem survey (see page 115 in the “Atlas of the Barents Sea Fishes”) found in the southwestern part of the surveyed area.



Length composition

Thirteen specimens (15-35 cm, mean length 22.6 cm) were caught, these were smaller than those caught during autumn.

Life history

Boreal, benthopelagic, preferring soft bottom at 100-450 m. Young occur shallower and are more coastal, whereas adults migrate along the slope. Can reach up to 110 cm (but rarely more than 45 cm) and 20 years. Growth rates are low, females grow faster than males, matures at age 3-4 years. Feeds on crustaceans and small fish. Reproduction in Norwegian waters doubtful.

Population and exploitation

Of minor economic importance, taken as bycatch.

References

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Cohen DM, Inada T, Iwamoto T, Scialabba N. 1990. FAO species catalogue. Vol. 10. Gadiform fishes of the world (Order Gadiformes). An annotated and illustrated catalogue of cods, hakes, grenadiers and other gadiform fishes known to date. FAO Fish Synop 10 (125), 442 pp

Muus BJ, Nielsen JG. 1998. Våre saltvannsfisker. NKS, Oslo

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Svetovidov AN. 1986. Gadidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 680-710

***Lophius piscatorius* Linnaeus 1758**

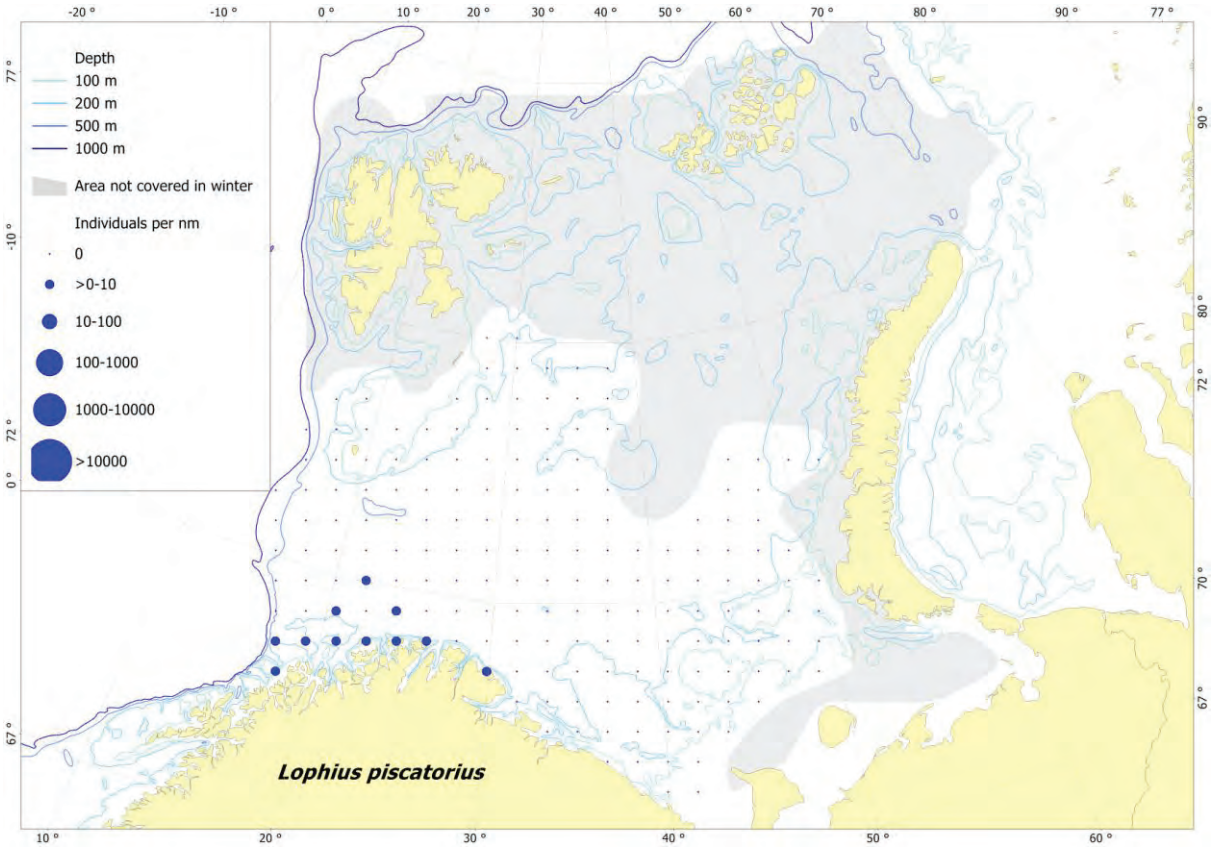
Family: Lophiidae
English name: angler
Norwegian name: breiflabb
Russian name: морской черт
(morskoy tchert)

Photo: Thomas de Lange Wenneck

Spatial distribution

Known in the eastern Atlantic from the Barents Sea south to Mauritania, including the Mediterranean and Black Sea, with Iceland as its western border.

Uncommon in the Barents Sea, but the recent northward expansion of its distribution has brought this species into the southernmost part along the coast of Finnmark. Found in the same area as during the ecosystem survey (see page 119 in the "Atlas of the Barents Sea Fishes").



Length composition

32 specimens (42-119 cm, mean length 69.8 cm) were caught.

Life history

Boreal, demersal, found from the littoral zone down to more than 1000 m depth, primarily on sandy and stone bottom, occasionally found in the pelagic zone. Can reach 2 m, 100 kg, and more than 25 years. Males mature at age 4 years (50 cm), females at 8 years (90 cm). Top predator, feeds mainly on fish, crustaceans and cephalopods. Spawns at great depths (1000-1800 m) at the continental slope west of the British Isles, but also in Norwegian fjords and deeper parts of the continental shelf. Eggs are laid in up to 15 m long and 60-90 cm broad gelatinous bands, containing 1 500 000 eggs, sometimes observed drifting pelagically. Newly hatched larvae are 4.5 mm long and pelagic, becoming demersal at the length of 60-80 mm, growth rates are poorly known. Tagging experiments have shown that longer migrations than previously thought are undertaken (specimens tagged in the North Sea have been found at Vesterålen, Iceland, and the Faroe Islands). The dynamics behind the feeding and spawning migrations are not yet known, but obviously the species takes advantage of currents when found in the pelagic zone.

Population and exploitation

Catch rates in the northern distribution area have increased since 2001, suggesting a shift to a more northern distribution of the species. Of no economic importance in the Barents Sea.

References

Bjelland O. 2010. Breiflabb. In: Gjøsæter H, Haug T, Hauge M, Karlsen Ø, Knutsen JA, Røttingen I, Skilbrei O, Sunnsett BH (eds) Havforskningsrapporten 2010. Fisken og havet I-2010:111 (in Norwegian)

Dolgov AV. 2006. New Data on the Distribution of Rare and New Fish Species in Russian Waters of the Barents Sea. Journal of Ichthyology 46:139-147

Muus BJ, Nielsen JG. 1998. Våre saltvannsfisker. NKS, Oslo

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Gasterosteus aculeatus Linnaeus 1758

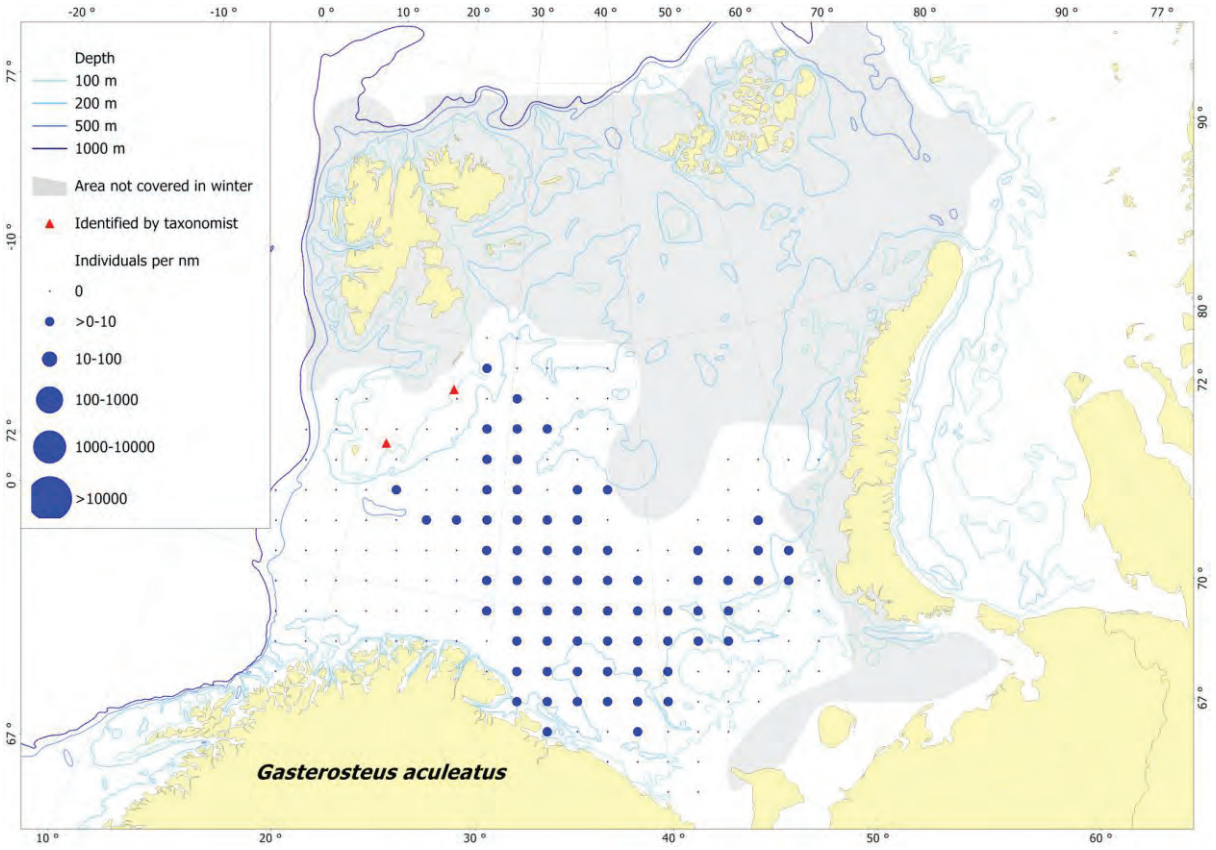
Family: Gasterosteidae
English name: three-spined stickleback
Norwegian name: trepigget stingsild
Russian name: трехиглая колюшка
(trekh-iglaya koliushka)

Photo: Andrey Dolgov

Spatial distribution

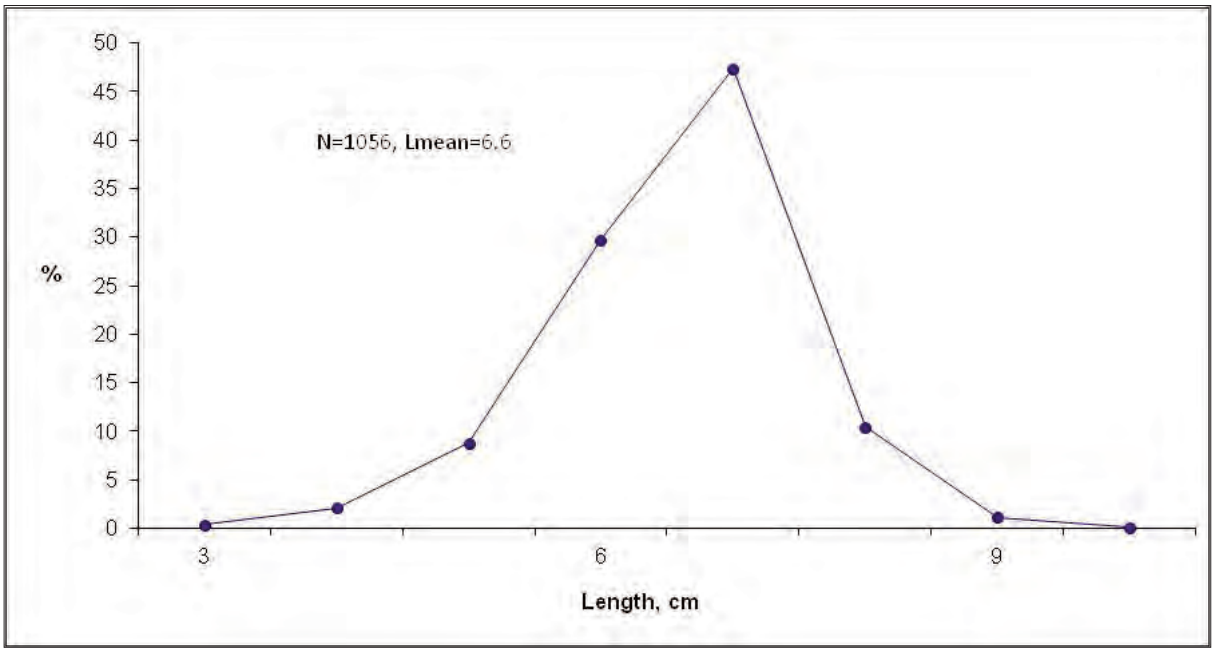
Occurs circumpolar from about 35º N to 70º N, in most of European rivers. Usually confined to coastal areas in the sea, but occasionally found in the open sea.

Found in the same area as during the ecosystem survey, but also further northwest and east (see page 123 in the “Atlas of the Barents Sea Fishes”).



Length composition

Length distribution was similar in winter and autumn.



Life history

Nerito-pelagic, mainly boreal, highly adaptable, found in rivers, brackish water and in coastal seas; stocks can be marine, lacustrine or anadromous as well as stationary or migratory. Schooling, especially when young and outside the spawning season. Can reach 11 cm (8 cm in freshwater) and up to 5 years, but only few individuals grow older than 3 years. Matures at age one year. Feeds on small insects and larvae, small crustaceans, worms and mollusks as well as fish eggs and fry, preyed upon by other fish species and birds. Spawning takes place in May-June, males build a nest on sandy bottom using plant parts. Several females lay their eggs in the nest until it is full with 300-1000 eggs. The males guard the nest and care for the spawn. 2-4.5 mm long larvae hatch after 8-15 days, and stay in or close to the nest for 4-6 days, still guarded by the males. The species is an intermediate host for tapeworms and thus contributing to the extension of the parasites distribution area.

Population and exploitation

Of no economic importance, but caught in the Baltic Sea and the White Sea and used as fishmeal and -oil and as fertilizer.

References

Banister K. 1986. Gasterosteidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 640-643

Dolgov AV. 2006. New Data on the Distribution of Rare and New Fish Species in Russian Waters of the Barents Sea. Journal of Ichthyology 46:139-147

Muus BJ, Nielsen JG. 1998. Våre saltvannsfisker. NKS, Oslo

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Reshetnikov YS. (ed) Atlas of freshwater fishes of Russia. 2 vol. Moscow, Nauka Publishing. 379+253 pp (in Russian)

Entelurus aequoreus (Linnaeus 1758)

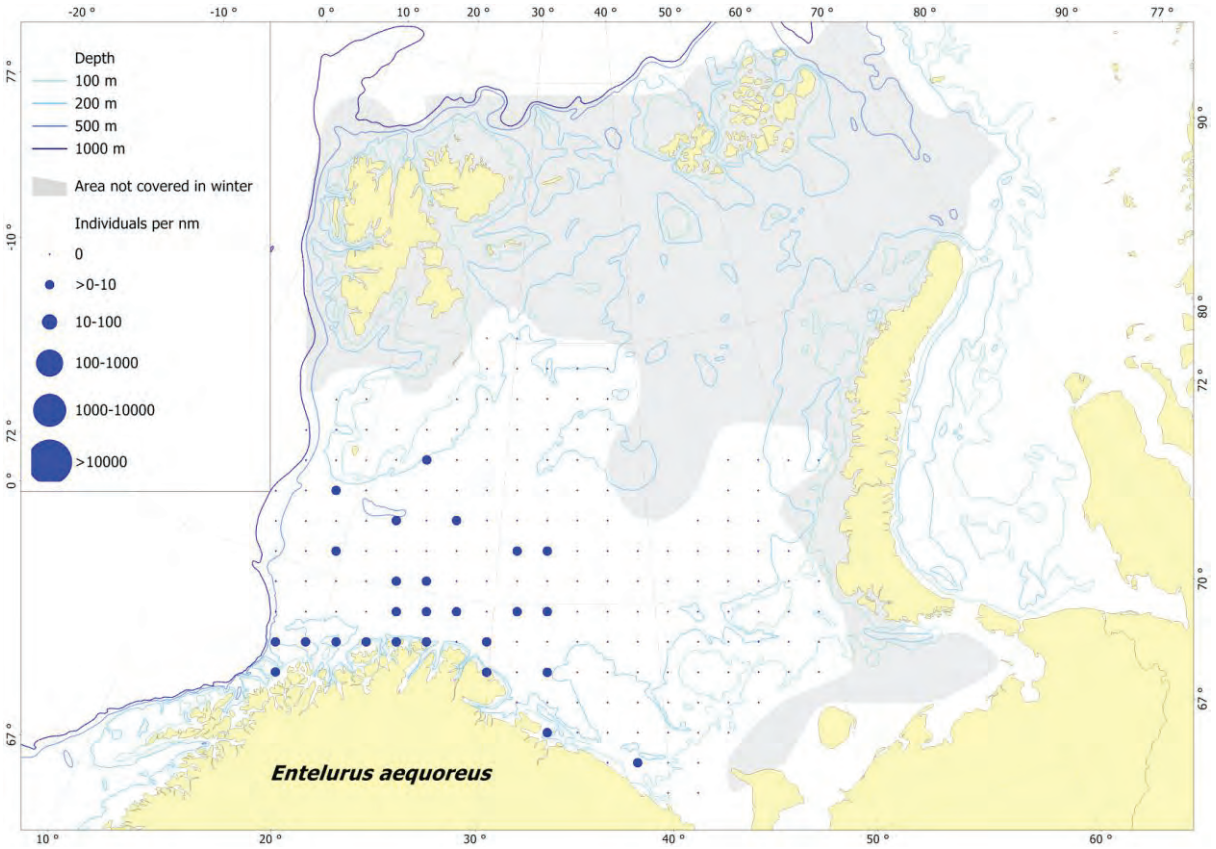
Family: Syngnathidae
English name: snake pipefish
Norwegian name: stor havnål
Russian name: змеевидная рыба-игла
(zmeevidnaya ryba-igla)

Photo: Andrey Dolgov

Spatial distribution

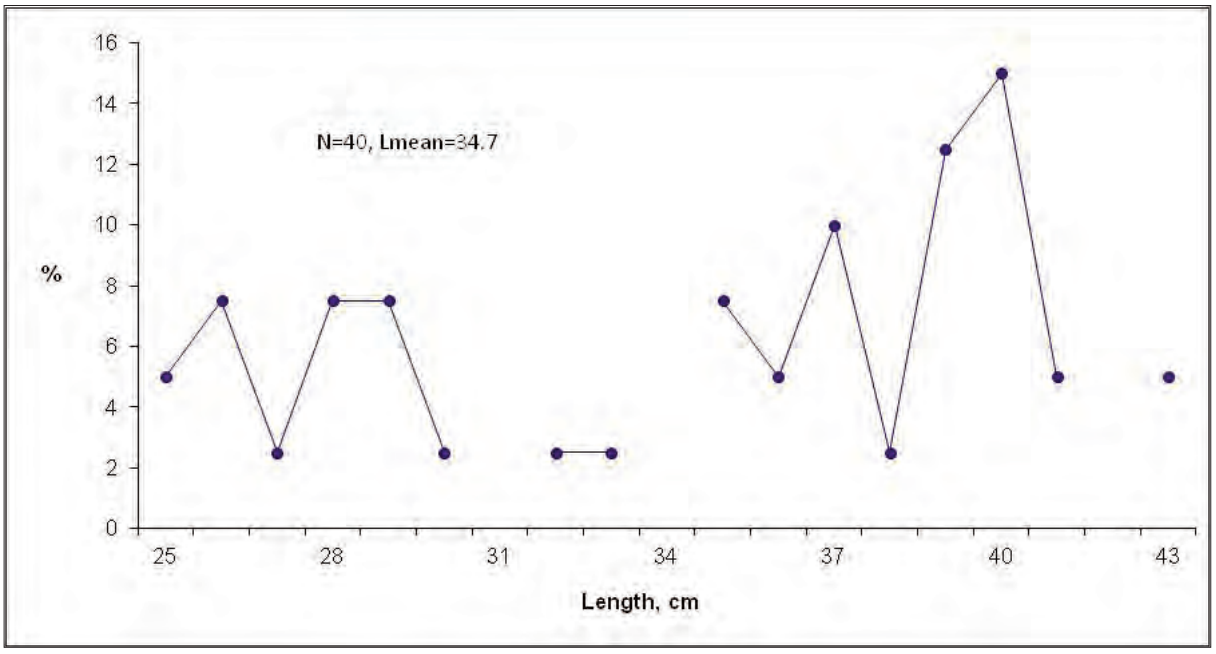
Known from the Azores and Portugal northward to Iceland and Norway. Expanded its distribution area to the north and was also found in the Greenland and Barents Sea. Mostly caught by pelagic trawls.

Found in the same area as during the ecosystem survey, but catchability by pelagic trawls is higher (see page 127 in the “Atlas of the Barents Sea Fishes”).



Length composition

Length distribution was similar in winter and autumn.



Life history

Boreal, nerito-pelagic, usually found in inshore waters among algae at 5-100 m, but occurs also pelagic in the open ocean. Females can reach 61 cm, males 40 cm. Matures at age 2 years, feeds on small crustaceans and fish fry. Spawning takes place in June-July in dense algae vegetation. As males have no brood pouch, females attach their 200-1000 eggs in irregular rows on the belly of several males from right behind the head to before the anal opening. 11-12 mm long juveniles hatch after about 4 weeks.

Population and exploitation

Since 2002 the population shows a dramatic increase in the northeastern Atlantic. The increased abundance of larvae and juveniles west of the British Isles was linked to the beneficial effect of a higher sea temperature on the early developmental stages of the species.

First recorded in the Barents Sea in 2004, abundance peaked in 2007, probably due to increased abundance in the North Sea and increased inflow of Atlantic water. Has not been recorded in the Barents Sea in 2009 - 2012. Of no economic importance.

References

Fleischer D, Schaber M, Piepenburg D. 2007. Atlantic snake pipefish (*Entelurus aequoreus*) extends its northward distribution range to Svalbard (Arctic Ocean). Polar Biology 30:1359-1362

Kirby RR, Johns DG, Lindley JA. 2006. Fathers in hot water: rising sea temperatures and a Northeastern Atlantic pipefish baby boom. Biology Letters 2:597-600

Muus BJ, Nielsen JG. 1998. Våre saltvannsfisker. NKS, Oslo

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Rusyaev SM, Dolgov AV, Karamushko OV. 2007. Captures of Snake Pipefish *Entelurus aequoreus* in the Barents and Greenland Seas. Journal of Ichthyology 47:544-546

Sebastes marinus (Linnaeus 1758)

Family: Sebastidae
English name: golden redfish
Norwegian name: vanlig uer
Russian name: золотистый окунь, морской окунь (zolotistiy okun), (morskoy okun)

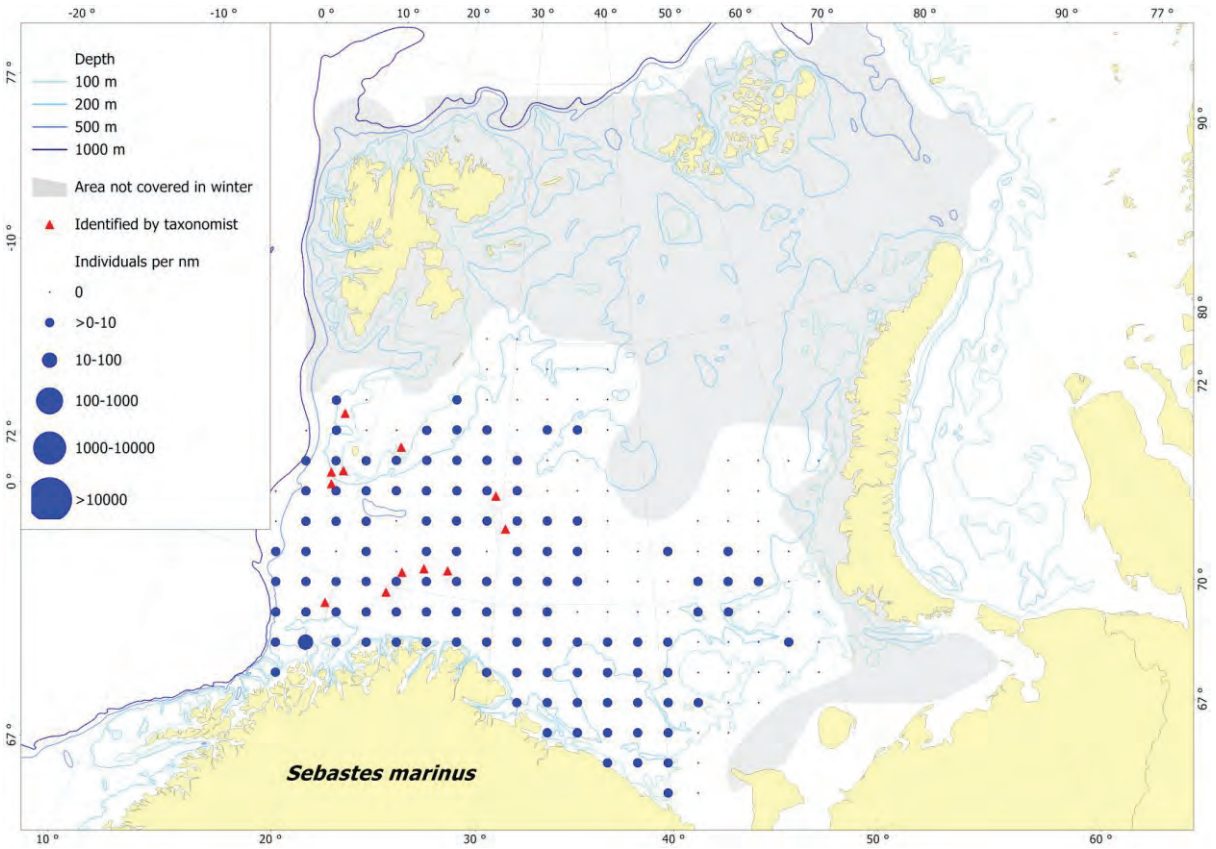
Photo: Thomas de Lange Wenneck

Note on taxonomy and identification: Valid name for this species is currently *Sebastes norvegicus* (Ascanius 1772) while *S. marinus* has been and probably still is the prevailing name used in scientific literature and management. Juvenile redfishes are difficult to identify to species, and partly pooled to *Sebastes* spp.

Spatial distribution

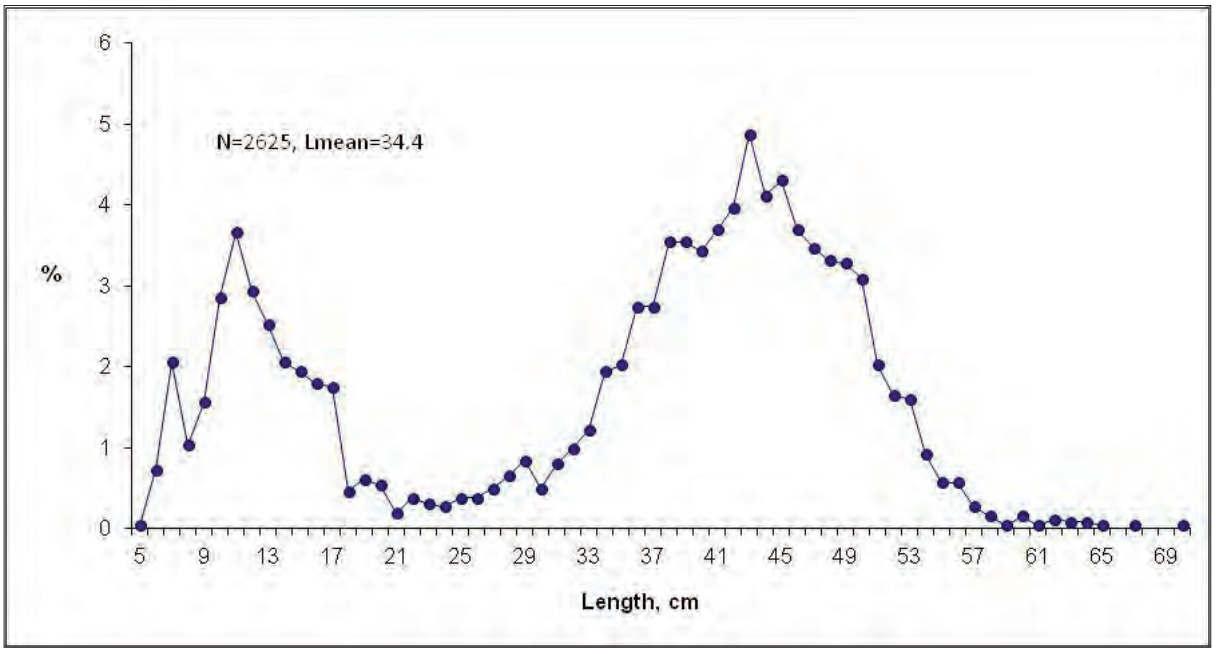
Known from the northern part of the North Sea to the Barents Sea and north of Svalbard/Spitsbergen and Novaya Zemlya, also in Norwegian fjords, off Iceland, the Faroese, Greenland and in the western North Atlantic.

Found widely distributed in the surveyed area, further east than during the ecosystem survey (see page 130 in the "Atlas of the Barents Sea Fishes").



Length composition

The overall length range was similar but the mean length was larger in winter than in autumn.



Life history

Mainly boreal, pelagic to benthopelagic at 100-500 m on the continental shelf, along the coast and in certain fjords, primarily at temperatures between 2-5 ºC. Maximum registered length 122 cm, with a weight of 19 kg, longevity over 60 years. Measures 2-10 cm after one year, 12-30 cm at the age of five and more than 40 cm and 1.5 kg at the age of 20-21 years. Half of the population reached maturity at age 11 years (30 cm). Juveniles feed on zooplankton, adult on fish and large plankton, prey for other species like cod and halibut. Ovoviviparous, insemination in February-March, in April-May a single female can release up to 360 000 larvae. The larval extrusion takes place along the continental shelf break, off the Lofoten Islands, and also north of Bear Island. Larvae are 6-8 mm long when released and drift pelagically northward and eastward into the Barents Sea. Compared with *Sebastes mentella* the larvae are more concentrated in the southern Barents Sea. Adult fishes migrate to feeding areas in the Barents Sea after releasing the larvae.

Population and exploitation

The stock has been at a low level since the early 1990s. Age cohorts in the past decade were low and number of immature fish continues to decline. As a result the species classification in the Norwegian red list was raised from ‘vulnerable’ in 2006 to ‘endangered’ in the 2010. Taken as bycatch in Russian fisheries.

References

Barsukov VV, Shestova LM, Mukhina NV. 1986. Redfish of *Sebastes* genus. In: Matishov GG (ed) Ichthyofauna and its Living Conditions in the Barents Sea. KFAN Press, Apatity. pp 48-52 (in Russian)

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Gjøsæter J, Hesthagen T, Borgstrøm R, Brabrand Å, Byrkjedal I, Christiansen JS, Nedreaas K, Pethon P, Uiblein F, Vøllestad LA, Wienerroither R. 2010. Fisker – Pisces. In: Kålås JA, Viken Å, Henriksen S. Skjelseth S. (eds) The 2010 Norwegian Red List for Species. Norwegian Biodiversity Information Centre, Norway, pp 403-412

Hureau J-C, Litvinenko NI. 1986. Scorpaenidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1211-1229

Nedreaas KH, Drevetnyak KV. 2011. Redfish. In: Jakobsen T, Ozhihin V (eds) The Barents Sea – Ecosystem, Resources and Management. Half a Century of Russian-Norwegian Cooperation. Tapir Academic Press, Trondheim

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Planque B. 2010. Vanleg uer. In: Gjøsæter H, Haug T, Hauge M, Karlsen Ø, Knutsen JA, Røttingen I, Skilbrei O, Sunnsett BH (eds) Havforskningsrapporten 2010. Fisken og havet I-2010:157 (in Norwegian)

Sebastes mentella Travin 1951

Family: Sebastidae
English name: beaked redfish
Norwegian name: snabeluer
Russian name: окунь-клювач
(okun-kluvatch)

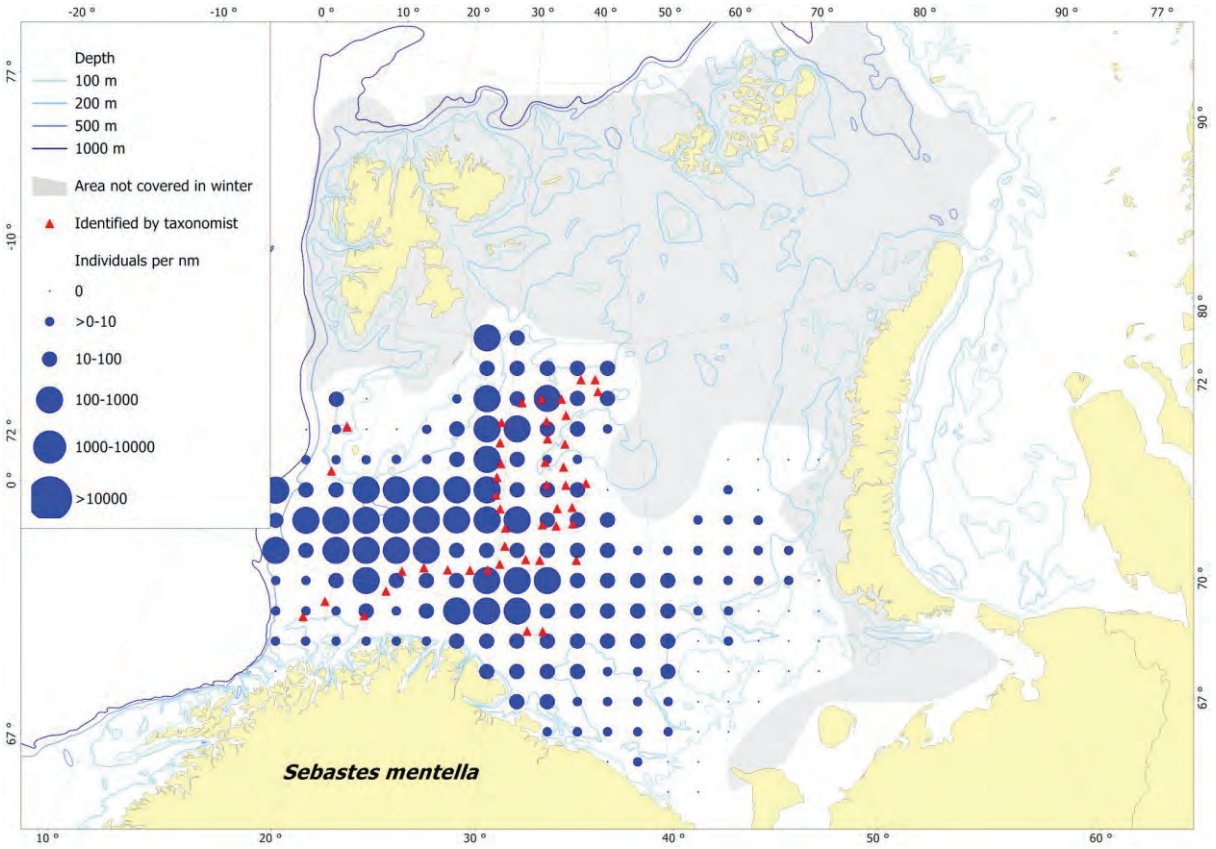
Photo: Thomas de Lange Wenneck

Note on identification: Juvenile redfish are difficult to identify to species, and partly pooled to *Sebastes* spp.

Spatial distribution

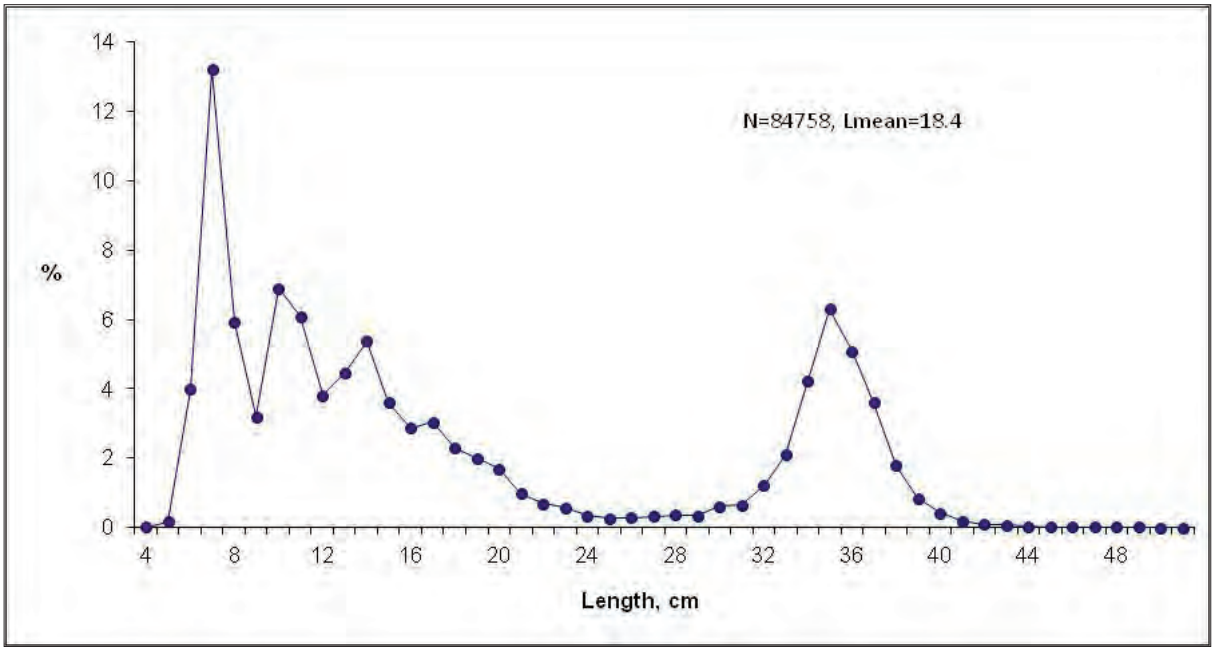
Known in the Barents Sea and the Norwegian Sea, also around the Faroe Islands, off Iceland, Greenland and in the western North Atlantic.

Found widely distributed in the surveyed area, in the same area as during the ecosystem survey (see page 133 in the “Atlas of the Barents Sea Fishes”).



Length composition

The overall length range was similar with a slightly lower mean length during the winter survey.



Life history

Mainly boreal, pelagic to benthopelagic, in the Barents Sea and along the continental slope mostly found at depths of 400-600 m and at temperatures of primarily 2-4 ºC. Adult specimens pelagic at 300-450 m during extensive food migrations into the Norwegian Sea. Can reach 47 cm, 1.3 kg, and over 70 years. At the age of 11 years, half of the individuals are sexually mature. Growth rates low, weights of fish of the same lengths as well as lengths and weights of fish of the same age vary greatly. Feeds on plankton, fish and squids, juveniles are an important food source for cod, Greenland halibut and herring. Ovoviviparous, insemination in August-November, release of up to 150 000 larvae in March-April along the continental shelf between 62° N and Bear Island. The larvae are transported by currents to the nursery areas in the eastern Barents Sea and the Svalbard/Spitsbergen shelf, where the juveniles settle. At the age of five years they migrate southward to the continental shelf and immingle with the mature population. Important feeding areas are the Norwegian Sea and the southwestern Barents Sea.

Population and exploitation

The stock has reached a historical low and recruitment to the spawning stock was extremely low after 1995. The species is listed on the Norwegian Red list 2010 as ‘vulnerable’. Since 2005, there have been signs of improved recruitment, probably resulting from effective, protective fisheries regulations. No direct fishery in Russia, but taken as bycatch.

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Sebastes viviparus Krøyer 1845

Family: Sebastidae
English name: Norway redfish
Norwegian name: lusuer
Russian name: малый окунь, окунь вивипарус (maliy okun), (okun viviparus)

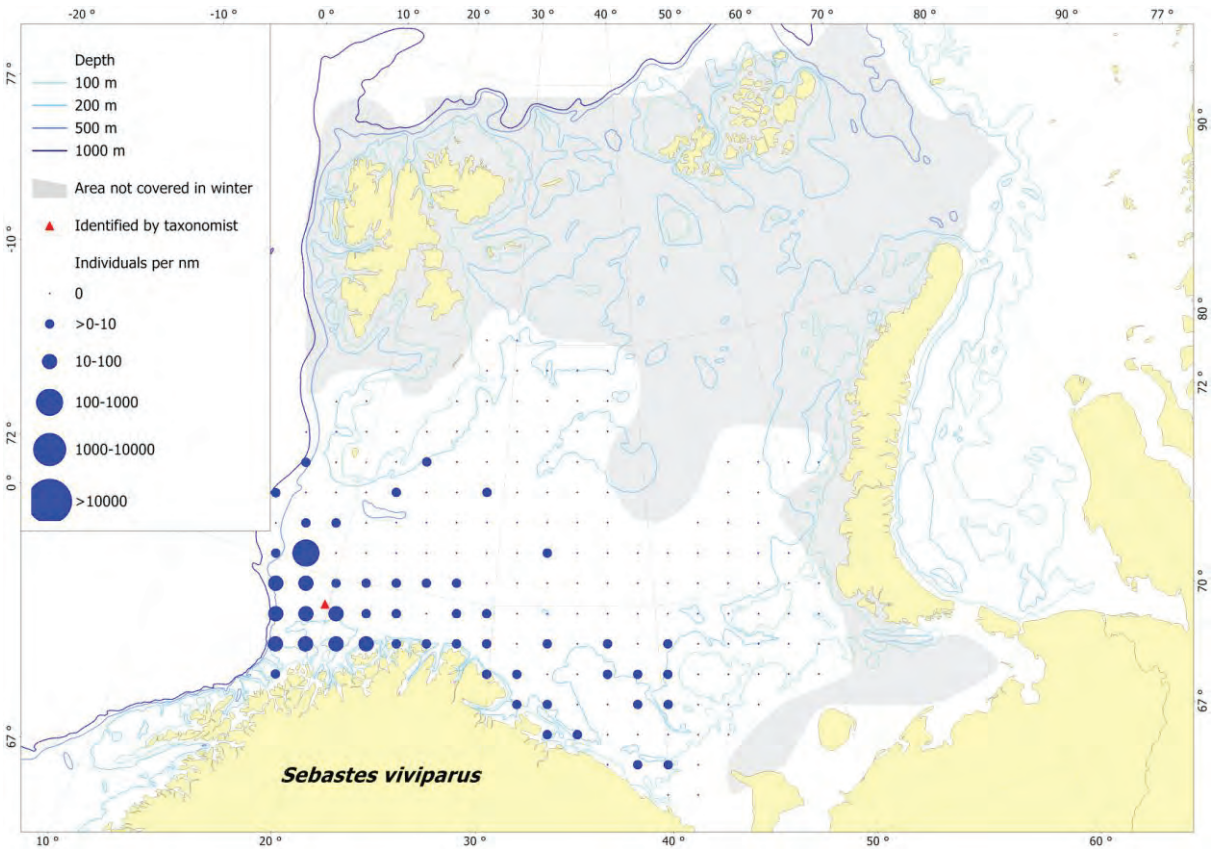
Photo: Thomas de Lange Wenneck

Note on identification: Juvenile redfish are difficult to identify to species, and mostly pooled to *Sebastes* spp.

Spatial distribution

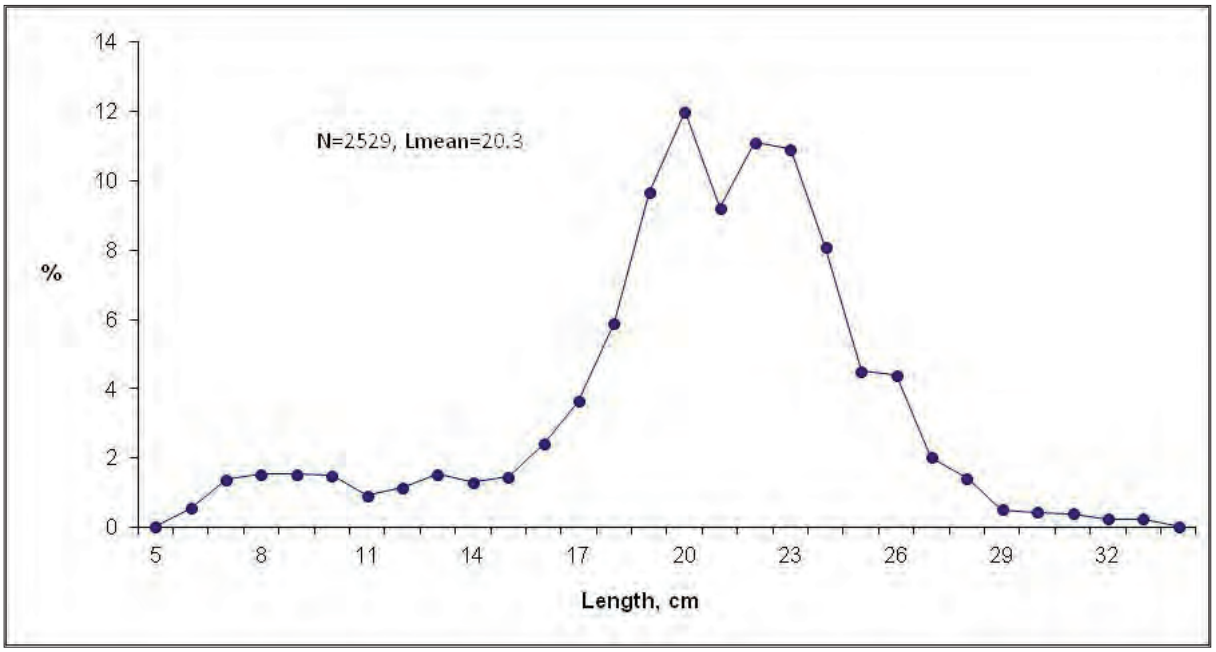
Known from Iceland, the British Isles, the northern North Sea and northwards, also off southern Greenland.

Found in the southwestern part of the surveyed area, in the same area as during the ecosystem survey, but also further east (see page 136 in the “Atlas of the Barents Sea Fishes”).



Length composition

Length distribution was similar in winter and autumn.



Life history

Boreal, demersal to benthopelagic in coastal areas, preferring rocky bottom at depths of 10-300 m. Can reach 36 cm (although rarely longer than 30 cm), 1 kg, and 40 years (but rarely older than 30). Growth rate very low, a 27 cm long fish can be 18 years old. Matures at age 10-15 years (18-20 cm). Feeds on crustaceans, clams and small fishes. Ovoviviparous, 12 000-30 000 larvae are released in coastal Norwegian areas in June-August. Larvae are 4-5 mm long when released and live pelagically until 60 mm long.

Population and exploitation

Bycatch in other fisheries and used as industrial fish, but in general of low economic importance.

References

Barsukov VV, Shestova LM, Mukhina NV. 1986. Redfish of *Sebastes* genus. In: Matishov GG (ed) Ichthyofauna and its Living Conditions in the Barents Sea. KFAN Press, Apatity. pp 48-52 (in Russian)

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Dolgov AV. 2006. New Data on the Distribution of Rare and New Fish Species in Russian Waters of the Barents Sea. Journal of Ichthyology 46:139-147

Hureau J-C, Litvinenko NI. 1986. Scorpaenidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1211-1229

Muus BJ, Nielsen JG. 1998. Våre saltvannsfisker. NKS, Oslo

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

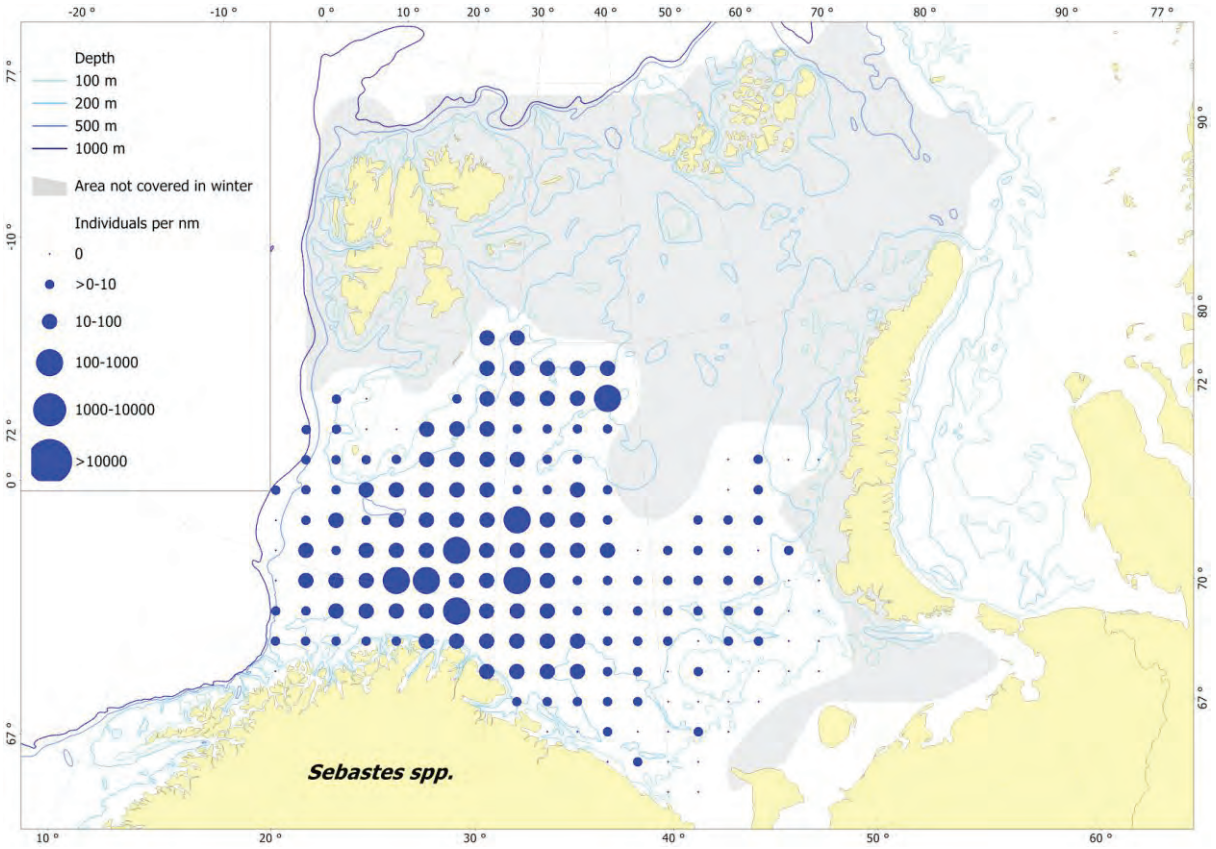
Sebastes spp.

Family: Sebastidae

Note on identification: Juvenile redfish are difficult to identify to species, and specimens smaller than 10 cm are mostly recorded as *Sebastes* spp.

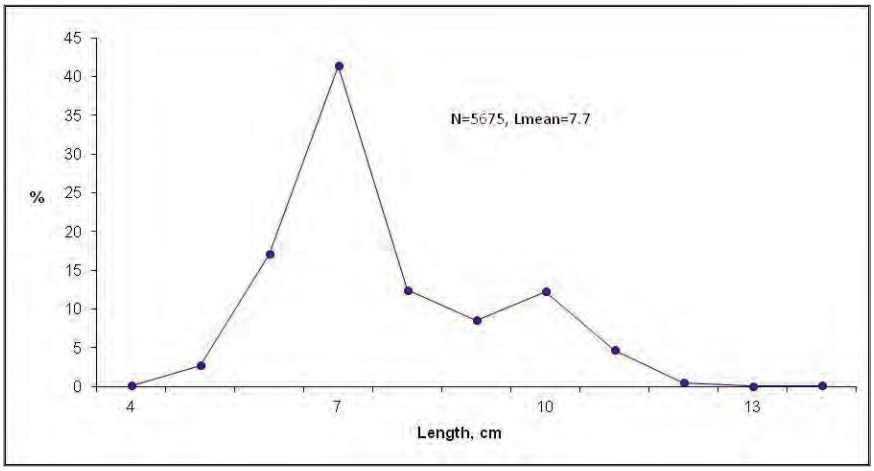
Spatial distribution

Found throughout the surveyed area, similar to the ecosystem survey (see page 138 in the "Atlas of the Barents Sea Fishes").



Length composition

The mean length was slightly lower in winter than in autumn.



Eutrigla gurnardus (Linnaeus 1758)

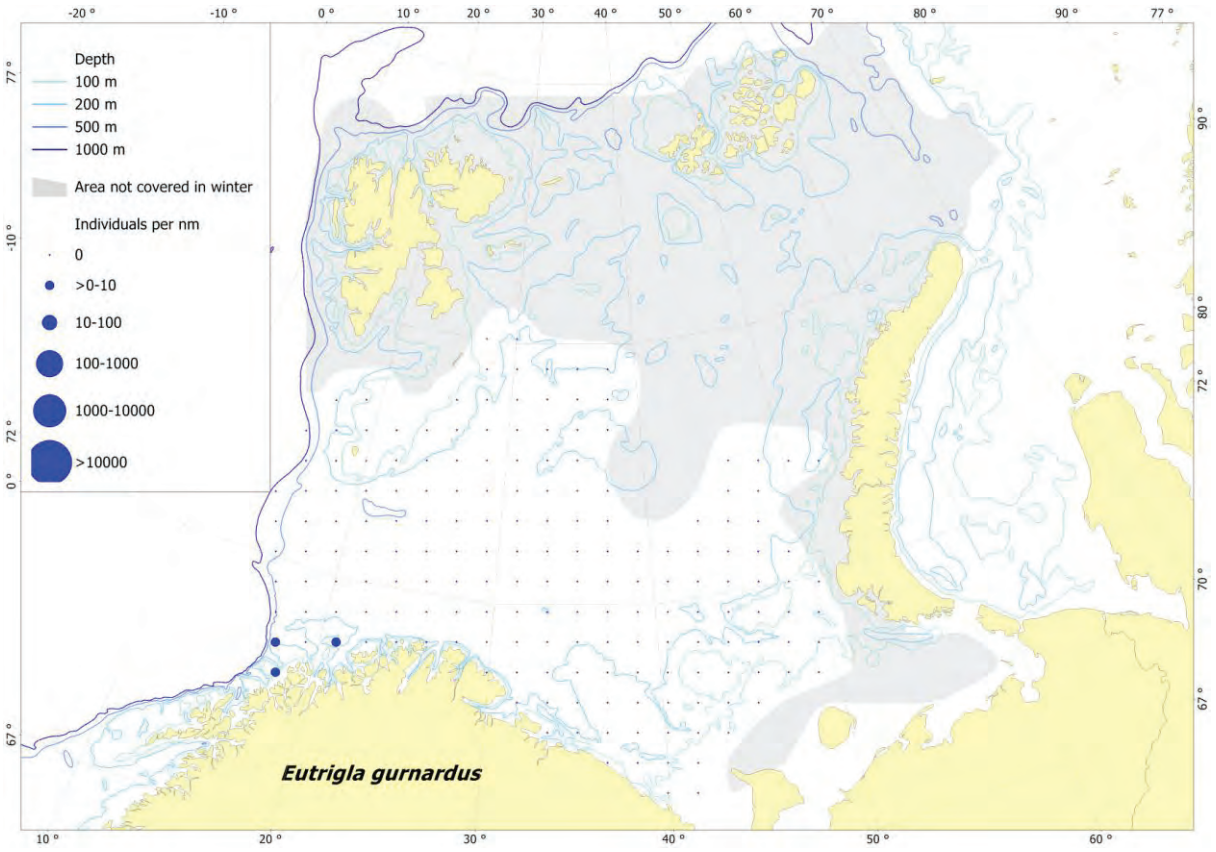
Family: Triglidae
English name: grey gurnard
Norwegian name: knurr
Russian name: серая тригла, морской петух (seraya trigla), (morskoy petukh)

Photo: Andrey Dolgov

Spatial distribution

Known in the eastern Atlantic from Morocco northward to Iceland and Norway, also in the Baltic and Mediterranean Sea.

Contrary to the ecosystem survey caught by bottom trawls and found only in the southwestern part of the surveyed area (see page 139 in the “Atlas of the Barents Sea Fishes”).



Length composition

Seven specimens (24-42 cm, mean length 35.7 cm) were caught.

Life history

Southern boreal, benthic on sandy and other bottom down to 140 m, caught near the surface during night. Can reach up to 50 cm, 1.2 kg and hardly more than 6 years. Reaches 10-15 cm

within one year, males mature 3 years old (17 cm), females 4 years old (24 cm). Feeds on crustaceans and fishes. Females spawn in April-August at the coasts of southern Norway up to 300 000 eggs (1.2-1.6 mm in diameter), 3-4 mm long larvae hatch after 5 days. Eggs and larvae pelagic until 3 cm long.

Population and exploitation

Of no economic importance in the Barents Sea.

References

Dolgov AV. 2006. New Data on the Distribution of Rare and New Fish Species in Russian Waters of the Barents Sea. Journal of Ichthyology 46:139-147

Hureau J-C. 1986. Triglidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1230-1238

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Artediellus atlanticus Jordan & Evermann 1898

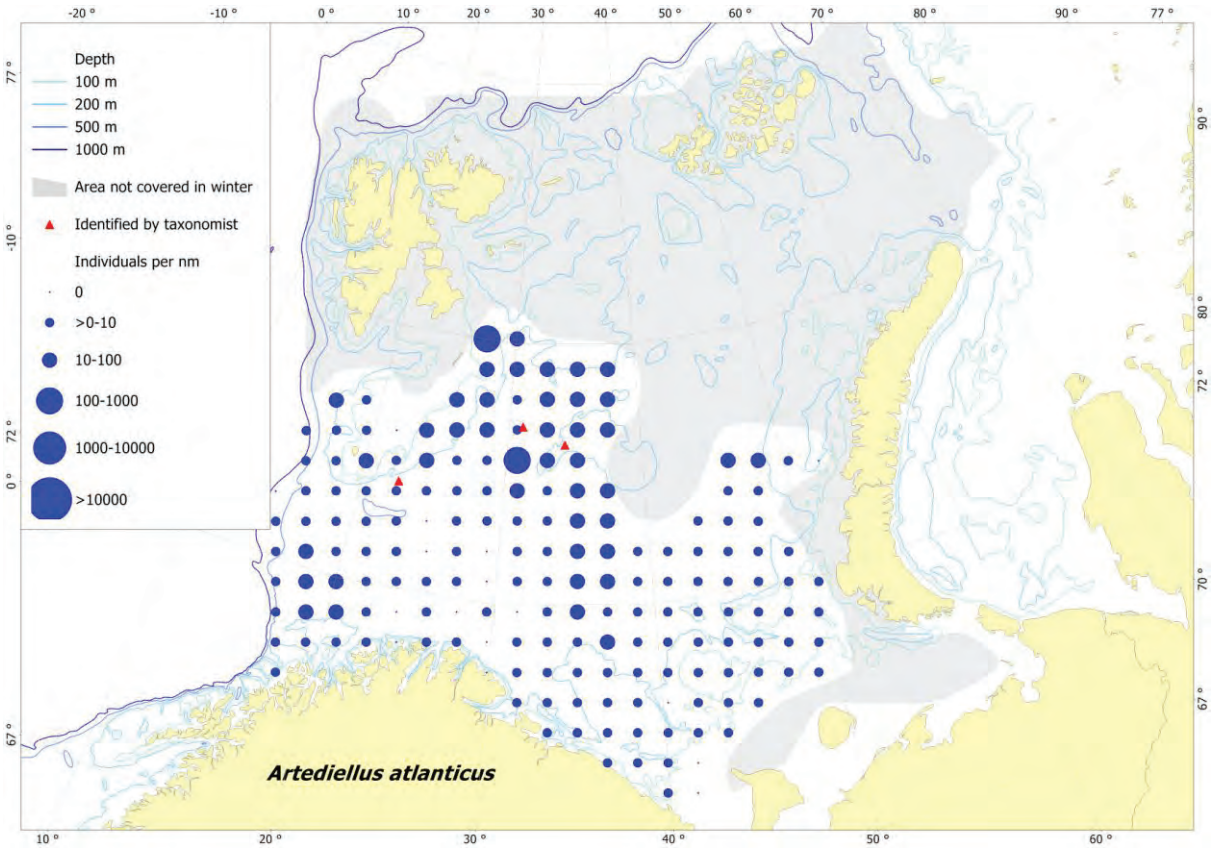
Family: Cottidae
English name: Atlantic hookear sculpin
Norwegian name: krokulke
Russian name: европейский крючкорогий бычок
(evropeyskiy kryutchkorogiy bytchyok)

Photo: Thomas de Lange Wenneck

Spatial distribution

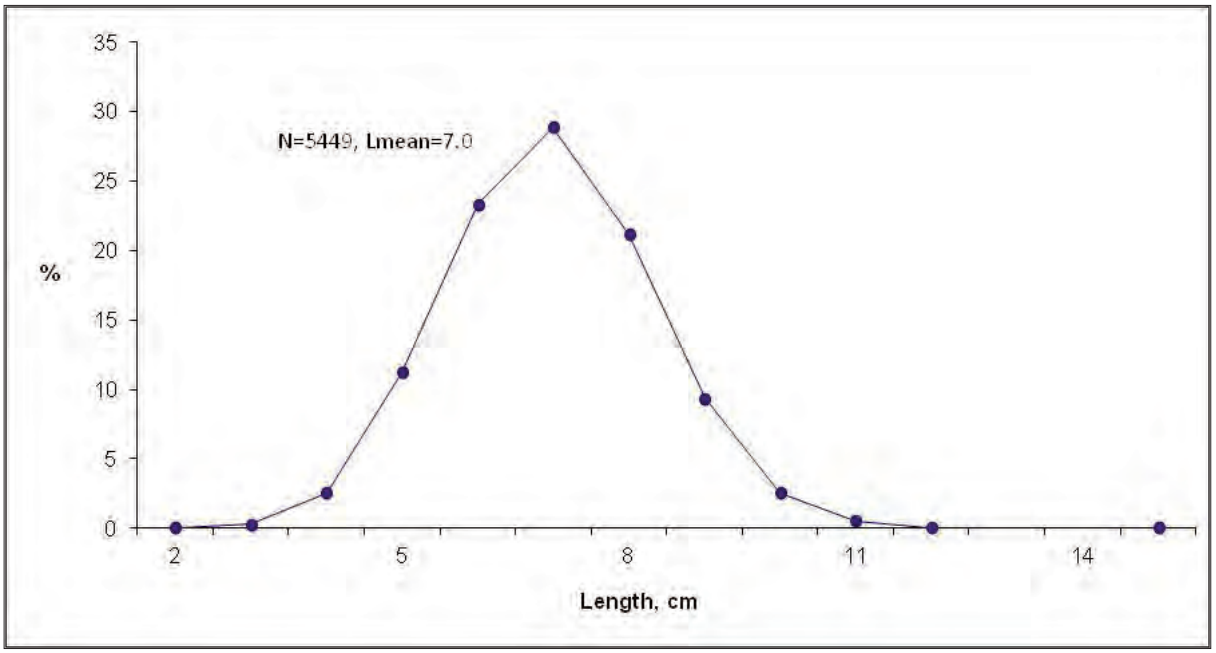
Known along the European coast from Skagerrak northward to the Barents Sea, off Iceland, Greenland and in the western North Atlantic.

Like during the ecosystem survey found throughout the whole surveyed area (see page 141 in the “Atlas of the Barents Sea Fishes”).



Length composition

Length distribution was similar in winter and autumn.



Life history

Mainly boreal, demersal on soft bottom at 35-410 m, in the Barents Sea off Svalbard/Spitsbergen also in the littoral zone. Occurs in the Barents Sea at temperatures between -1.8 and +9.4 ºC (primarily at around 1.5 ºC), and at salinities above 34 ‰. Can reach up to 16 cm (bur rarely more than 10 cm). 9.5 cm long fishes are 8 years, 13 cm long 17 years old, females mature at age 3-4 years (6.5 cm). Unlike other species in the family males grow larger than females. Feeds on burrowing polychaetes, gammarids and other benthic invertebrates. Spawning in the Barents Sea takes place in August-September, females lay 60-200 large demersal eggs. Larvae hatch after more than 200 days, are benthic and similar in appearance and behavior to adults.

Population and exploitation

Of no economic importance.

References

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

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Gymnocanthus tricuspis (Reinhardt 1830)

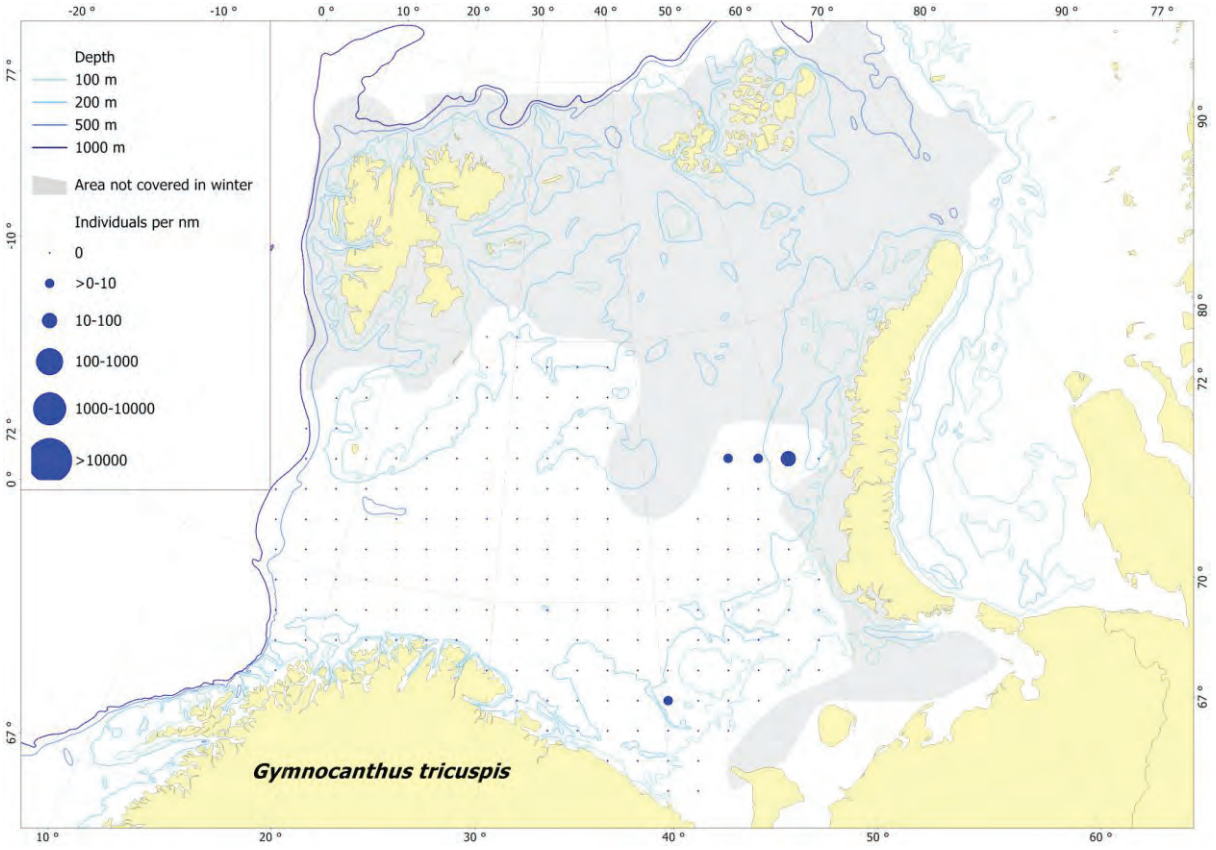
Family: Cottidae
English name: Arctic staghorn sculpin
Norwegian name: glattulke
Russian name: арктический шлемоносный бычок
(arktitcheskiy shlemonosniy bytchyok)

Photo: Thomas de Lange Wenneck

Spatial distribution

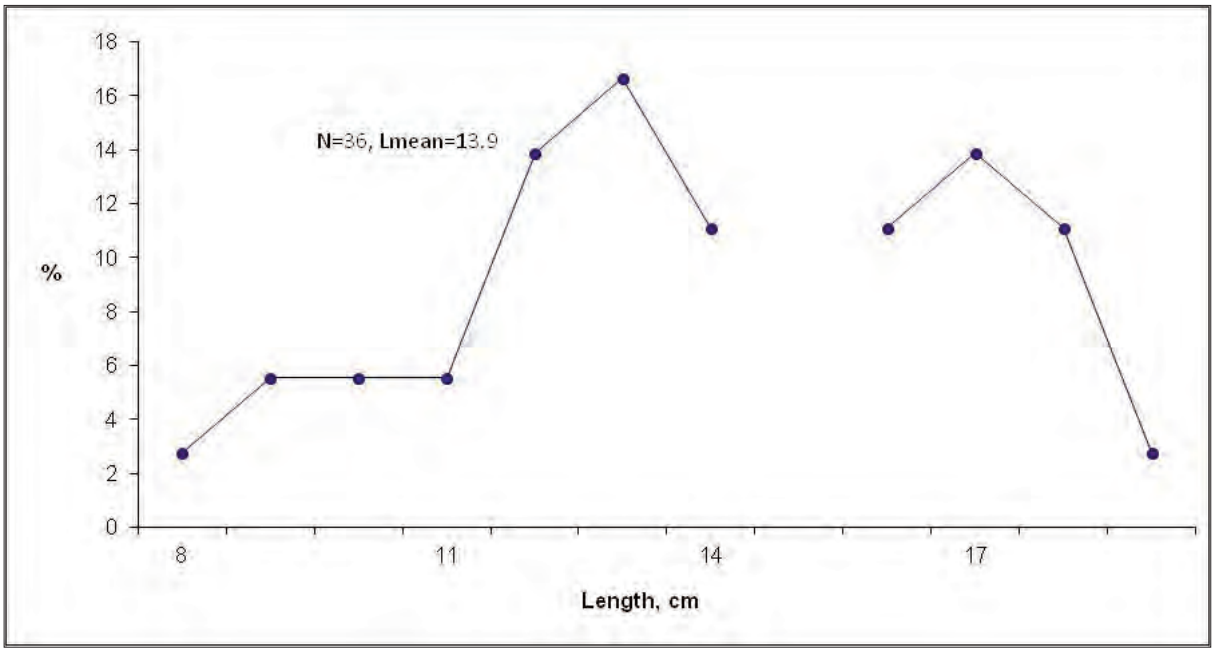
Circumpolar in the Arctic, occurs in the Barents and Kara Seas, off Iceland and Greenland and in the western North Atlantic.

Found in the same area as during the ecosystem survey, but due to reduced coverage in lower numbers (see page 145 in “Atlas of the Barents Sea Fishes”).



Length composition

Length distribution was similar compared to autumn, but far less specimens were caught.



Life history

Mainly arctic, demersal, living partly buried in sand or gravel and in the kelp belt. Most common at 10-35 m, occasionally deeper. Prefers temperatures below 0 ºC, but tolerates wide range. Can reach 30 cm (usually 11-20 cm and not more than 25 cm in the Barents Sea). At age 2 years specimens are 7-8 cm long, afterwards females grow faster than males. Matures in the fourth summer (14 and 11 cm). Feeds on benthic and burrowing polychaetes and crustaceans. Spawning takes place in autumn, females lay 2 000-4 500 eggs (1 mm in diameter), larvae are pelagic until 20-30 mm long.

Population and exploitation

Of no economic importance.

References

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

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Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Icelus spp.

Family: Cottidae
English name: twohorn sculpin, spatulate sculpin
Norwegian name: tornulke, spateltornulke
Russian name: ицел, двурогий бычок (itsel), (dvurogiy bytchyok)

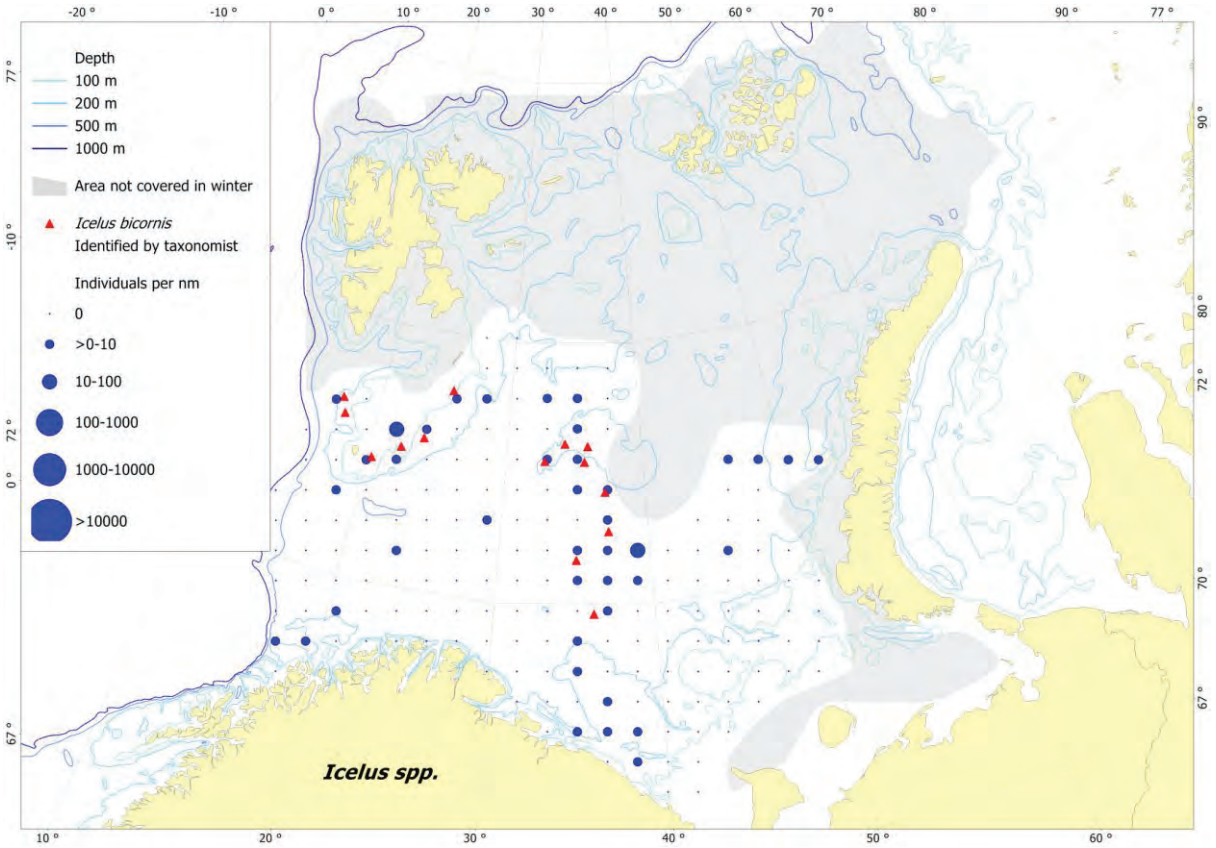
Photo: Andrey Dolgov

Note on identification: Two species occur in the Barents Sea: *Icelus bicornis* (Reinhardt 1840) and *Icelus spatula* Gilbert & Burke 1912. The species differ in the structure and distribution of the scales along the lateral line and the shape of the male urogenital papilla. Apart from some verified specimens the distribution data are presented for the genus only.

Spatial distribution

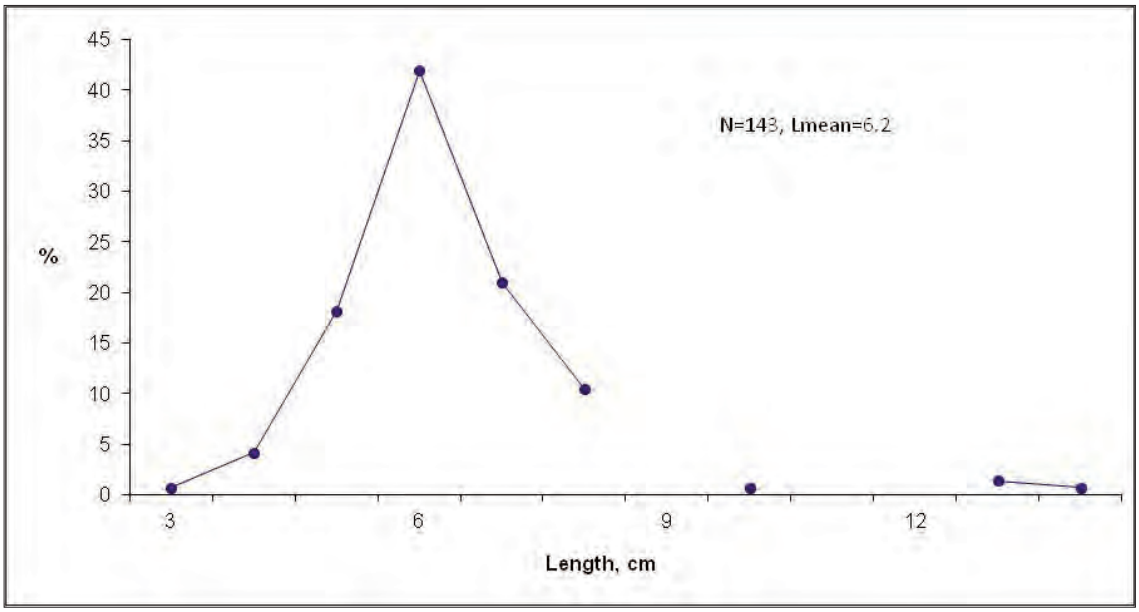
Icelus bicornis is known off the coasts of eastern Greenland, Iceland, Jan Mayen, and Norway. It is widely distributed in the Barents Sea, the White Sea and eastward to the Canadian Arctic; also known in the western North Atlantic. *Icelus spatula* occurs in the southeastern Barents Sea, the Kara Sea and eastward to the Canadian Arctic and western Greenland, also known in the western North Atlantic.

Found in large parts of the surveyed area, in the same area as during the ecosystem survey, but also closer to the mainland coast (see page 147 in “Atlas of the Barents Sea Fishes”).



Length composition

Length distribution was similar in winter and autumn.



Life history

Icelus bicornis: mainly arctic, demersal on muddy, sandy or rocky bottoms at depths of 40-180 m (occasionally shallower or deeper). Reaches up to 15.7 cm (commonly 8-9 cm), females grow larger than males and a fish of 5.7 cm length is at most 5 years old. Feeds on benthic polychaetes and crustaceans. Internal fertilization, females spawn 150-1 300 demersal eggs (more than 3 mm in diameter) in August-October, juveniles are found in the coastal kelp belt.

Icelus spatula: arcto-boreal, demersal on sand or sandy-mud bottom with stones at depths of 30-70 m (occasionally shallower or deeper). Can reach up to 11.8 cm (commonly 6-9 cm). Feeds on large bottom invertebrates (crustaceans, polychaetes, mollusks). Internal fertilization, females spawn 1 000-1 500 demersal eggs (1.4 mm in diameter) in August-September.

Population and exploitation

Of no economic importance.

References

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Dolgov AV. 1994. Some aspects of biology of non-target fish species in the Barents Sea. ICES C.M. 1994/O:12. 23 pp

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Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Myoxocephalus scorpius (Linnaeus 1758)

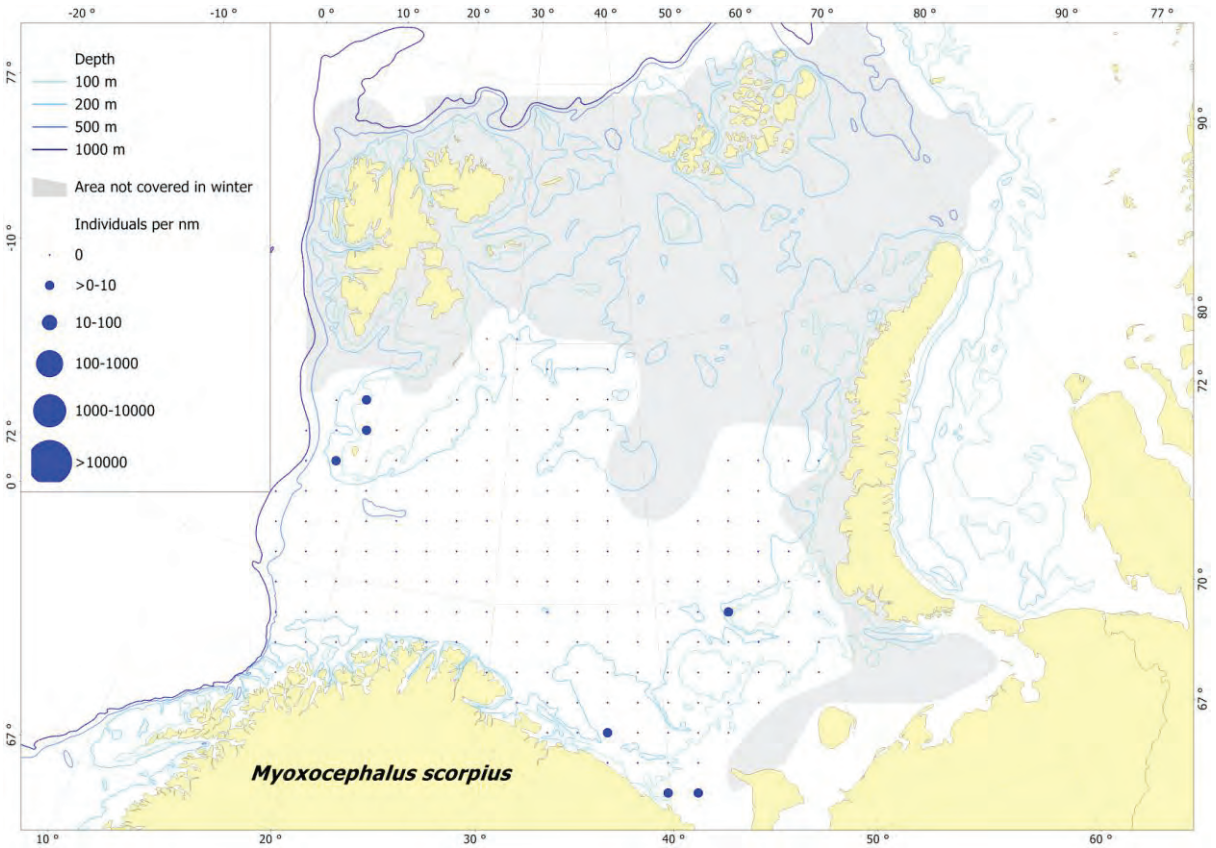
Family: Cottidae
English name: shorthorn sculpin
Norwegian name: vanlig ulke
Russian name: европейский керчак
(evropeyskiy kertchak)

Photo: Andrey Dolgov

Spatial distribution

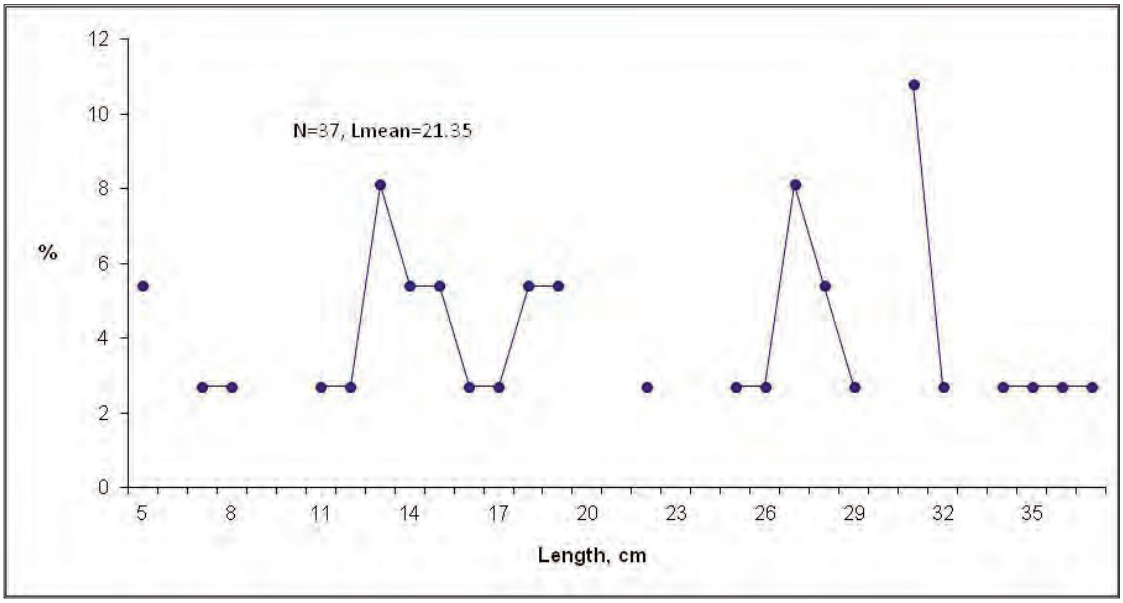
Known from the Bay of Biscay to the Svalbard/Spitsbergen archipelago, the Kara Sea and the Arctic Ocean, off Iceland, Greenland, and in the western North Atlantic.

Found in the northwestern and southeastern part of the surveyed area, in the same area as during the ecosystem survey (see page 149 in “Atlas of the Barents Sea Fishes”).



Length composition

The overall size range was similar, but the mean length is larger in specimen caught during winter, but fewer specimens were caught during winter.



Life history

Mainly boreal, demersal on all types of bottom, often among seaweed, most common at 0-25 m, in the Barents Sea at 40-300 m, prefers temperatures above 1 ºC. Can reach 60 cm and 1.1 kg in arctic waters, but less in the Barents Sea (29.5 cm, 7 years) and in the southern part of its distribution area. Matures at age 3-4 years (males 15-17 cm, females 20-21 cm). Feeds on large demersal crustaceans (crab, shrimp) and fish. Spawning takes place in December - March, egg clumps with up to 2 700 eggs (2-2.5 mm in diameter) are laid between rocks and algae and guarded by the males, total fecundity up to 12 000 eggs. 6-8 mm long larvae hatch after 4-12 weeks and live pelagically some months until 2 cm long. Stationary, forming local stocks.

Population and exploitation

Of no economic importance.

References

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Dolgov AV. 1994. Some aspects of biology of non-target fish species in the Barents Sea. ICES C.M. 1994/O:12. 23 pp

Fedorov VV. 1986. Cottidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1243-1260

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Triglops murrayi Günther 1888

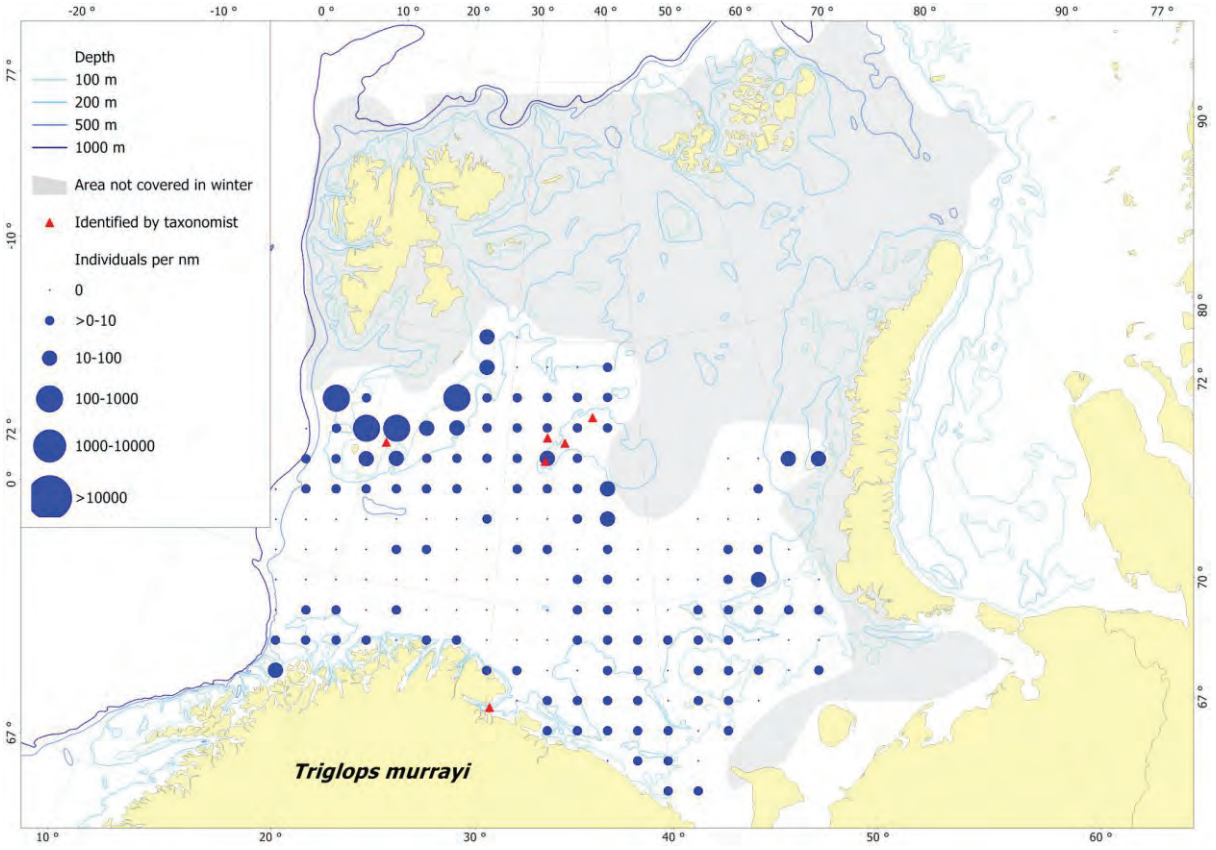
Family: Cottidae
English name: moustache sculpin
Norwegian name: nordlig knurrulke
Russian name: атлантический триглопс
(atlantitcheskiy triglops)

Photo: Thomas de Lange Wenneck

Spatial distribution

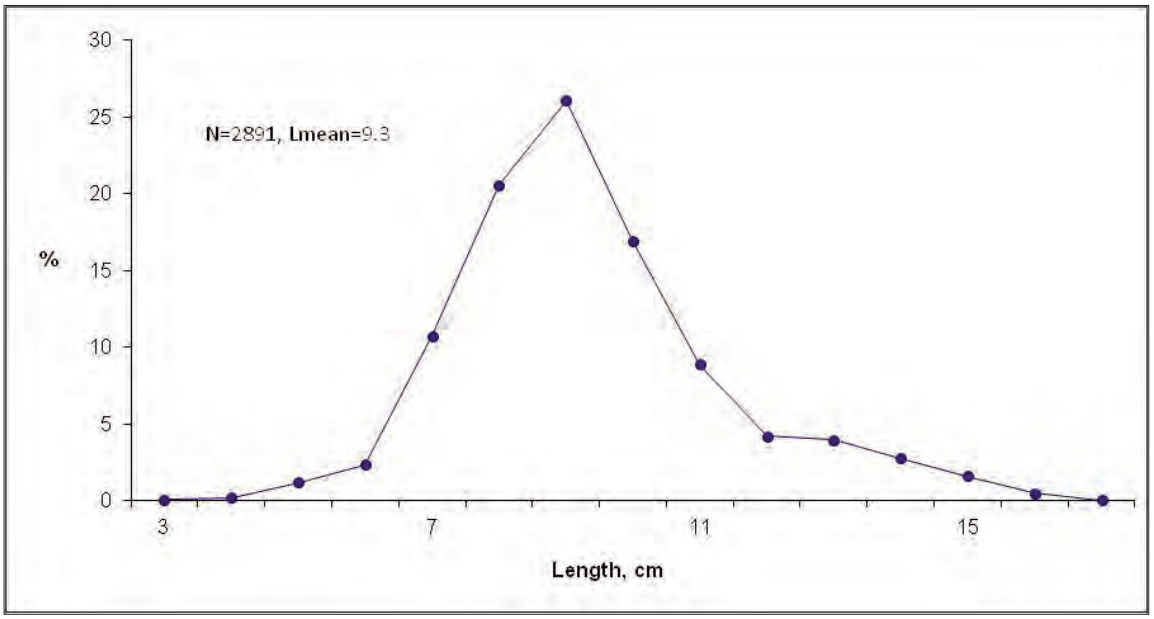
Known north of the British Isles and northward to the Barents Sea and the White Sea as well as to Iceland and Greenland, also in the western North Atlantic.

Widely distributed in the surveyed area, found in the same area as during the ecosystem survey (see page 151 in “Atlas of the Barents Sea Fishes”).



Length composition

Length distribution was similar in winter and autumn.



Life history

Boreal, demersal on sandy bottom at 50-250 m, rarely down to 300 m, and in the White Sea as shallow as 7 m. Prefers low temperatures (below 2-3 ºC), but tolerates a wide range. Can reach 20 cm (commonly 8-14 cm) and 10 years. Females grow larger than males, matures at age 2-5 years. Feeds on fish, polychaetes and small crustaceans. Spawning takes place in late autumn/winter, females lay 100-450 demersal eggs (1.5-2.0 mm in diameter). Pelagic juveniles (7-15 mm) have been found in the coastal area of the Barents Sea in April-June.

Population and exploitation

Of no economic importance.

References

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

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Fedorov VV. 1986. Cottidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1243-1260

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Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

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Triglops nybelini Jensen 1944

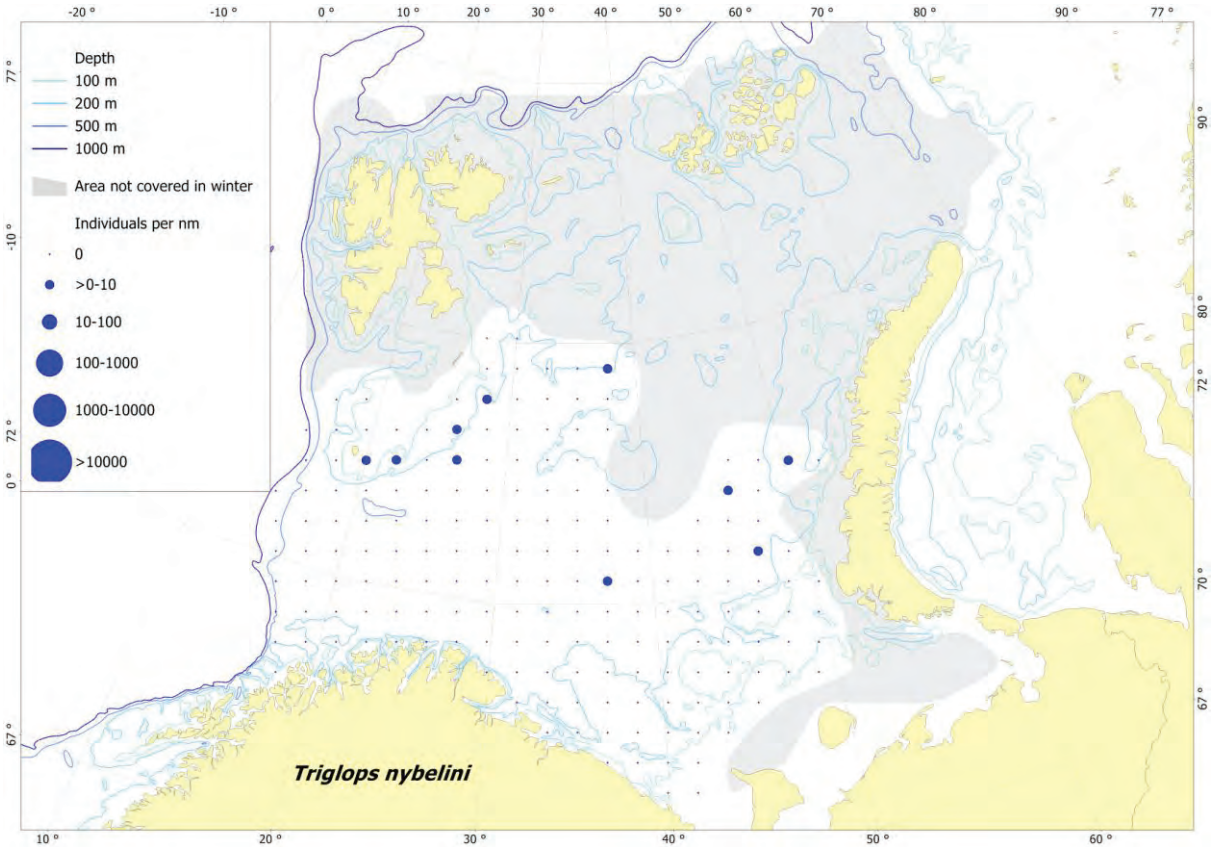
Family: Cottidae
English name: bigeye sculpin
Norwegian name: grønlandsknurrulke
Russian name: полярный триглопс
(polyarniy triglops)

Photo: Thomas de Lange Wenneck

Spatial distribution

Nearly circumpolar in the Arctic and off Greenland and Jan Mayen, absent in the North Pacific.

Scattered observations in the northern part of the surveyed area, found in the same area as during the ecosystem survey (see page 153 in “Atlas of the Barents Sea Fishes”), but the main distribution area in the northern Barents Sea is not covered in winter.



Length composition

14 specimens (6-12 cm, mean length 9 cm) were caught, far less specimens than during the ecosystem survey.

Life history

Arctic, demersal on muddy bottom at 200-600 m, occasionally shallower or deeper. Prefers temperatures below 0 ºC and salinities above 34 ‰. Can reach 17 cm (commonly 7-11 cm), females grow larger than males. Matures at age 3-4 years, at most 7 years old when 14 cm long. Feeds on planktonic crustaceans (hyperiids, euphausiids) and fish. Spawning takes place in late summer/early autumn, females lay about 600-1 000 demersal eggs (3 mm in diameter).

Population and exploitation

Of no economic importance.

References

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

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Neyelov AV, Chernova NV. 2005. Results of fish investigations of the Spitsbergen shelf and continental slope waters during the cruise of RV "Polarstern" ARK VIII/2 1991 ('EPOS II'='SEAS'. In: Kotlyakov VM (ed) Arctic and Antarctic, 4(38). Moscow, Nauka Publishing. pp 130-170 (in Russian)

Pietsch TW. 1993. Systematics and distribution of cottid fishes of the genus *Triglops* Reinhardt (Teleostei: Scorpaeniformes). Zoological Journal of the Linnean Society 109:335-393

Triglops pingelii Reinhardt 1837

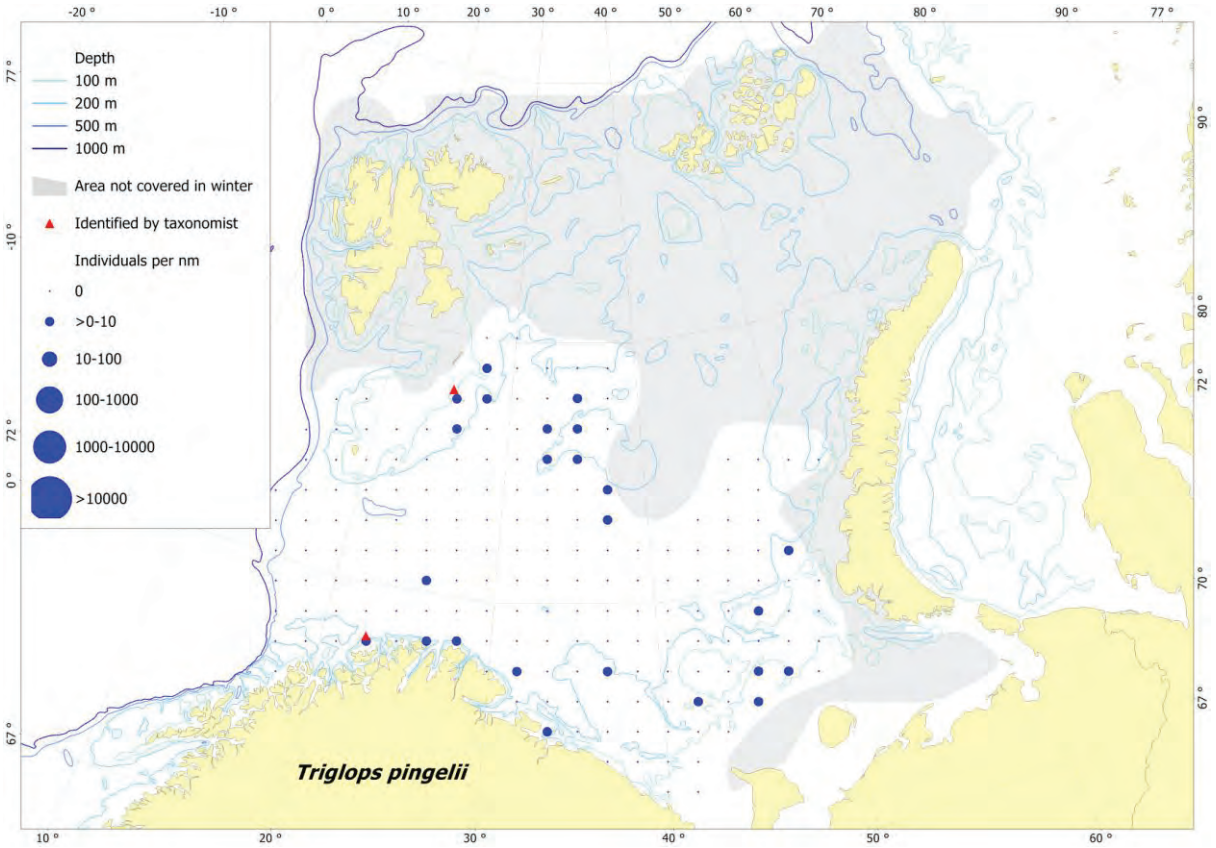
Family: Cottidae
English name: ribbed sculpin
Norwegian name: arktisk knurrulke
Russian name: остроносый триглопс (ostronosiy triglops)

Photo: Andrey Dolgov

Spatial distribution

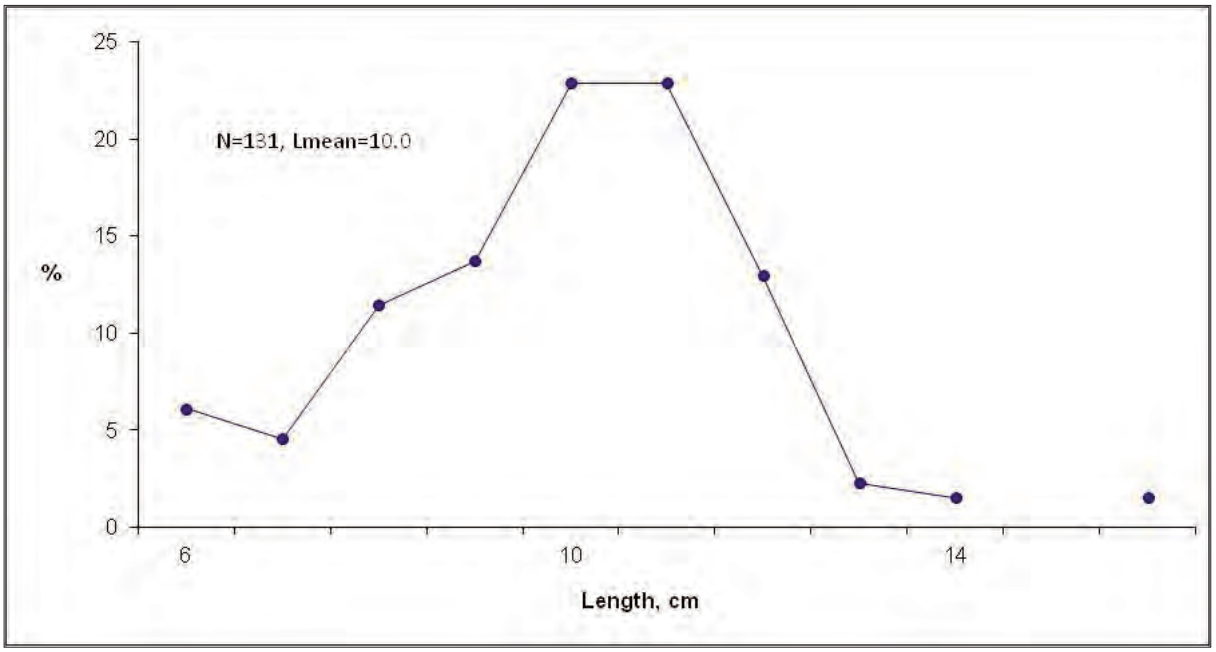
Widely distributed from the coastal waters of the Arctic, as well as the North Pacific and North Atlantic, including the Barents Sea and off Greenland.

Scattered observations in the northern, eastern and southern parts of the surveyed area. Found further south than during the ecosystem survey (see page 155 in “Atlas of the Barents Sea Fishes”).



Length composition

Length range and mean length were slightly smaller in winter than in autumn.



Life history

Arcto-boreal, demersal on different bottom types, also in brackish waters, at depths of 5-190 m, most common in 10-100 m, prefers temperatures below 0 ºC. Can reach 20 cm (females), 14.5 cm (males), and 9 years. Matures at age 3-5 years (7-9 cm). Feeds mainly on crustaceans (hyperiids, gammarids, shrimp) and fish. Spawning takes place in late autumn, 300-450 demersal eggs (3 mm in diameter) are laid.

Population and exploitation

Of no economic importance.

References

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Dolgov AV. 1994. Some aspects of biology of non-target fish species in the Barents Sea. ICES C.M. 1994/O:12. 23 pp

Dolgov AV. 2004. Non-target fishes. In: Shevelev MS (ed) Investigations by PINRO in the Spitsbergen archipelago area. Murmansk, PINRO Press pp 230-265 (in Russian)

Fedorov VV. 1986. Cottidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1243-1260

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Pietsch TW. 1993. Systematics and distribution of cottid fishes of the genus *Triglops* Reinhardt (Teleostei: Scorpaeniformes). Zoological Journal of the Linnean Society 109:335-393

Cottunculus microps Collett 1875

Family: Psychrolutidae
English name: Polar sculpin
Norwegian name: paddeulke
Russian name: малоглазый коттункул (maloglaziy kottunkul)

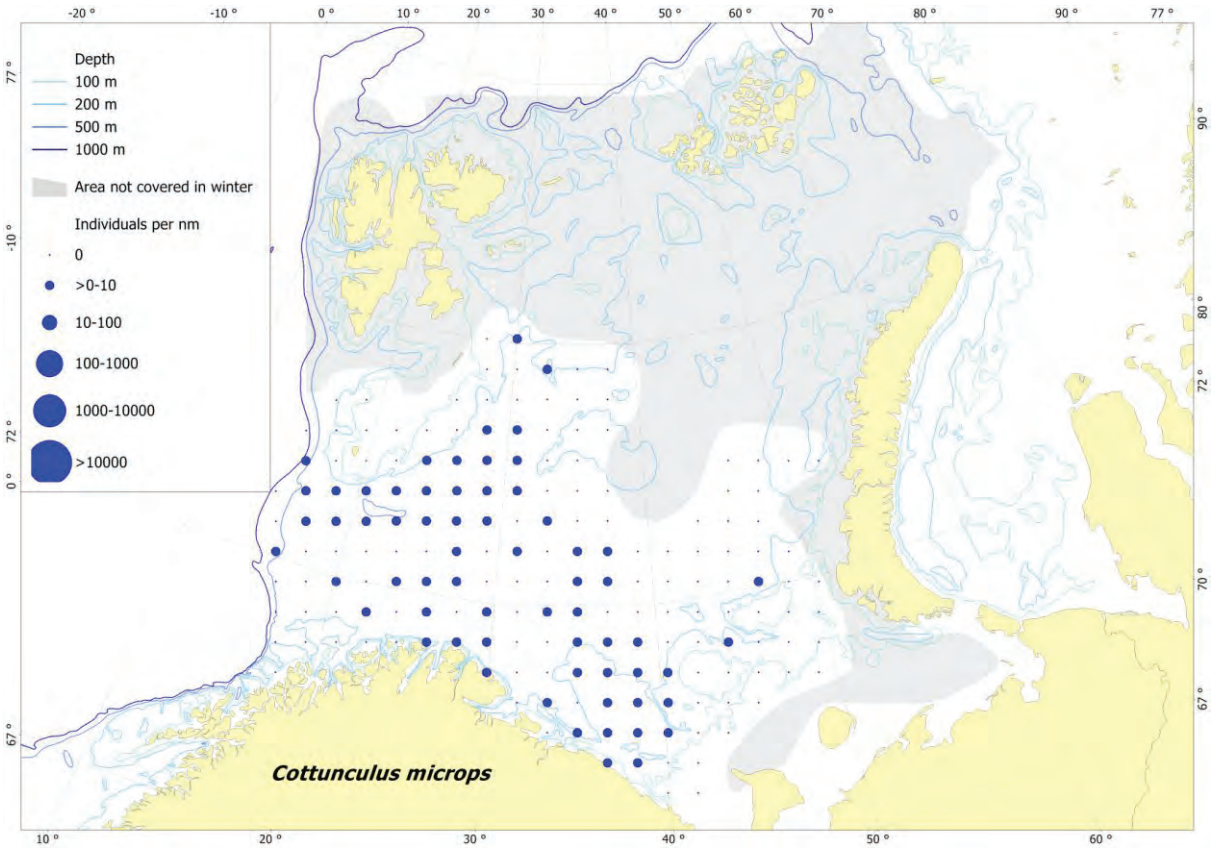
Photo: Andrey Dolgov

Note on taxonomy: Based on taxonomic revision in progress *Cottunculus sadko* Essipov 1937 is treated as a synonym of *C. microps*. Specimens originally identified as *C. sadko* are included here.

Spatial distribution

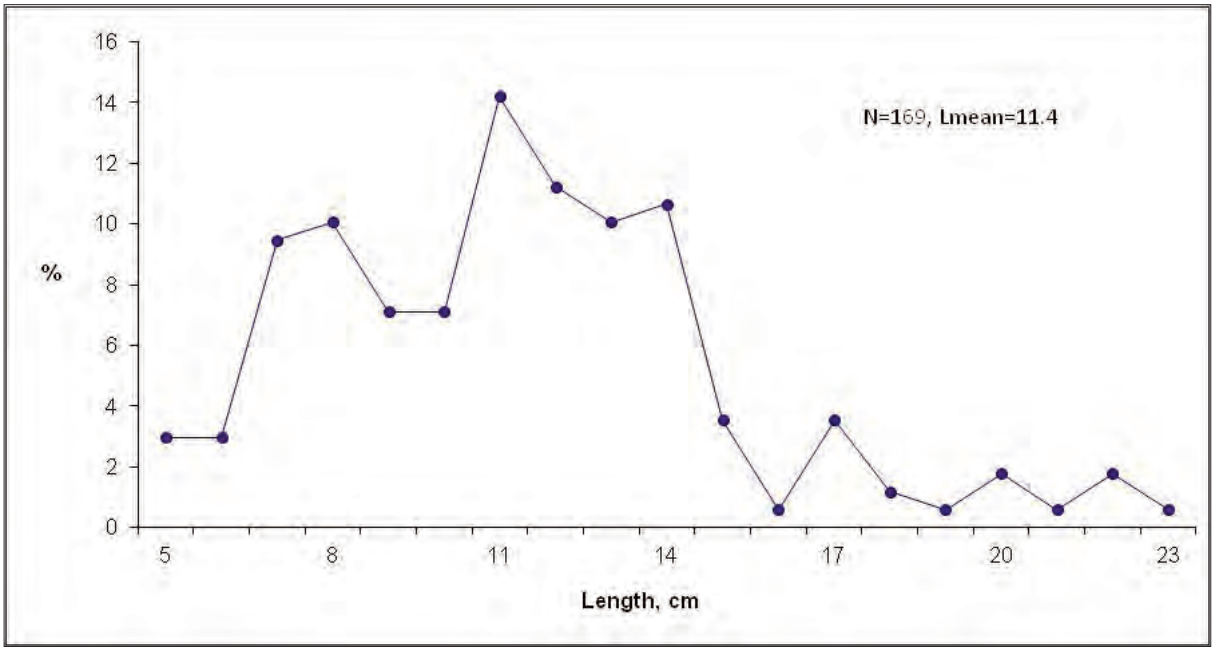
Known from the British Isles northward to the Barents Sea and to Iceland and Greenland, also known in the western North Atlantic.

Found in large parts of the surveyed area, in the same area as during ecosystem survey (see page 157 in “Atlas of the Barents Sea Fishes”), but also further east.



Length composition

Length distribution in winter and autumn was similar, but specimens larger than 23 cm (up to 30 cm) were only caught in autumn.



Life history

Mainly arctic, demersal on soft bottom at 170-400 m, occasionally down to 1 000 m (especially in the southern parts of its distribution area), prefers temperatures above 0 ºC and high salinity (34.5-35 ‰). Can reach up to 33 cm (commonly 6-16 cm), 0.7 kg, and 8-10 years. Males grow larger than females. Feeds on benthic invertebrates (pantopods, gammarids, polychaetes, mollusks etc.). Spawning takes place in summer-autumn, females lay 125-435 eggs (3-5 mm in diameter).

Population and exploitation

Of no economic importance, bycatch in fisheries.

References

Bjelland O, Bergstad OA, Skjæraasen JE, Meland K. 2000. Trophic ecology of deep-water fishes associated with the continental slope of the eastern Norwegian Sea. Sarsia 85:101-117

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Dolgov AV. 1994. Some aspects of biology of non-target fish species in the Barents Sea. ICES C.M. 1994/O:12. 23 pp

Dolgov AV. 2004. Non-target fishes. In: Shevelev MS (ed) Investigations by PINRO in the Spitsbergen archipelago area. Murmansk, PINRO Press pp 230-265 (in Russian)

Dolgov AV. 2006. New Data on the Distribution of Rare and New Fish Species in Russian Waters of the Barents Sea. Journal of Ichthyology 46:139-147

Fedorov VV, Nelson JF. 1986. Psychrolutidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1261-1264

Muus BJ, Nielsen JG. 1998. Våre saltvannsfisker. NKS, Oslo

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Aspidophoroides olrikii Lütken 1877

Family: Agonidae
English name: Arctic alligatorfish
Norwegian name: arktisk panserulke
Russian name: ледовитоморская лисичка
(ledovitomorskaya lisitchka)

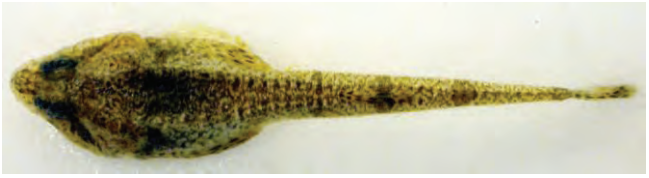


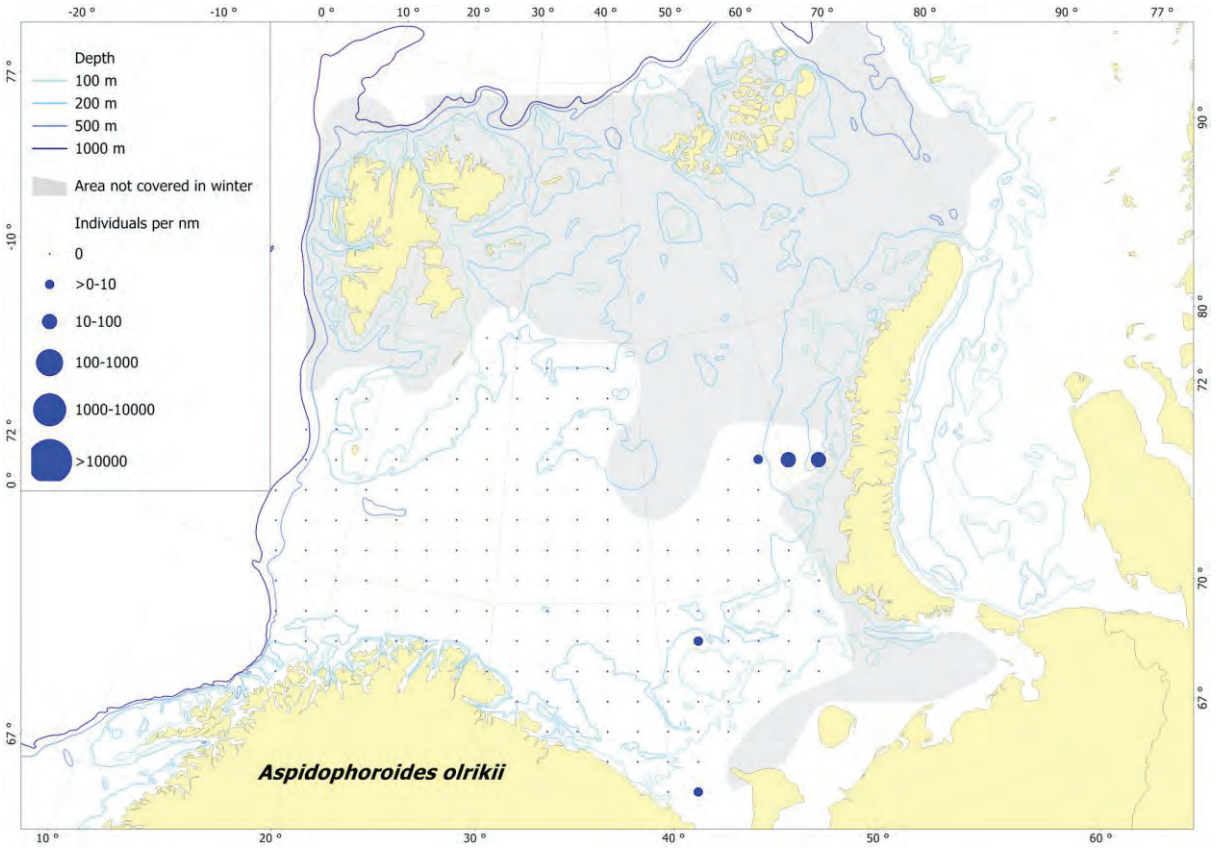
Photo: University Museum of Bergen

Note on taxonomy: Previously valid as *Ulcina olrikii* (Lütken 1877), but results of DNA barcoding do not support the validity of the genus *Ulcina*.

Spatial distribution

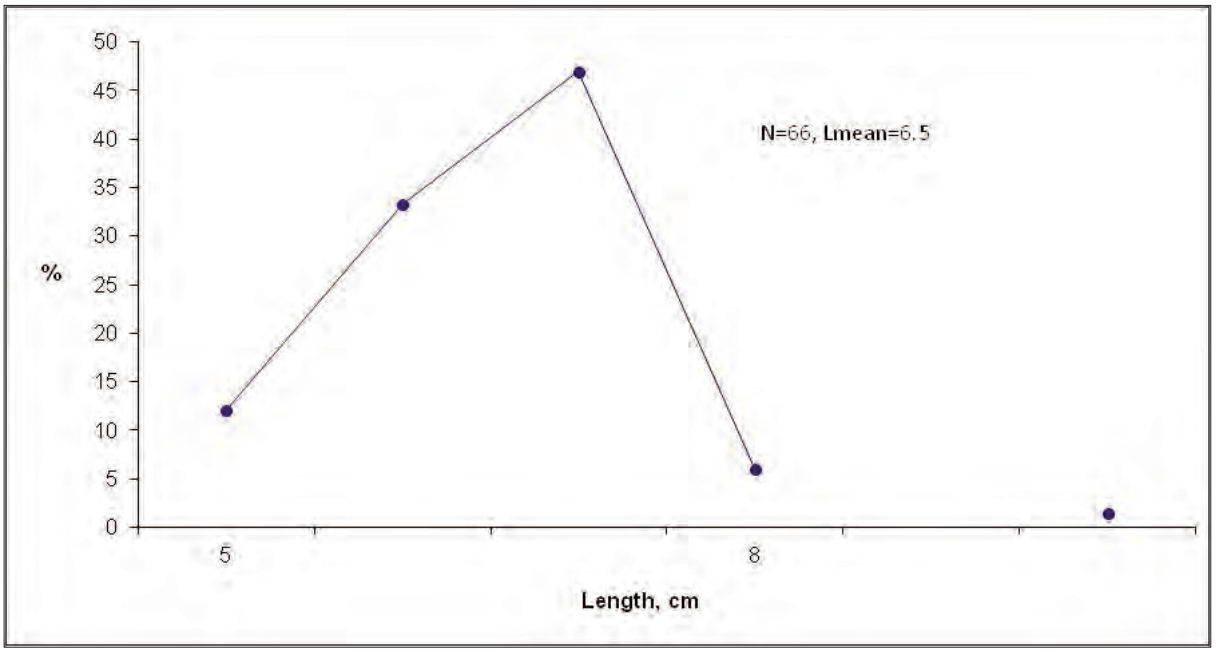
Almost circumpolar, known in the Barents, Kara and White Seas, off western Greenland.

Found in the eastern part of the surveyed area, in the same area as during the ecosystem survey (see page 161 in the "Atlas of the Barents Sea Fishes").



Length composition

Length distribution was similar in winter and autumn.



Life history

Arctic, demersal, on muddy or sandy bottoms, most common at 20-100 m (occasionally found deeper in the Barents and Kara Sea), prefers temperatures around 0 ºC and 33-35 ‰ salinity. Can reach 8.6 cm (commonly less than 7 cm). Feeds on small benthic crustaceans and other invertebrates. Females spawn 110-250 demersal eggs.

Population and exploitation

Of no economic importance.

References

Andriashev AP. 1986. Agonidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1265-1268

Kanayama T. 1991. Taxonomy and phylogeny of the family Agonidae (Pisces: Scorpaeniformes). Memoirs of the Faculty of Fisheries Hokkaido University 38:1-199

Mecklenburg CW, Møller PR, Steinke D. 2011. Biodiversity of arctic marine fishes: taxonomy and zoogeography. Marine Biodiversity 41:109-140

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Sheiko BA, Mecklenburg CW. 2004. Family Agonidae Swainson 1839 – poachers. California Academy of Sciences, Annotated Checklists of Fishes 30, 27 pp

Leptagonus decagonus (Bloch & Schneider 1801)

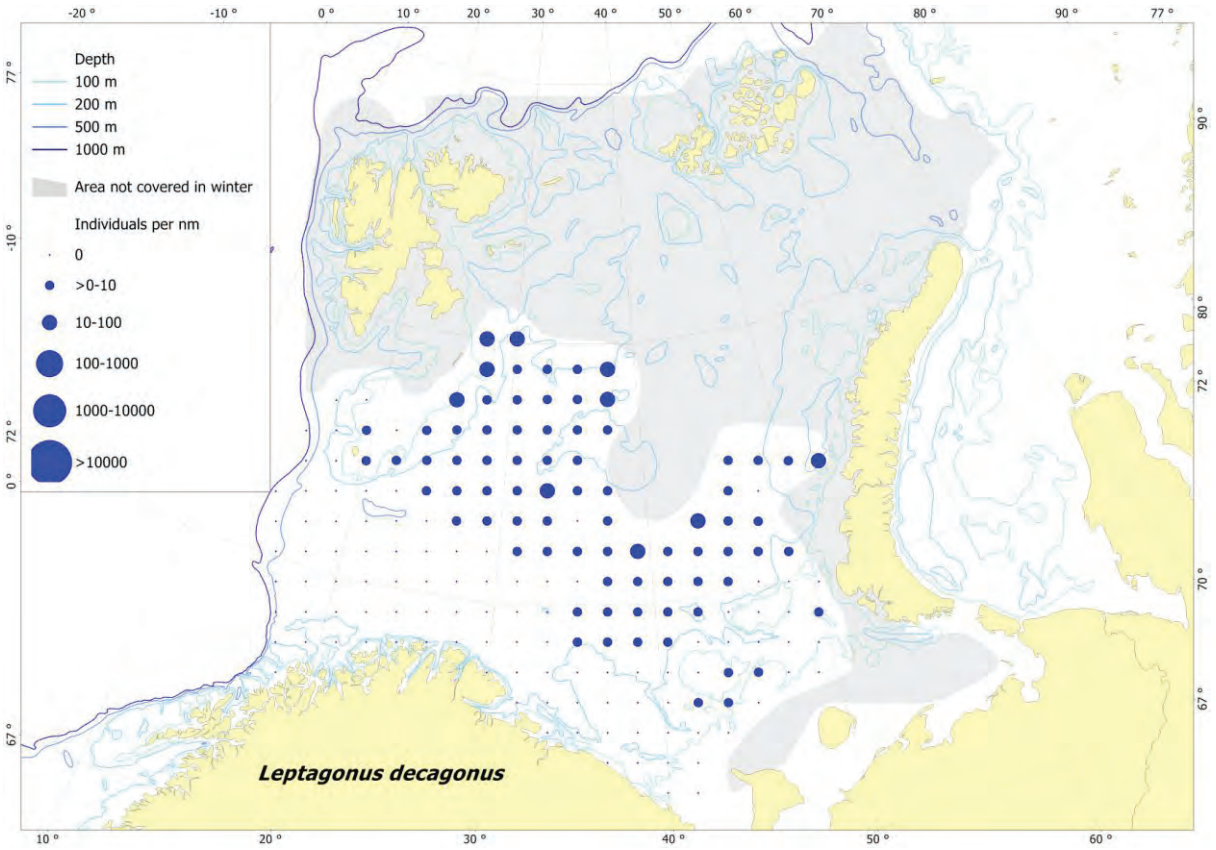
Family: Agonidae
English name: Atlantic poacher
Norwegian name: tiskjegg
Russian name: атлантическая морская лисичка
(atlantitcheskaya morskaya lisitchka)

Photo: Thomas de Lange Wenneck

Spatial distribution

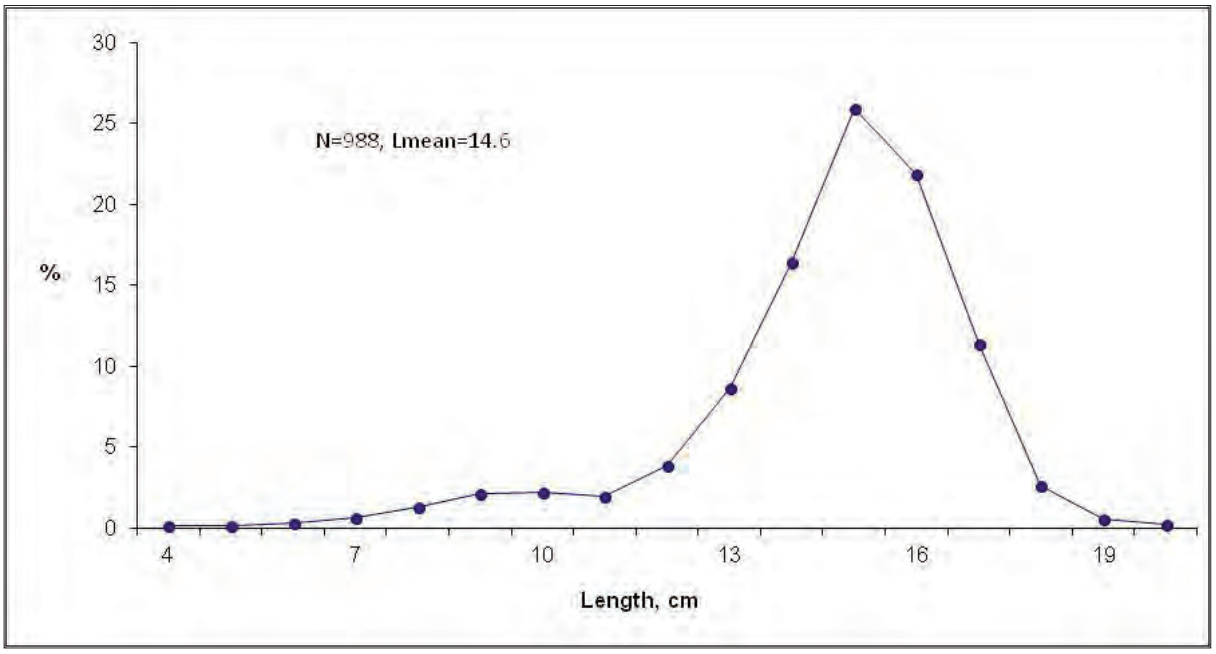
Known in the Arctic and the adjacent North Atlantic and North Pacific, including the Barents Sea, off Iceland and Greenland.

Widely distributed in the surveyed area except the southwestern parts, found in the same area as during the ecosystem survey (see page 163 in “Atlas of the Barents Sea Fishes”).



Length composition

Length distribution was similar in winter and autumn.



Life history

Arcto-boreal, demersal on sandy and muddy bottoms at 120-350 m, but has been found at 1475 m off the Svalbard/Spitsbergen archipelago. Tolerates temperatures from -1.7 to +7.4 ºC, prefers salinities above 34.5 ‰. Can reach 21 cm (commonly 15-20 cm), measures 16-17 cm when 7 years old, females mature at age 3 years (11-12 cm). Feeds primarily on benthic gammarids and polychaetes as well as pelagic crustaceans. Spawning takes place in May-July, females lay 480-1 750 demersal eggs (1.5 mm in diameter). Larvae pelagic until at least 28 mm long.

Population and exploitation

Of no economic importance.

References

Andriashev AP. 1986. Agonidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1265-1268

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Dolgov AV. 1994. Some aspects of biology of non-target fish species in the Barents Sea. ICES C.M. 1994/O:12. 23 pp

Dolgov AV. 2004. Non-target fishes. In: Shevelev MS (ed) Investigations by PINRO in the Spitsbergen archipelago area. Murmansk, PINRO Press pp 230-265 (in Russian)

Kanayama T. 1991. Taxonomy and phylogeny of the family Agonidae (Pisces: Scorpaeniformes). Memoirs of the Faculty of Fisheries Hokkaido University 38:1-199

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Sheiko BA, Mecklenburg CW. 2004. Family Agonidae Swainson 1839 – poachers. California Academy of Sciences, Annotated Checklists of Fishes 30, 27 pp

Cyclopterus lumpus Linnaeus 1758

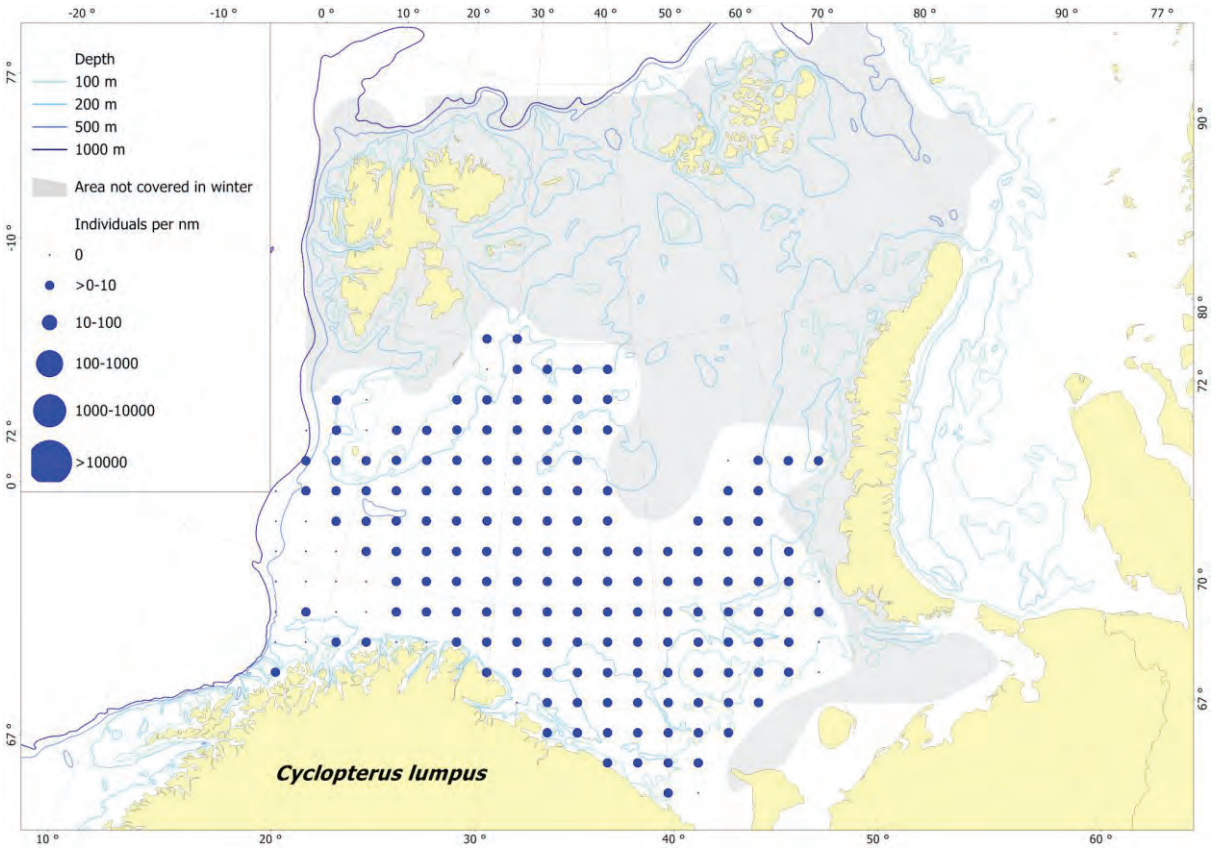
Family: Cyclopteridae
English name: lumpfish
Norwegian name: rognkjeks (female), rognkall (male)
Russian name: пинагор
(pinagor)

Photo: Andrey Dolgov

Spatial distribution

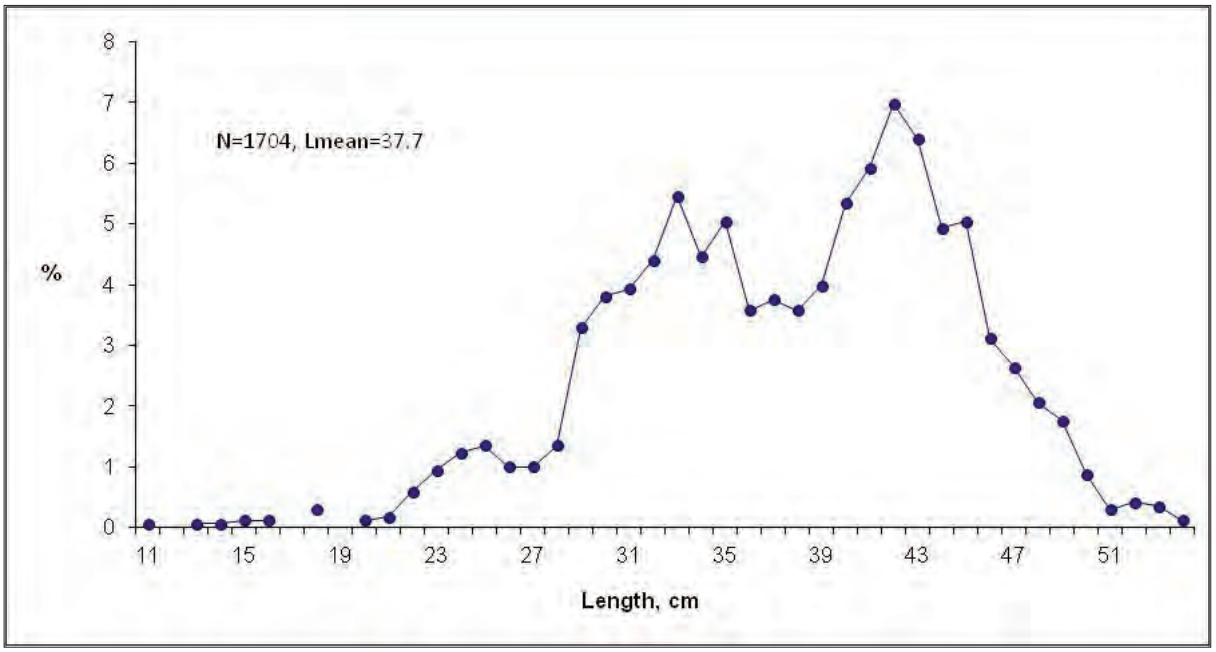
Known from the Bay of Biscay northward to Iceland and the northern Barents Sea, also in the western North Atlantic. Widely distributed in the Norwegian Sea with largest concentrations close to the polar front.

Like during the ecosystem survey (see page 165 in “Atlas of the Barents Sea Fishes”) widely distributed throughout the surveyed area, but catchability in bottom trawls seems to be better in winter than in autumn.



Length composition

The overall length range was smaller but the mean length was larger in winter than in autumn.



Life history

Mainly boreal, pelagic, primarily at 50-150 m depth, apart from during spawning season when migrating to the coast. Caught in most pelagic surface hauls during IMR surveys in the entire northeast Atlantic and although living solitary often found in high numbers. Reaches 63 cm, 8.1 kg, and possibly up to 15 years. Matures at length 29 cm (females) and 23 cm (males). Growth rates poorly known, females grow larger than males. Feeds mainly on plankton (crustaceans, jellyfish) in the open sea, not foraging in the coastal area during spawning season. Spawns between February and May in shallow waters along the coasts of its whole distribution area. Females lay up to 220 000 eggs (1.6-2.7 mm in diameter), which can account for up to 38 % of the female's weight. Eggs are spawned in portions of large lumps, attached to rocks and stones and aggressively guarded by the males until they hatch after about 60 days. Larvae and juveniles live in or close to the kelp, before they become pelagic after 1-2 years and migrate into the open sea, returning when they have reached maturity after 2-4 years.

Population and exploitation

Can perform long migrations in the open sea, not known if there are separated populations and how large these are. The stock reached a historical low (2010), but is expected to have stabilized, based on Russian data the biomass varies between 15 000 and 250 000 tonnes. In Norway only the roe is of commercial interest, both bycatch and targeted in Russia.

References

Bjelland O, Holst JC. 2004. Other fish species and fish communities. In: Skoldal HR (ed) The Norwegian Sea ecosystem. Tapir, Trondheim, pp 357-370

Holst JC. 1993. Observations on the distribution of lumpsucker (*Cyclopterus lumpus*, L.) in the Norwegian Sea. Fisheries Research 17:369-372

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Sunnanå K. 2010. Rognkjeks/-kall. In: Gjøsæter H, Haug T, Hauge M, Karlsen Ø, Knutsen JA, Røttingen I, Skilbrei O, Sunnsett BH (eds) Havforskningsrapporten 2010. Fisken og havet I-2010:136 (in Norwegian)

Kudryavtzeva OY. 2008. Lumpsucker of the Barents Sea and adjacent waters. Moscow, Nauka publishing, 164 pp (in Russian)

Eumicrotremus derjugini Popov 1926

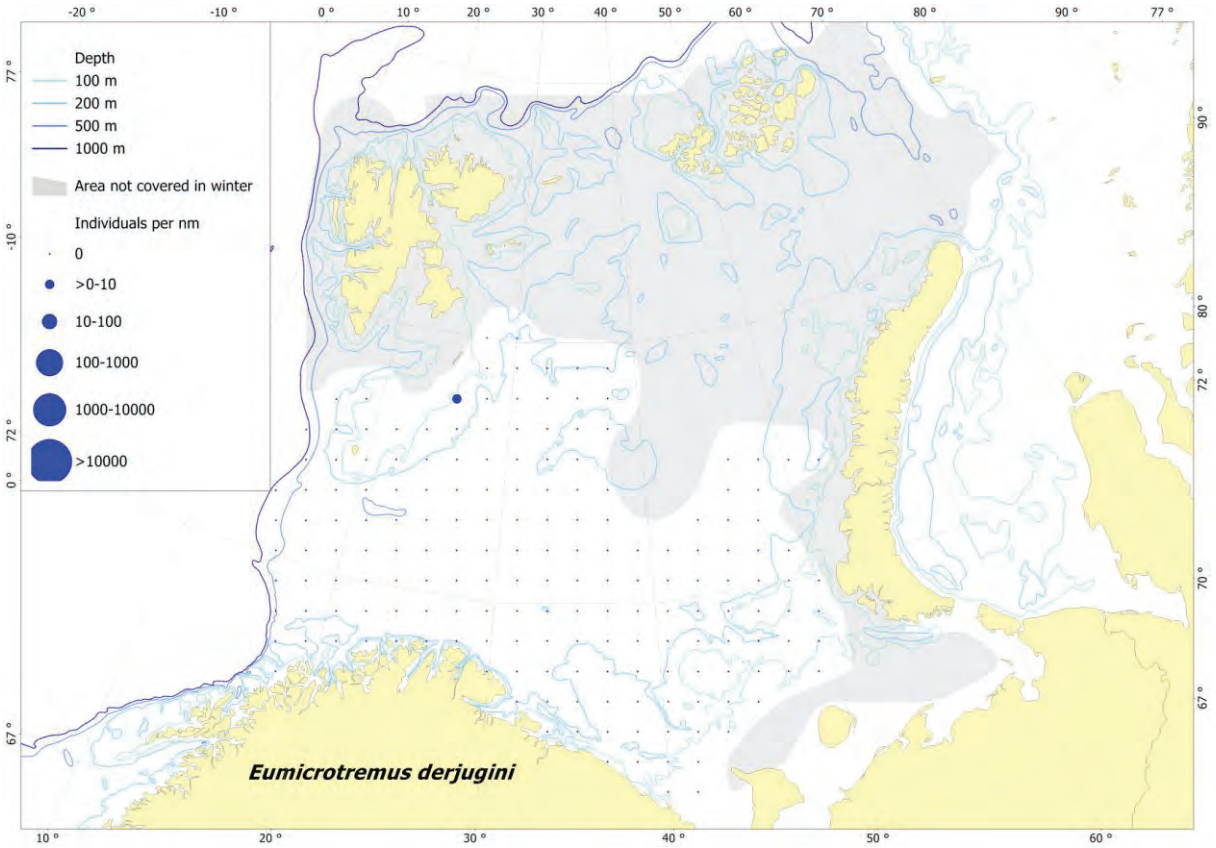
Family: Cyclopteridae
English name: leatherfin lumpsucker
Norwegian name: svartkjeks
Russian name: круглопер Дерюгина
(krugloper Derjugina)

Photo: Thomas de Lange Wenneck

Spatial distribution

Circumpolar in the Arctic and the adjacent North Atlantic and North Pacific, including the Barents and Kara Seas and off northern Greenland.

Found in the same area as during the ecosystem survey (see page 168 in "Atlas of the Barents Sea Fishes"), but main distribution area not covered in winter.



Length composition

Ten specimens (3-5 cm, mean length 4.0 cm) were caught, specimens larger than 5 cm were only found in autumn, but main distribution area was not covered in winter.

Life history

Arctic, demersal on gravel and stone bottom at 50-275 m depth, prefers temperatures below 0 ºC. Can reach 10 cm. Feeds mainly on planktonic crustaceans (hyperiids) and spawns in autumn. The larvae hatch the following summer and stay in coastal areas until about one year old and 3-4 cm long.

Population and exploitation

Of no economic importance.

References

Dolgov AV. 2004. Non-target fishes. In: Shevelev MS (ed) Investigations by PINRO in the Spitsbergen archipelago area. Murmansk, PINRO Press pp 230-265 (in Russian)

Dolgov AV. 2006. New Data on the Distribution of Rare and New Fish Species in Russian Waters of the Barents Sea. Journal of Ichthyology 46:139-147

Mecklenburg CW. 2003. Family Cyclopteridae Bonaparte 1831 – lumpsuckers. California Academy of Sciences, Annotated Checklists of Fishes 6, 17 pp

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Stein DL. 1986. Cyclopteridae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1269-1274

Eumicrotremus spinosus (Fabricius 1776)

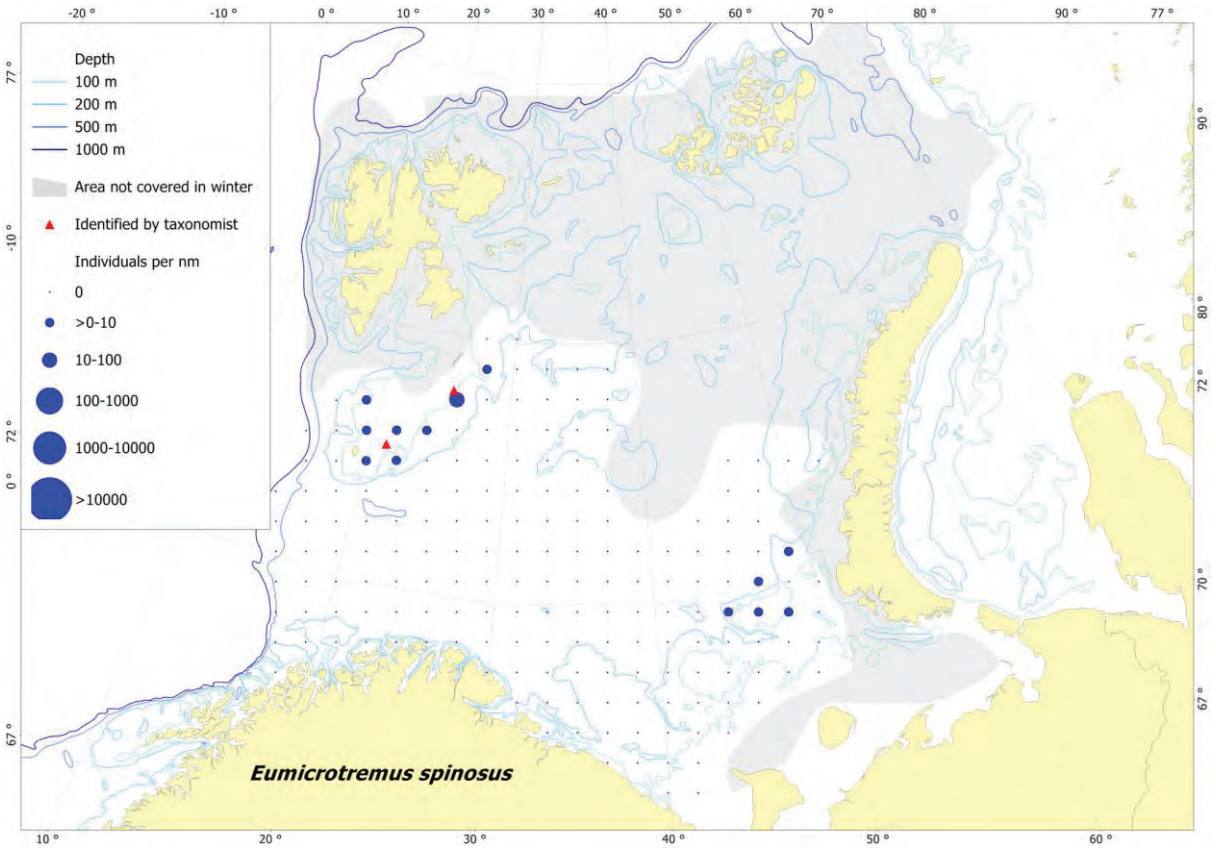
Family: Cyclopteridae
English name: Atlantic spiny lumpsucker
Norwegian name: vortekjeks
Russian name: шиповатый круглопер
(shipovatiy krugloper)

Photo: Andrey Dolgov

Spatial distribution

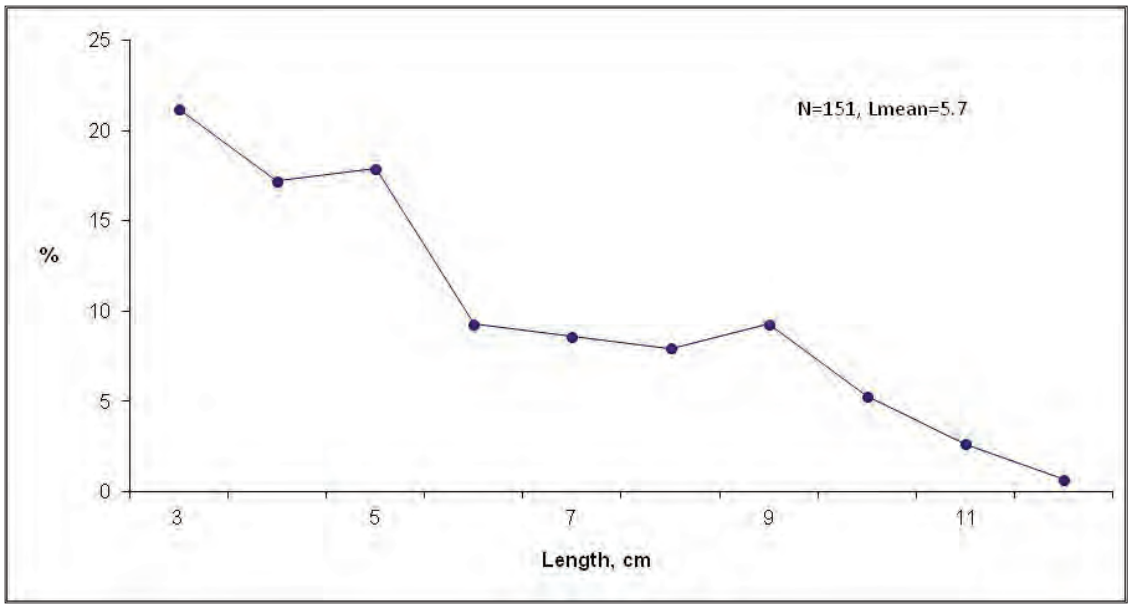
Known in the Arctic Ocean and the North Atlantic, including the Barents and Kara Seas, off Greenland, Iceland and Jan Mayen.

Found in the northwest and the southeast of the surveyed area, in the same area as during the ecosystem survey (see page 170 in “Atlas of the Barents Sea Fishes”).



Length composition

The proportion of small specimens was much higher in winter compared to autumn.



Life history

Arctic, demersal on stony bottom at 60-200 m (occasionally deeper), prefers temperatures around 0 ºC. Can reach 13.2 cm (commonly less than 10 cm), at most 3 years old when 11-13 cm long. Feeds on planktonic crustaceans (mostly hyperiids), and other invertebrates. Spawns in summer-autumn, hatching in spring-summer, fecundity up to 2 000 eggs (3-4 mm in diameter). Larvae and juveniles are found in shallow waters among kelp until 3.5-4 cm long.

Population and exploitation

Of no economic importance.

References

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Dolgov AV. 1994. Some aspects of biology of non-target fish species in the Barents Sea. ICES C.M. 1994/O:12. 23 pp

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Mecklenburg CW. 2003. Family Cyclopteridae Bonaparte 1831 – lumpsuckers. California Academy of Sciences, Annotated Checklists of Fishes 6, 17 pp

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Rostchin EA. 2006. New data on morphometry, feeding and parasite fauna of Atlantic spiny lumpsucker *Eumicrotremus spinosus* (Cyclopteridae) from the Barents Sea. Voprosy ikhtyologii 46:611-615 (in Russian)

Stein DL. 1986. Cyclopteridae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1269-1274

Careproctus spp.

Family: Liparidae
English name: snailfish/tadpole
Norwegian name: snottfisk
Russian name: карепрокт
(kareprokt)

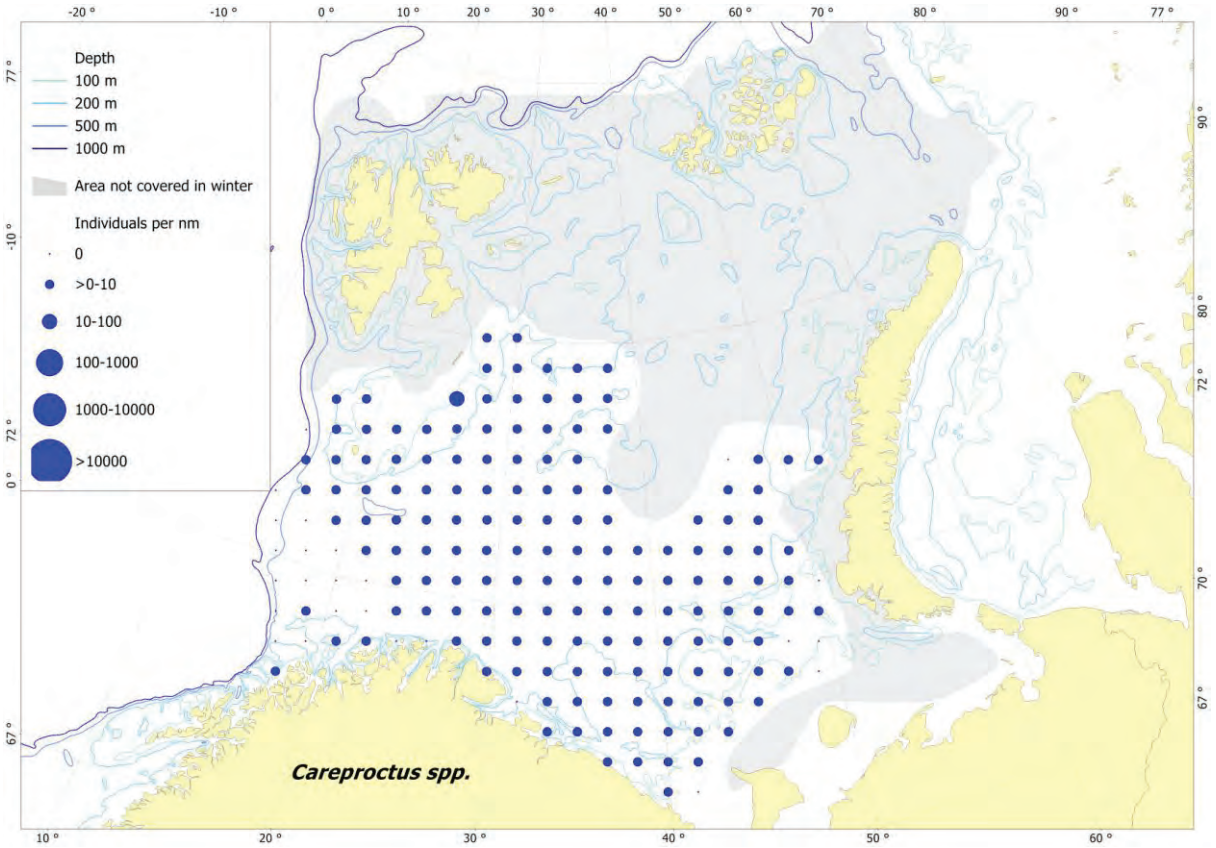
Photo: Thomas de Lange Wenneck

Note on identification: Species identification is demanding and as the genus is subject to extensive taxonomic revisions, we present data for the genus only. So far six species of the genus *Careproctus* are reported in the Barents Sea: *Careproctus derjugini* Chernova 2005, *Careproctus dubius* Zugmayer 1911, *Careproctus knipowitschi* Chernova 2005, *Careproctus macrophthalmus* Chernova 2005, *Careproctus tapirus* Chernova 2005, and *Careproctus telescopus* Chernova 2005.

Spatial distribution

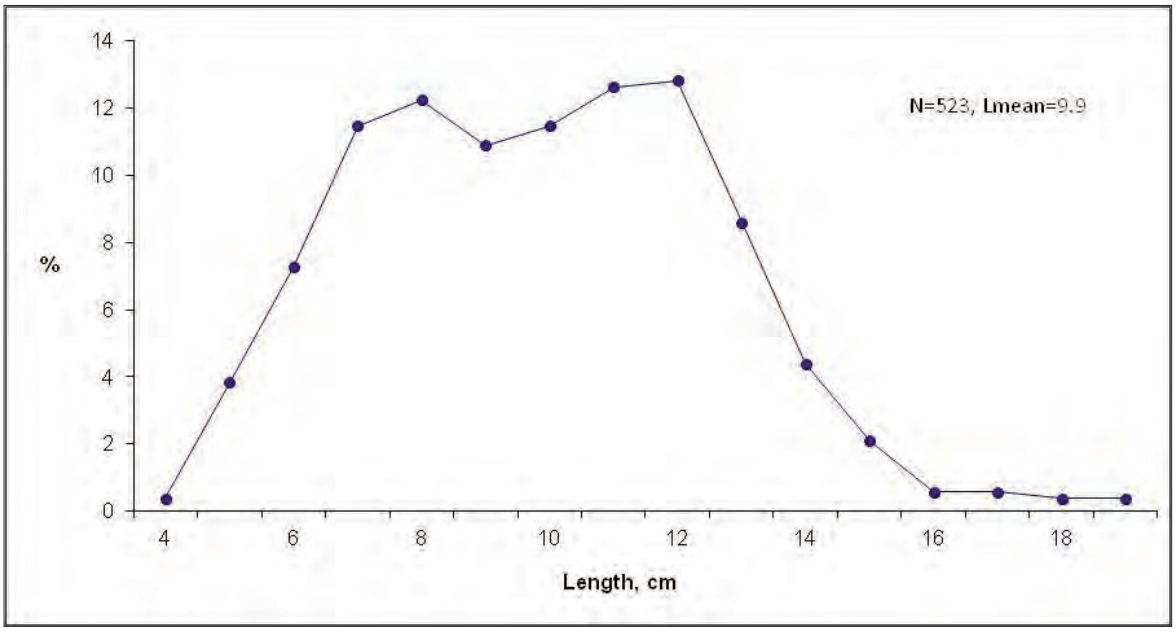
Overall distribution of the single species is poorly known, but the genus is widely distributed in the Barents Sea.

Found throughout the whole surveyed area, also further southeast than during the ecosystem survey (see page 172 in “Atlas of the Barents Sea Fishes”).



Length composition

Specimens larger than 19 cm were only found during autumn.



Life history

Arctic, demersal to benthopelagic. Can reach at least 22 cm (*C. derjugini*). Fecundity up to 150-200 eggs. Feed primarily on gammarids, also on small invertebrates and fishes.

Population and exploitation

Of no economic importance.

References

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Chernova NV. 2005. Review of *Careproctus* (Liparidae) of the North Atlantic and adjacent Arctic, including the generic type *C. reinhardti*, with rehabilitation of *C. gelatinosus* (Pallas) from Kamchatka. Journal of Ichthyology 45, Supplement 1:S1-S22

Chernova NV. 2005. New species of *Careproctus* Liparidae from the Barents Sea and adjacent waters. Journal of Ichthyology 45:689-699

Dolgov AV. 1994. Some aspects of biology of non-target fish species in the Barents Sea. ICES C.M. 1994/O:12. 23 pp

Dolgov AV. 2004. Non-target fishes. In: Shevelev MS (ed) Investigations by PINRO in the Spitsbergen archipelago area. Murmansk, PINRO Press pp 230-265 (in Russian)

Liparis bathyarcticus Parr 1931

Family: Liparidae
English name: none
Norwegian name: pukkelringbuk
Russian name: горбатый липарис
(gorbatiy liparis)

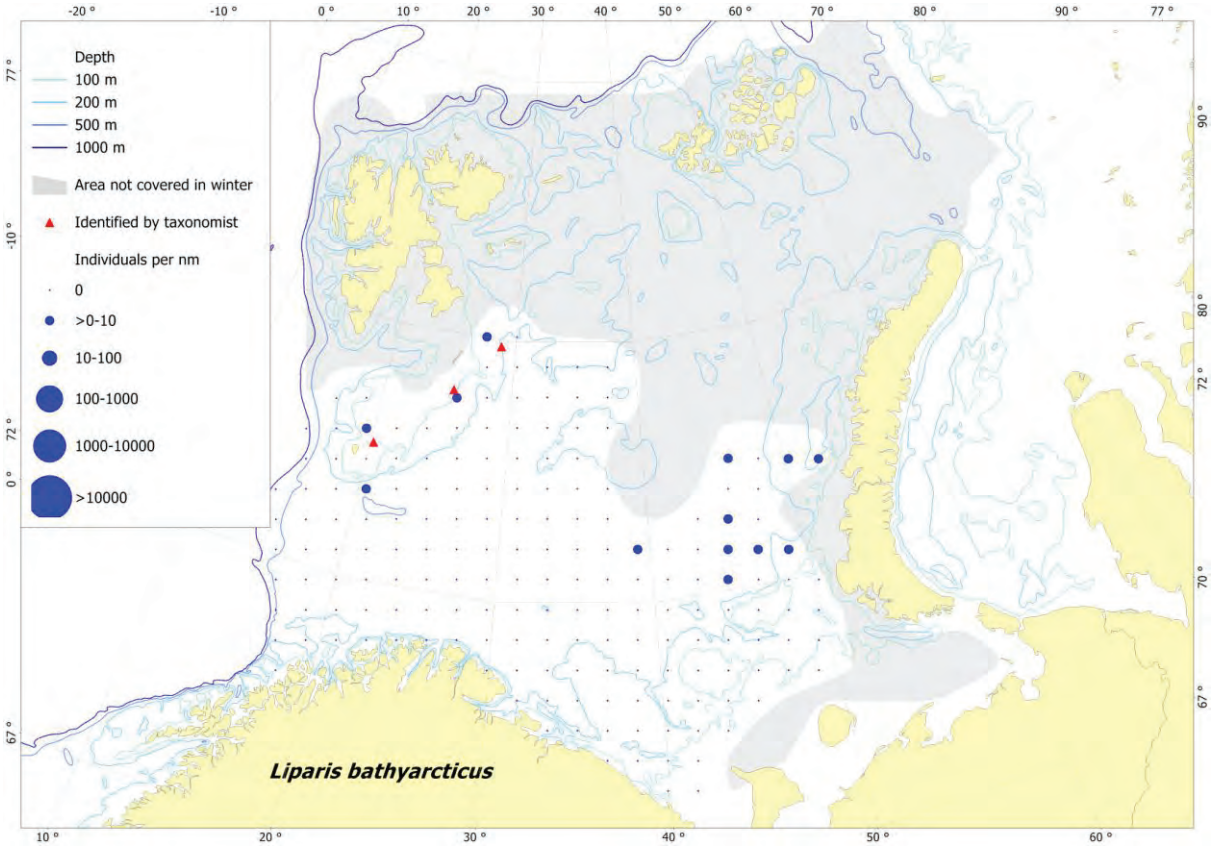
Photo: Thomas de Lange Wenneck

Note on taxonomy: Previously considered as junior synonym of *Liparis gibbus* Bean 1881.

Spatial distribution

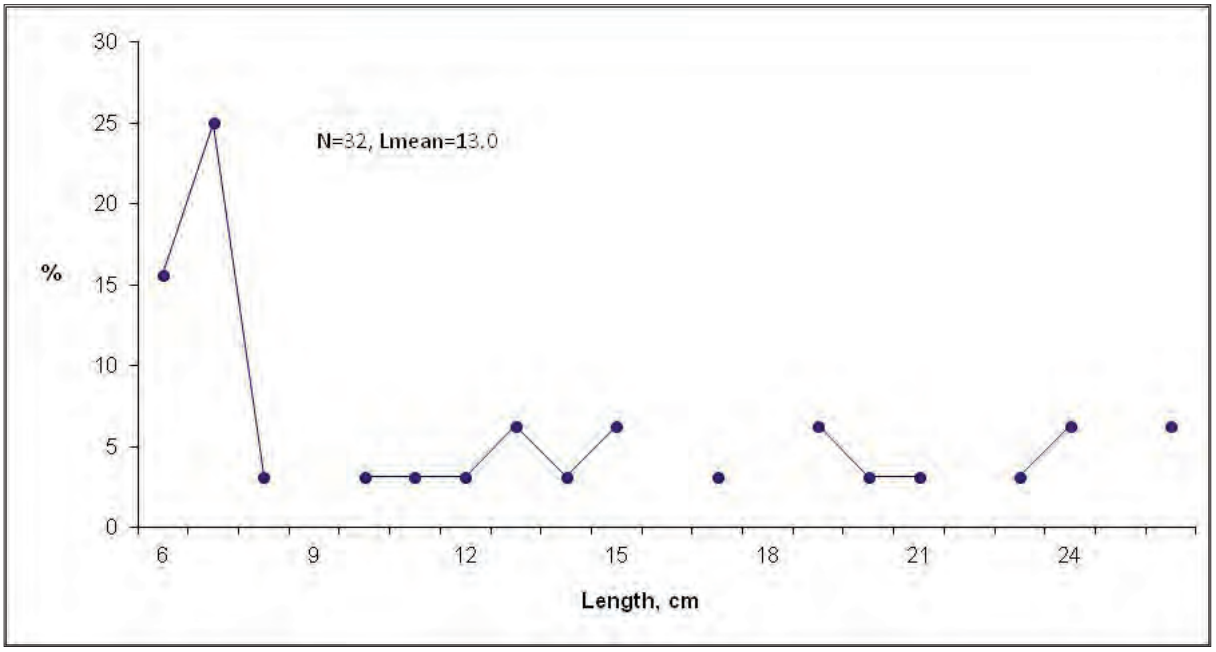
Occurs throughout the Arctic regions, the northern parts of the Pacific and Atlantic Ocean, including the Barents Sea.

Found in the northwestern and northeastern part of the surveyed area, in the eastern part further north than during the ecosystem survey (see page 174 in “Atlas of the Barents Sea Fishes”).



Length composition

Mean length was slightly higher during the winter survey, but far less specimens were caught during the winter.



Life history

Mainly arctic, demersal, at depth between 0-647 m. Can reach at least 270 mm. Juveniles feed on plankton and benthic crustaceans (euphausiids, shrimps, gammarids), adults on fishes and large decapods.

Population and exploitation

Of no economic importance.

References

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

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Chernova NV. 2008. Systematics and phylogeny of fish of the genus *Liparis* (Liparidae, Scorpaeniformes). Journal of Ichthyology 48:831-852

Liparis fabricii Krøyer 1847

Family: Liparidae
English name: gelatinous snailfish
Norwegian name: polarringbuk
Russian name: чернобрюхий липарис
(tchernobryukhiy liparis)

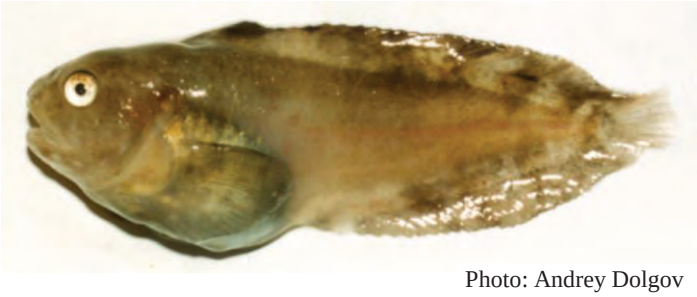
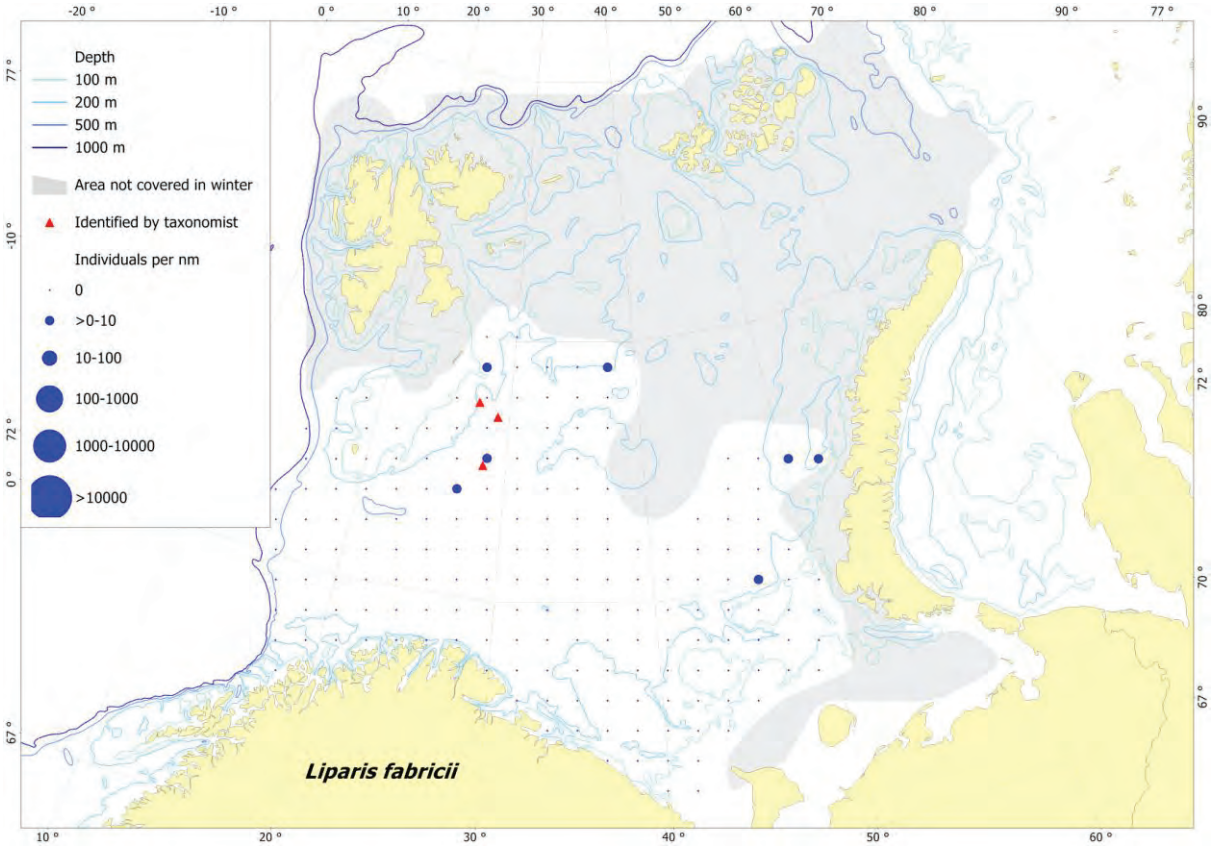


Photo: Andrey Dolgov

Spatial distribution

Circumpolar in the Arctic waters.

Only few specimens were caught in the northern and eastern part of the surveyed area, about in the same area as during the ecosystem survey (see page 176 in "Atlas of the Barents Sea Fishes"). Main area of distribution not covered during winter.



Length composition

16 specimens (4-18 cm, mean length 8.9 cm) were caught, far less than during the ecosystem survey.

Life history

Arctic, benthopelagic at 40-600 m depth, prefers temperatures usually below 0 ºC, and 30-34 ‰ salinity. Can reach 21 cm and 117 g, at most 6 years old when 16 cm long. Feeds on plankton, benthic crustaceans, pteropods and fishes. Females spawn 450-750 eggs (2.1-2.7 mm in diameter) in autumn, larvae are pelagic, larval development probably takes one year.

Population and exploitation

Of no economic importance.

References

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Chernova NV. 2008. Systematics and phylogeny of fish of the genus *Liparis* (Liparidae, Scorpaeniformes). Journal of Ichthyology 48:831-852

Chernova NV, Stein DL, Andriashev AP. 2004. Family Liparidae Scopoli 1777 – snailfishes. California Academy of Sciences, Annotated Checklists of Fishes 31, 72 pp

Dolgov AV. 1994. Some aspects of biology of non-target fish species in the Barents Sea. ICES C.M. 1994/O:12. 23 pp

Dolgov AV. 2004. Non-target fishes. In: Shevelev MS (ed) Investigations by PINRO in the Spitsbergen archipelago area. Murmansk, PINRO Press pp 230-265 (in Russian)

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Stein DL, Able KW. 1986. Liparidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1275-1283

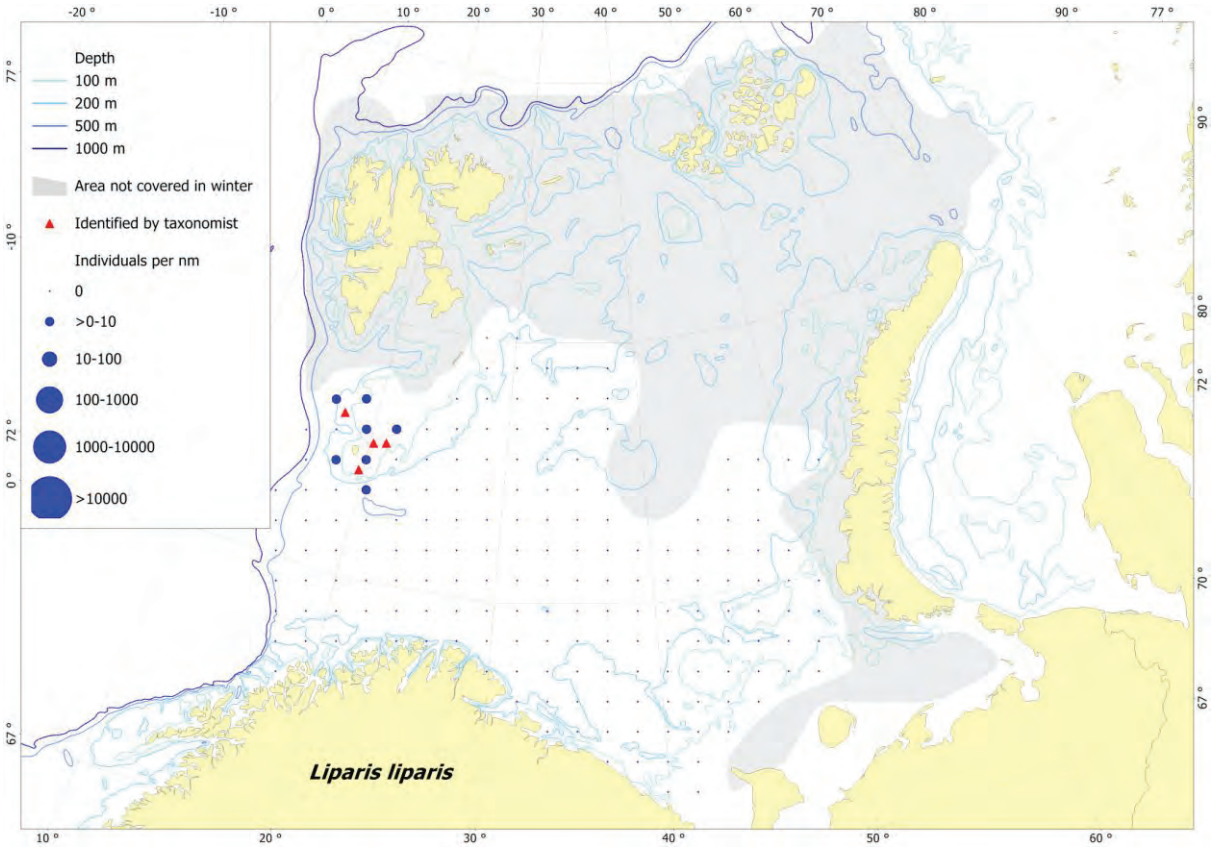
Liparis liparis (Linnaeus 1766)

Family: Liparidae
English name: striped seasnail
Norwegian name: vanlig ringbuk
Russian name: европейский липарис
(evropeyskiy liparis)

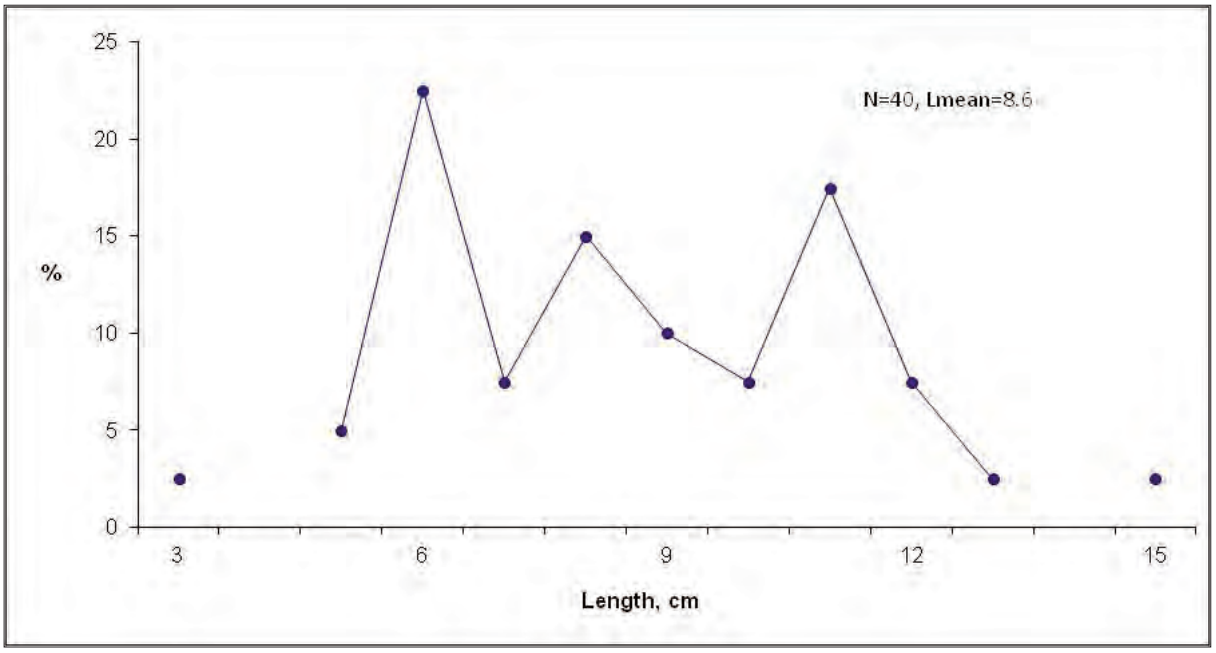
Spatial distribution

Known from the northeastern Atlantic and the Arctic from the British Isles and northward to the Svalbard/Spitsbergen archipelago and the Kola Peninsula, also in the Baltic Sea and around Iceland and Jan Mayen.

Found in the northwestern part of the surveyed area. Not found during the ecosystem survey (2004-2009).



Length composition



Life history

Boreal-European, benthic from 0-300 m depth. Can reach 18 cm, grows largest in the northern part of its area of distribution. Occurs mainly in the algal zone. Feeds on small crustaceans, fish, jellyfish, algae and polychaetes. Spawns during the winter, eggs benthic and attached to hydroids, bryozoans and algae, hatching after 6-8 weeks, larvae pelagic until 1.2 cm long.

Population and exploitation

Of no economic importance.

References

Chernova NV. 1991. Snailfishes of the Euro-Asian Arctic. Apatity, Kola Sc.Centre of the USSR Acad.Sc. 111 pp (in Russian)

Chernova NV. 2008. Systematics and phylogeny of fish of the genus *Liparis* (Liparidae, Scorpaeniformes). Journal of Ichthyology 48:831-852

Chernova NV, Stein DL, Andriashev AP. 2004. Family Liparidae Scopoli 1777 – snailfishes. California Academy of Sciences, Annotated Checklists of Fishes 31, 72 pp

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Stein DL, Able KW. 1986. Liparidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1275-1283

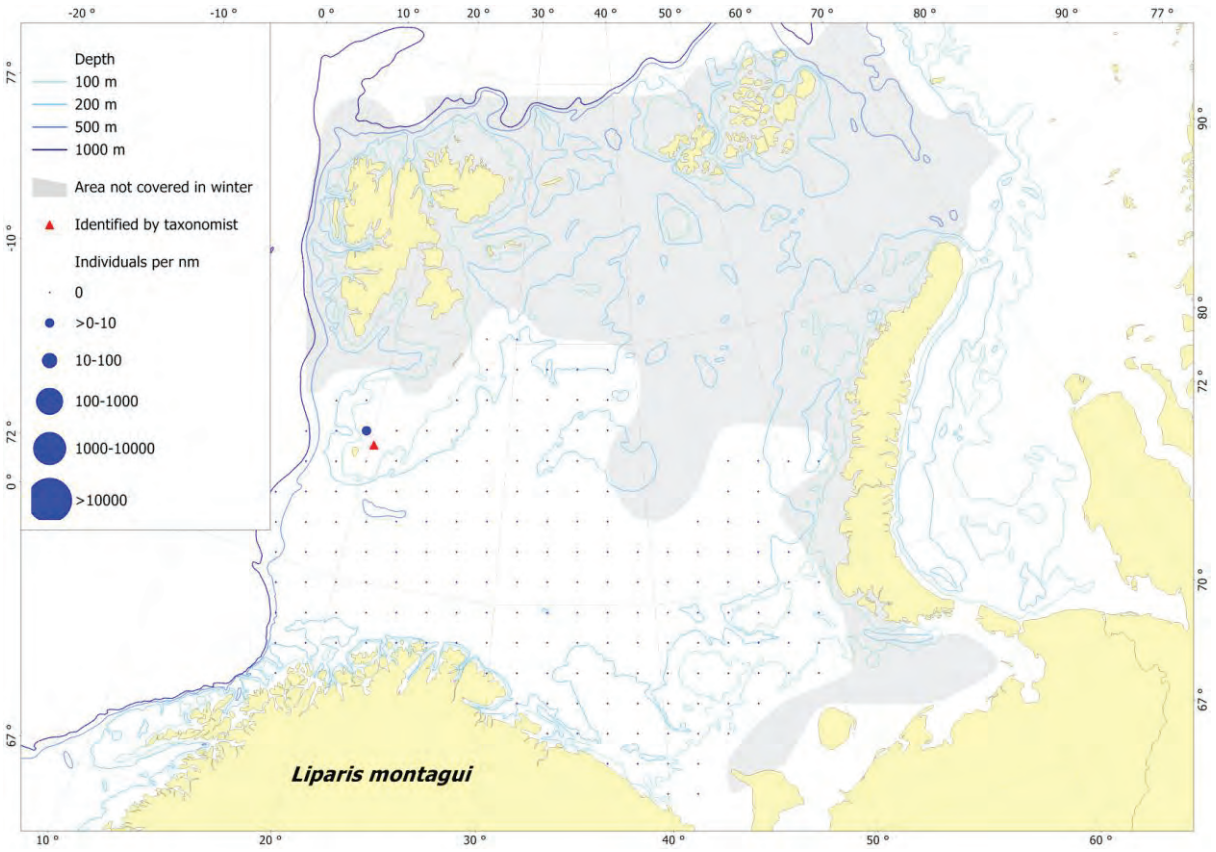
Liparis montagui (Donovan 1804)

Family: Liparidae
English name: Montagues seasnail
Norwegian name: kystringbuk
Russian name: липарис Монтагю
(liparis Montagiu)

Spatial distribution

Known from the northeastern Atlantic and the Arctic from the Bay of Biscay to the Kola Peninsula, also around Iceland.

Found in the northwestern part of the surveyed area. Not recorded during the ecosystem survey (2004-2009).



Length composition

Three specimens (3-6 cm, mean length 4.7 cm) were caught.

Life history

Boreal-european, benthic from 0-30 m, often clinging to stones or algae. Can reach 12.5 cm and age 4-5 years. Feeds on small crustaceans, polychaetes, small fishes. Spawns from February to April, eggs are attached to algae and hatch after 6 weeks, larvae pelagic until 1.2 cm long.

Population and exploitation

Of no economic importance.

References

Chernova NV. 1991. Snailfishes of the Euro-Asian Arctic. Apatity, Kola Sc.Centre of the USSR Acad.Sc. 111 pp (in Russian)

Chernova NV. 2008. Systematics and phylogeny of fish of the genus *Liparis* (Liparidae, Scorpaeniformes). Journal of Ichthyology 48:831-852

Chernova NV, Stein DL, Andriashev AP. 2004. Family Liparidae Scopoli 1777 – snailfishes. California Academy of Sciences, Annotated Checklists of Fishes 31, 72 pp

Dunne J. 1981. A contribution to the biology of Montagu's sea snail, *Liparis montagui* Donovan, (Pisces). Irish Naturalists' Journal. 20:217-222

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Stein DL, Able KW. 1986. Liparidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1275-1283

Liparis tunicatus Reinhardt 1836

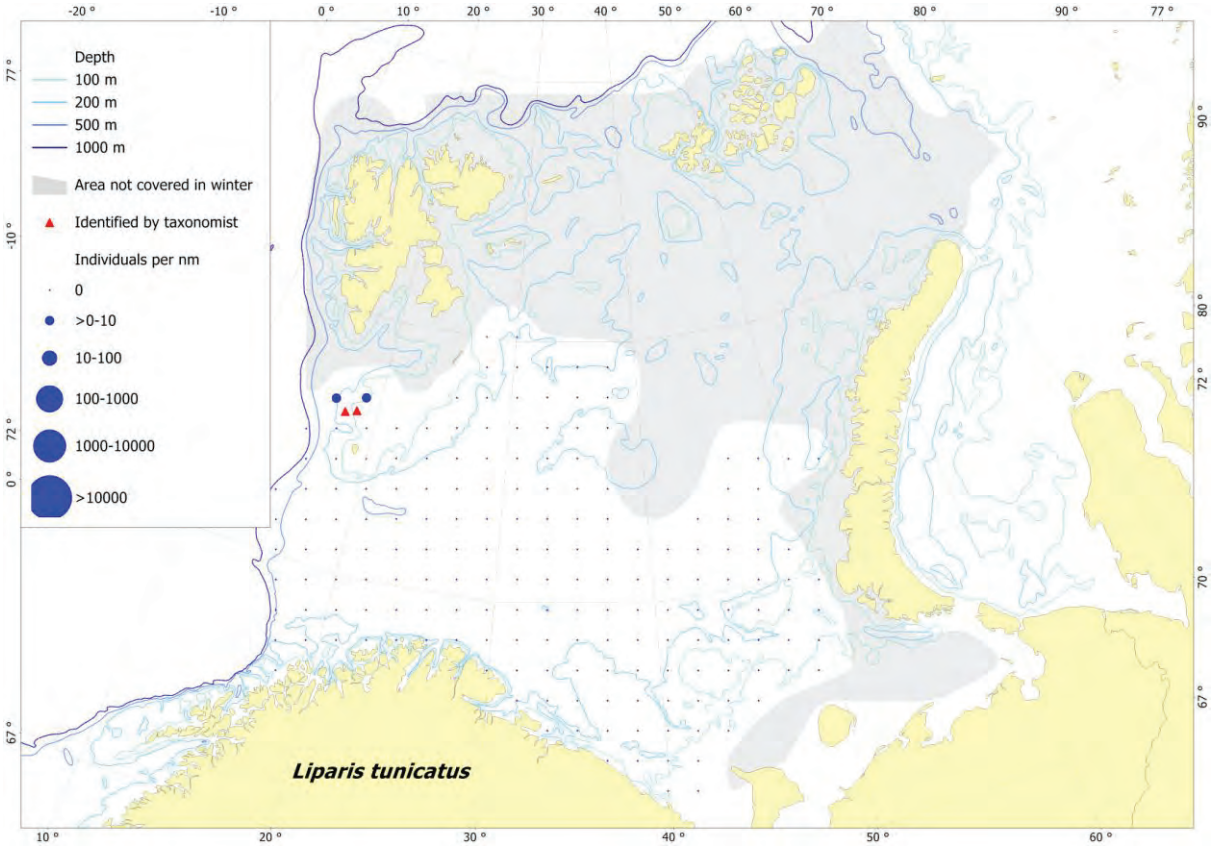
Family: Liparidae
English name: kelp snailfish
Norwegian name: tangringbuk
Russian name: арктический липарис
(arktitcheskiy liparis)

Photo: Andrey Dolgov

Spatial distribution

Circumpolar in the Arctic and the Subarctic.

Found in the northwestern part of the surveyed area, in the same area as during the ecosystem survey (see page 178 in “Atlas of the Barents Sea Fishes”).



Length composition

18 specimens (6-14 cm, mean length 8.9 cm) were caught, quite similar to the length distribution in autumn.

Life history

Arctic, demersal, at depths down to 90 m (occasionally 150 m). Can reach at least 16 cm.

Population and exploitation

Of no economic importance.

References

Chernova NV. 2008. Systematics and phylogeny of fish of the genus *Liparis* (Liparidae, Scorpaeniformes). Journal of Ichthyology 48:831-852

Chernova NV, Stein DL, Andriashev AP. 2004. Family Liparidae Scopoli 1777 – snailfishes. California Academy of Sciences, Annotated Checklists of Fishes 31, 72 pp

Gymnelus spp.

Family: Zoarcidae
English name: none
Norwegian name: none
Russian name: гимнел (gimnel)

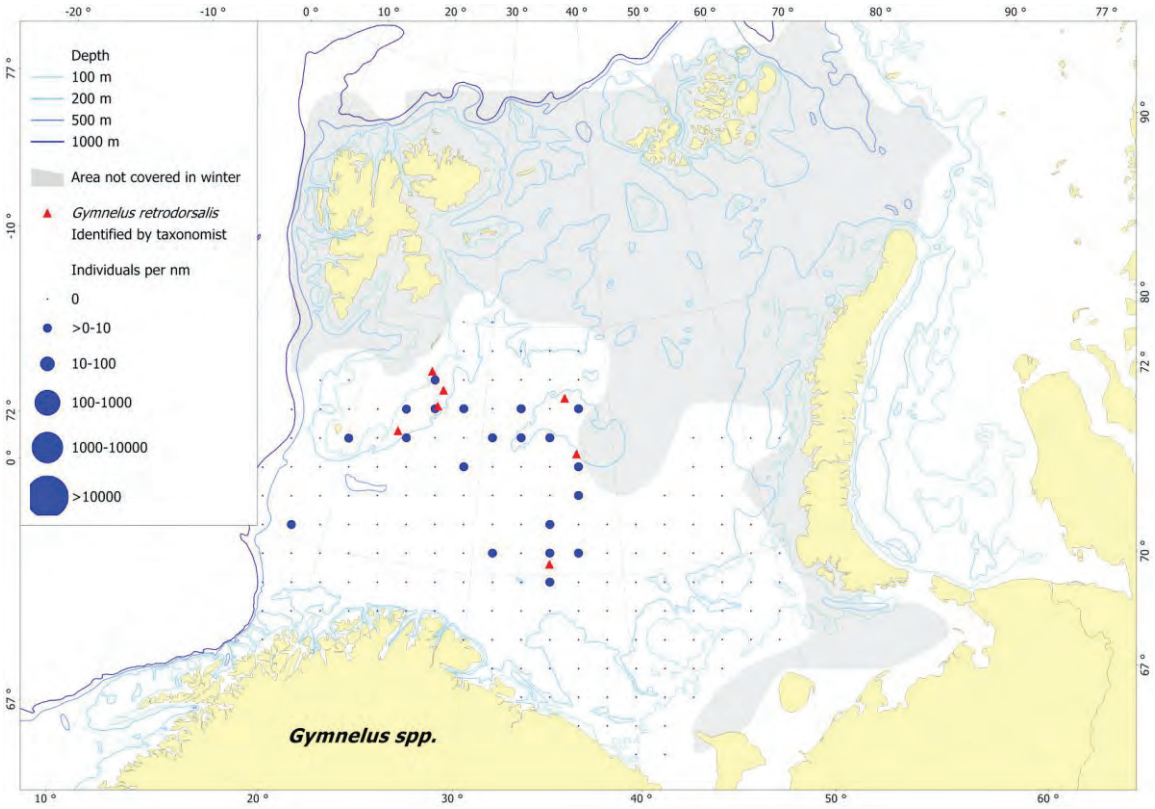
Photo: Andrey Dolgov

Note on identification and taxonomy: Five species of *Gymnelus* are reported in the Barents Sea: *Gymnelus andersoni* Chernova 1998, *Gymnelus esipovi* Chernova 1999, *Gymnelus hemifasciatus* Andriashev 1937, *Gymnelus retrodorsalis* Le Danois 1913, and *Gymnelus taeniatus* Chernova 1999. Present data do not distinguish between the species. Voucher specimens indicate that *G. retrodorsalis* is the dominant species in the area.

Spatial distribution

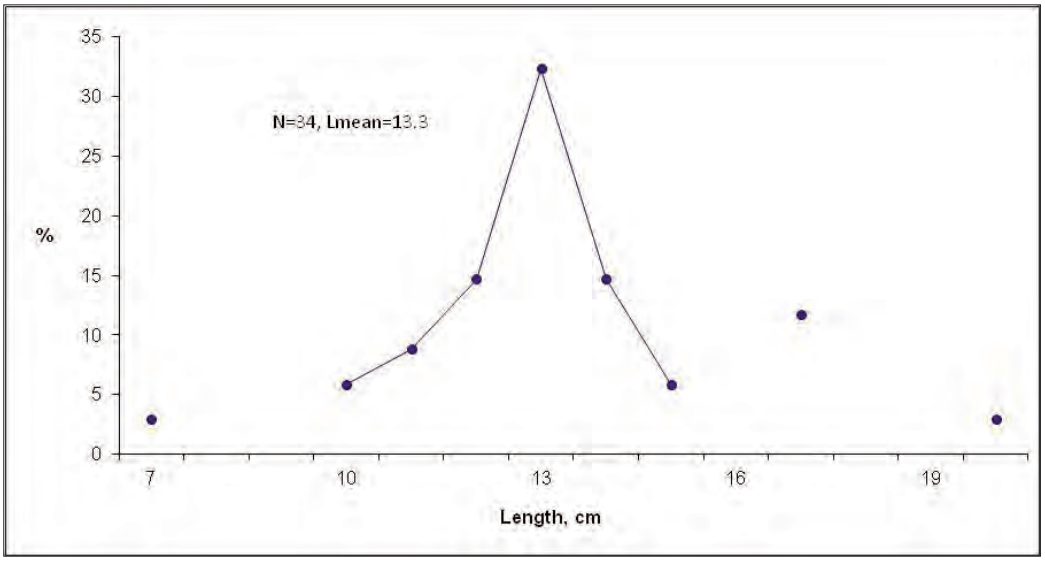
Gymnelus andersoni is known in the northern, central and eastern Barents Sea, in the Kara and Laptev Sea; *G. esipovi* in northern parts of the Barents and the Kara Sea; *G. hemifasciatus* from the eastern Barents Sea eastward to northwestern Canada, *G. retrodorsalis* in the Barents Sea, off Jan Mayen, Iceland, Greenland, in the western North Atlantic and arctic Canada, *G. taeniatus* has been reported from the northeastern Barents Sea off Franz Joseph Land.

Found in the western and central part of the surveyed area, in the same area as during the ecosystem survey (see page 184 in "Atlas of the Barents Sea Fishes"), but not as far east and southeast.



Length composition

Length distribution was similar in winter and autumn.



Life history

Arctic, demersal on soft muddy or muddy-sandy bottom at depths down to 300 m and temperatures below 0 ºC. Can reach up to 15.9 cm, males grow larger than females, matures at about 10 cm length. Juveniles of *G. andersoni* occur in shallow depths, a demersal egg clutch was found in August in the Kara Sea. Otherwise, little is known about the life history of the species in this genus.

Population and exploitation

Of no economic importance.

References

Anderson ME, Fedorov VV. 2004. Family Zoarcidae Swainson 1839 eelpouts. California Academy of Sciences Annotated Checklist of Fishes 34:1-58

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Chernova NV. 1998. A new species *Gymnelus andersoni* sp. nova, from the Arctic Seas with refinement of the species status of *G. retrodorsalis* Le Danois and *G. pauciporus* Anderson (Fam. Zoarcidae). Journal of Ichthyology 38:708-715

Chernova NV. 1999. Four new species of *Gymnelus* (Zoarcidae) from the Arctic regions. Journal of Ichthyology 39:343-352

Chernova NV. 1999. New species *Gymnelus knipowitschi* from the Arctic Ocean and a Redescription of *G. hemifasciatus* Andriashev (Zoarcidae). Journal of Ichthyology 39:1-9

Chernova NV. 2000. Four new species of *Gymnelus* (Zoarcidae) from the far Eastern Seas with genus diagnosis and key to species. Journal of Ichthyology 40:1-12

Mecklenburg CW, Møller PR, Steinke D. 2011. Biodiversity of arctic marine fishes: taxonomy and zoogeography. Marine Biodiversity 41:109-140

Lycenchelys muraena (Collett 1878)

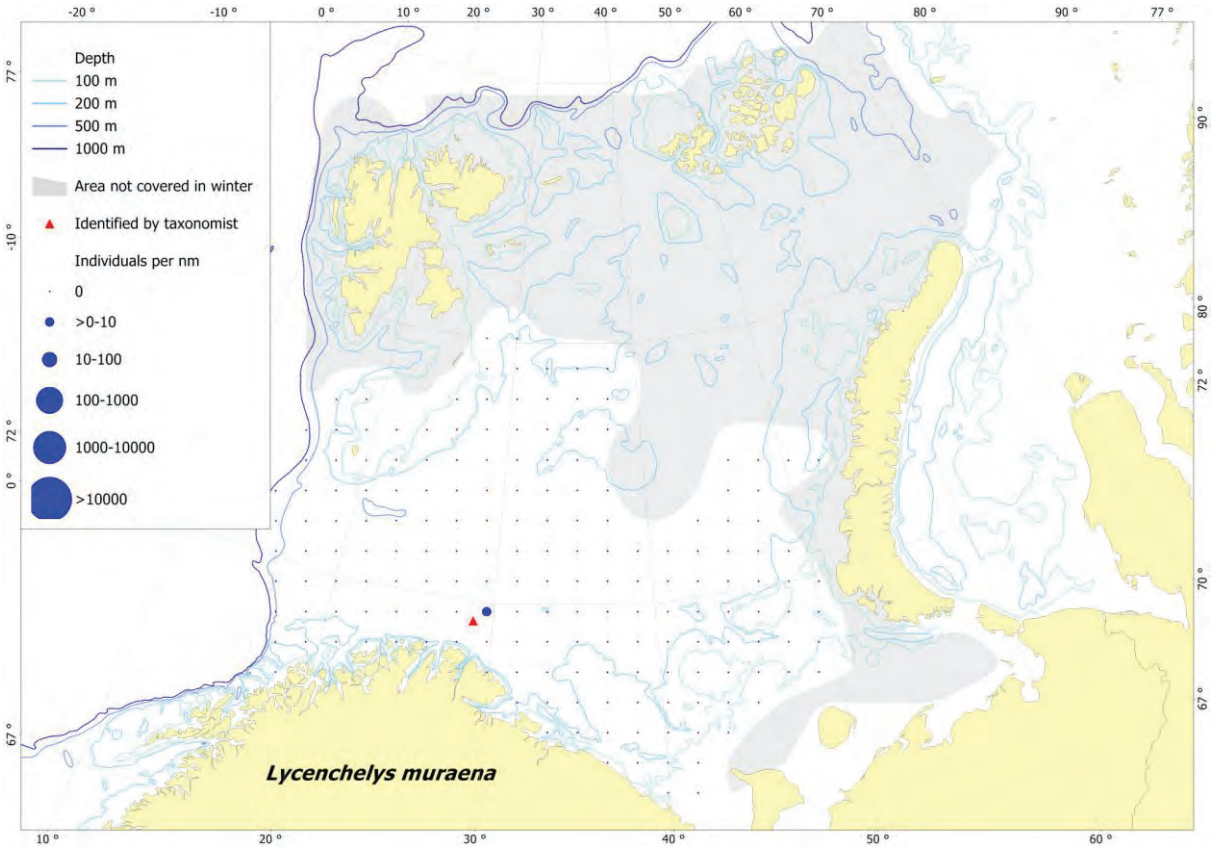
Family: Zoarcidae
English name: moray wolf eel
Norwegian name: havålebrosme
Russian name: мureновидный лиценхел
(murenovidniy litzenkhel)

Photo: Andrey Dolgov

Spatial distribution

Known in the Greenland and Norwegian Sea north to Svalbard/Spitsbergen, also in the Kara Sea.

Found off the mainland coast, from the ecosystem survey only known west and north of the Svalbard/Spitsbergen archipelago (see page 188 in "Atlas of the Barents Sea Fishes").



Length composition

One specimen (16 cm) was caught.

Life history

Arctic, demersal on soft bottom at 350-1400 m and temperatures below 0 ºC. Can reach up to 20 cm. Feeds on small crustaceans.

Population and exploitation

Of no economic importance.

References

Andriashev AP. 1986. Zoarcidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1130-1150

Bjelland O, Bergstad OA, Skjæraasen JE, Meland K. 2000. Trophic ecology of deep-water fishes associated with the continental slope of the eastern Norwegian Sea. Sarsia 85:101-117

Dolgov AV. 2006. New Data on the Distribution of Rare and New Fish Species in Russian Waters of the Barents Sea. Journal of Ichthyology 46:139-147

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

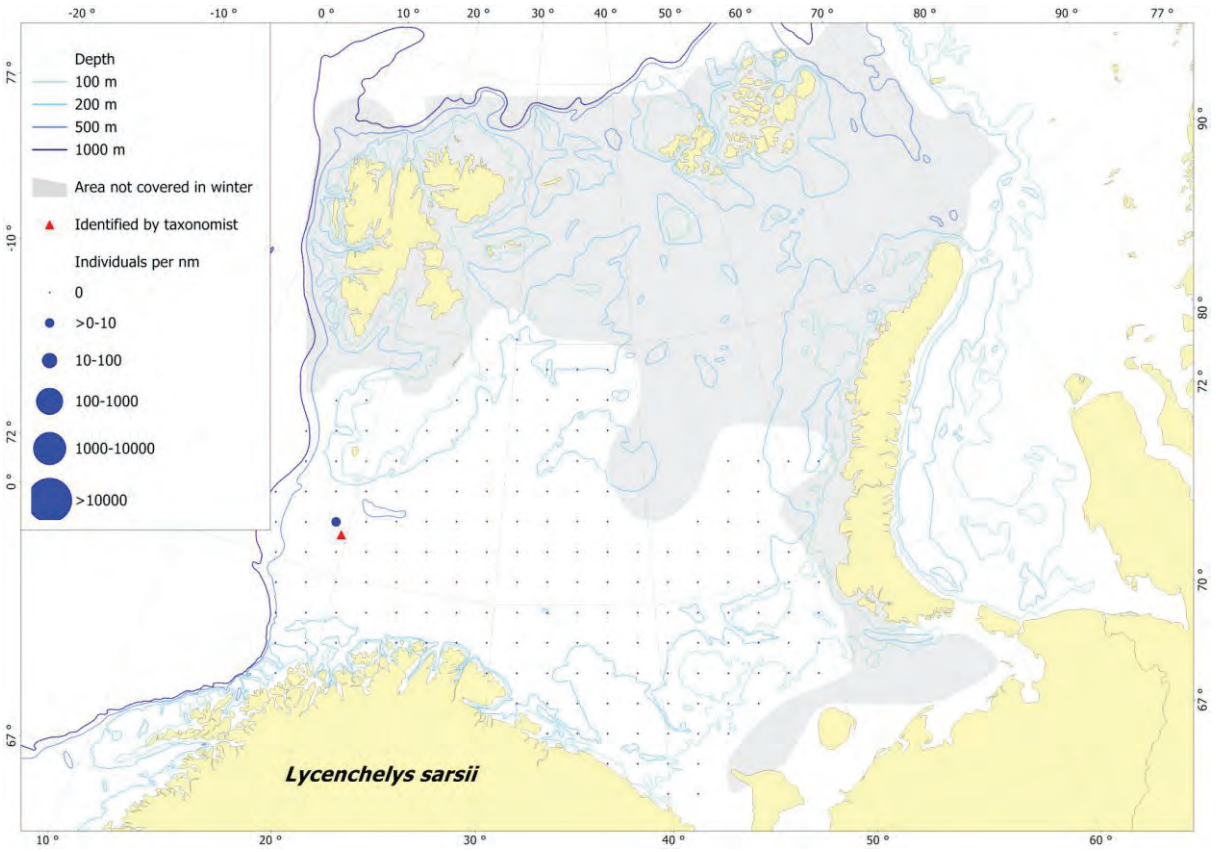
Lycenchelys sarsii (Collett 1871)

Family: Zoarcidae
English name: Sars' wolf eel
Norwegian name: sørlig ålebrosme
Russian name: лиценхел Сарса
(litzenkhel Sarsa)

Spatial distribution

Known from the northeastern Atlantic and the Arctic from the Skagerrak to the Kola Peninsula and western Greenland.

Found in the western part of the surveyed area. Not recorded in the ecosystem survey (2004-2009).



Length composition

One specimen (13 cm) was caught.

Life history

Boreal-European, benthic on muddy bottom at 150-600 m, temperatures between 0 and 6 ºC, and high salinity. Can reach 19 cm. Feeds on polychaetes, small crustaceans and small bivalves. Spawns probably during the winter.

Population and exploitation

Of no economic importance.

References

Andriashev PA. 1986. Zoarcidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1130-1150

Anderson ME, Fedorov VV. 2004. Family Zoarcidae Swainson 1839 eelpouts. California Academy of Sciences. Annotated Checklist of Fishes 34:1-58

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Lycodes esmarkii Collett 1875

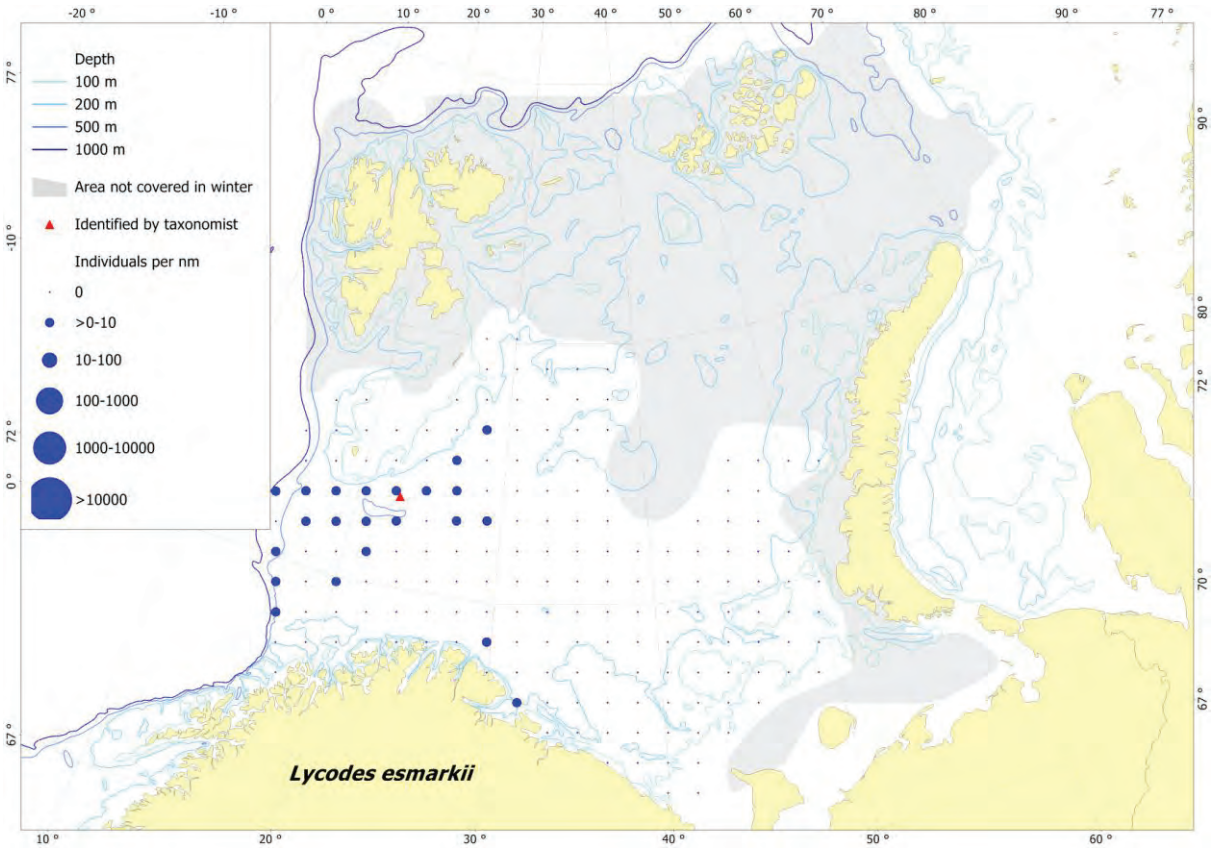
Family: Zoarcidae
English name: greater eelpout
Norwegian name: ulvefisk
Russian name: узорчатый ликод, ликод Эсмарка (uzortchatiy likod), (likod Esmarka)

Photo: Thomas de Lange Wenneck

Spatial distribution

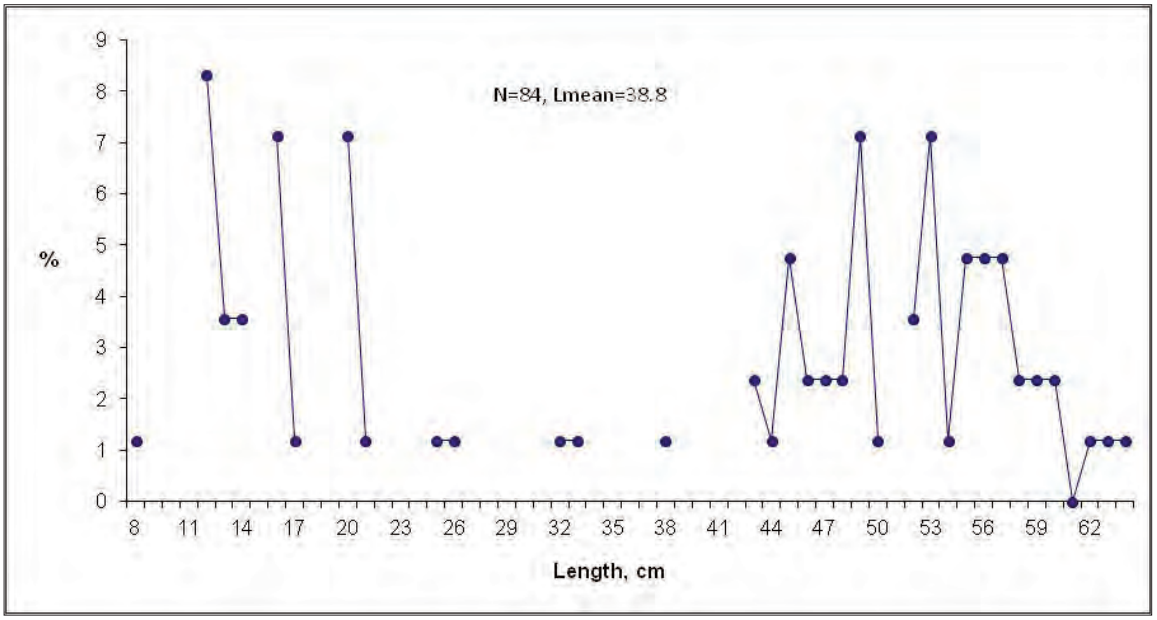
Known from the Barents Sea to Iceland and Greenland, also in the western North Atlantic.

Found mainly in the central western part of the surveyed area, in the same area as during the ecosystem survey (see page 192 in "Atlas of the Barents Sea Fishes").



Length composition

The mean length was higher during the winter, but far less specimens were caught during the winter survey.



Life history

Mainly boreal, demersal on mud bottom at 275-770 m, temperatures above 0 ºC and salinities above 34.5 ‰. Occurs occasionally deeper, but in general shallower in its northern distribution area. Can reach up to 74.5 cm and 12 years. Feeds primarily on echinoderms, crustaceans, bivalves, fish and fish offal. Females spawn up to 1 200 demersal eggs (6 mm in diameter) in autumn.

Population and exploitation

Of no economic importance, but common bycatch in the longline and bottom trawl fishery.

References

Andriashev AP. 1986. Zoarcidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1130-1150.

Bjelland O, Bergstad OA, Skjæraasen JE, Meland K. 2000. Trophic ecology of deep-water fishes associated with the continental slope of the eastern Norwegian Sea. Sarsia 85:101-117

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Dolgov AV. 1994. Some aspects of biology of non-target fish species in the Barents Sea. ICES C.M. 1994/O:12. 23 pp

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Lycodes eudipleurostictus Jensen 1902

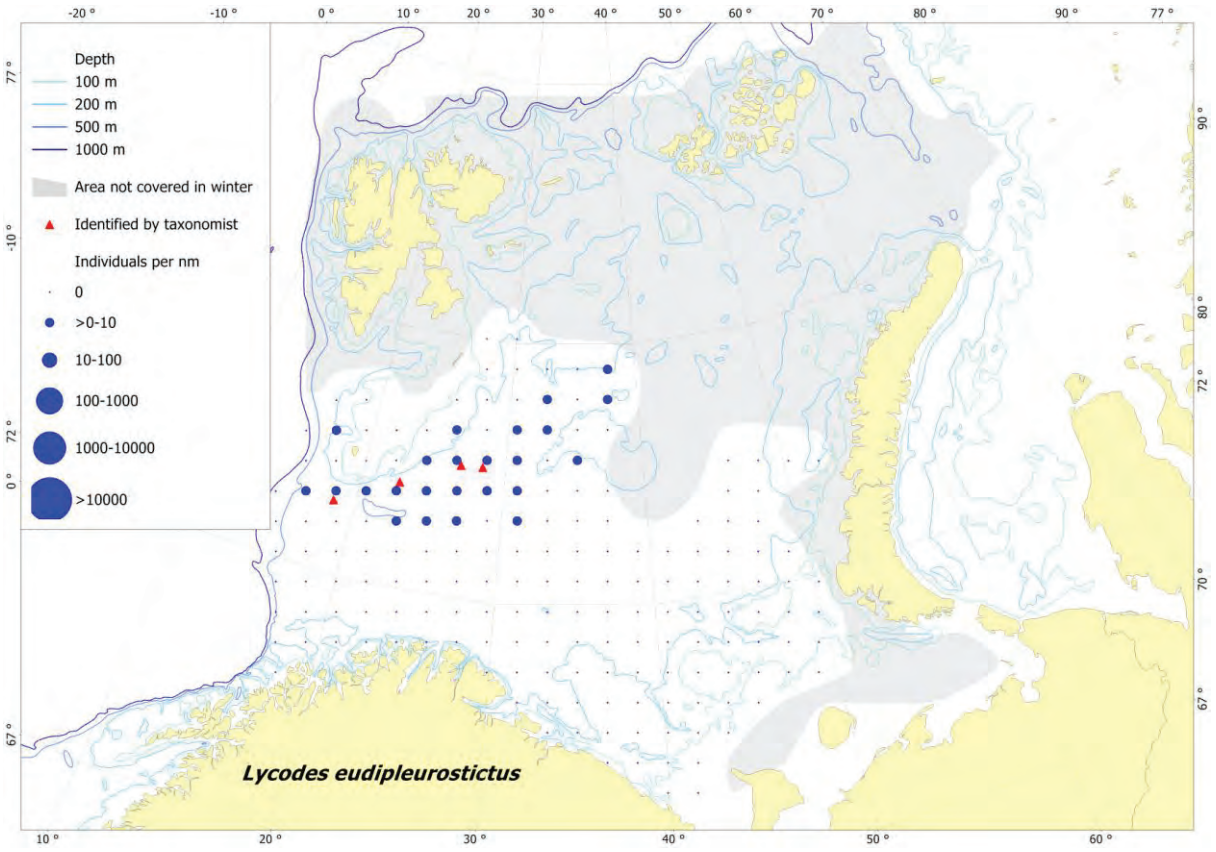
Family: Zoarcidae
English name: doubleline eelpout
Norwegian name: båndålebrosme
Russian name: двупёрый ликод (dvupyoriy likod)

Photo: Thomas de Lange Wenneck

Spatial distribution

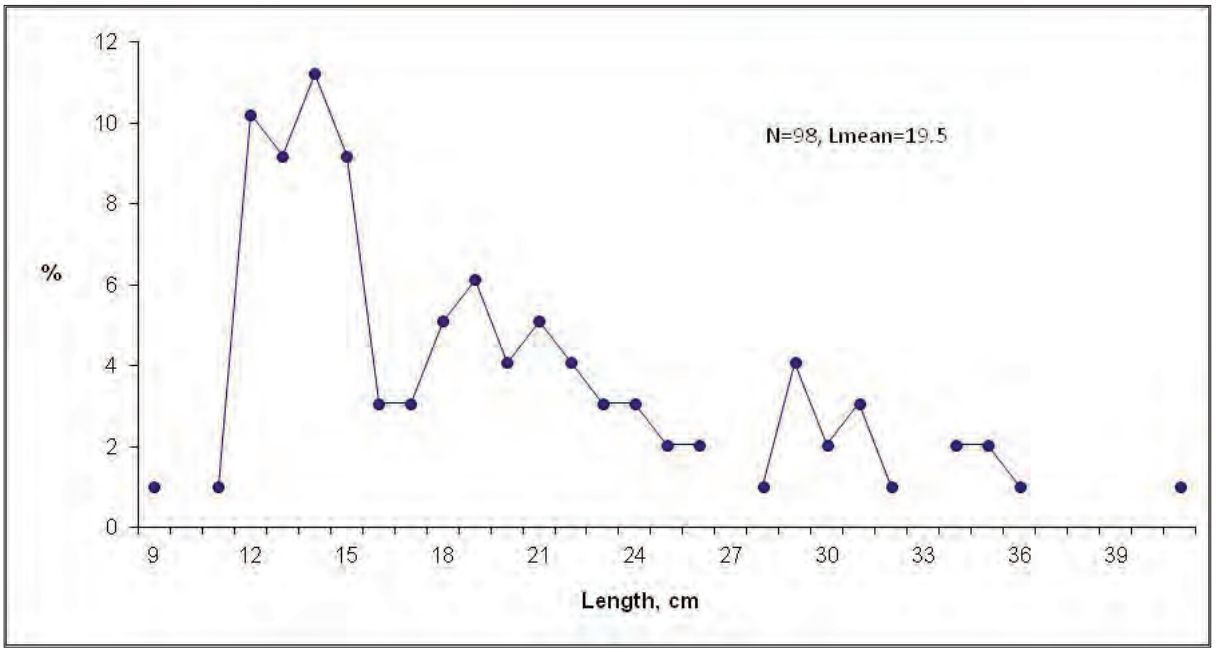
Known on both sides of the northern North Atlantic and off arctic Alaska.

Found in the central and northern part of the surveyed area, in the same area as during the ecosystem survey (see page 194 in "Atlas of the Barents Sea Fishes").



Length composition

Length distribution was similiar in winter and autumn.



Life history

Arctic, demersal, preferring muddy bottom at 350-914 m and temperatures below 0 ºC. Can reach up to 45 cm and 9 years. Feeds on polychaetes, bottom crustaceans, ophiuroids, and other bottom animals. Depending on their own size females spawn 125-260 large eggs (approx.5 mm diameter) in autumn.

Population and exploitation

Of no economic importance.

References

Andriashev AP. 1986. Zoarcidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1130-1150

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Neyelov AV, Chernova NV 2005. Results of fish investigations of the Spitsbergen shelf and continental slope waters during the cruise of RV "Polarstern" ARK VIII/2 1991 ('EPOS II'='SEAS'. In: Kotlyakov VM (ed) Arctic and Antarctic, 4(38). Moscow, Nauka Publishing. pp 130-170 (in Russian)

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Lycodes gracilis Sars 1867

Family: Zoarcidae
English name: none
Norwegian name: vanlig ålebrosme
Russian name: тонкий ликод
(tonkiy likod)

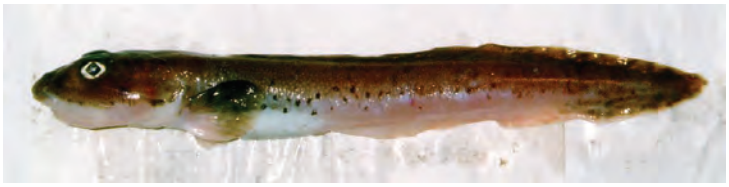
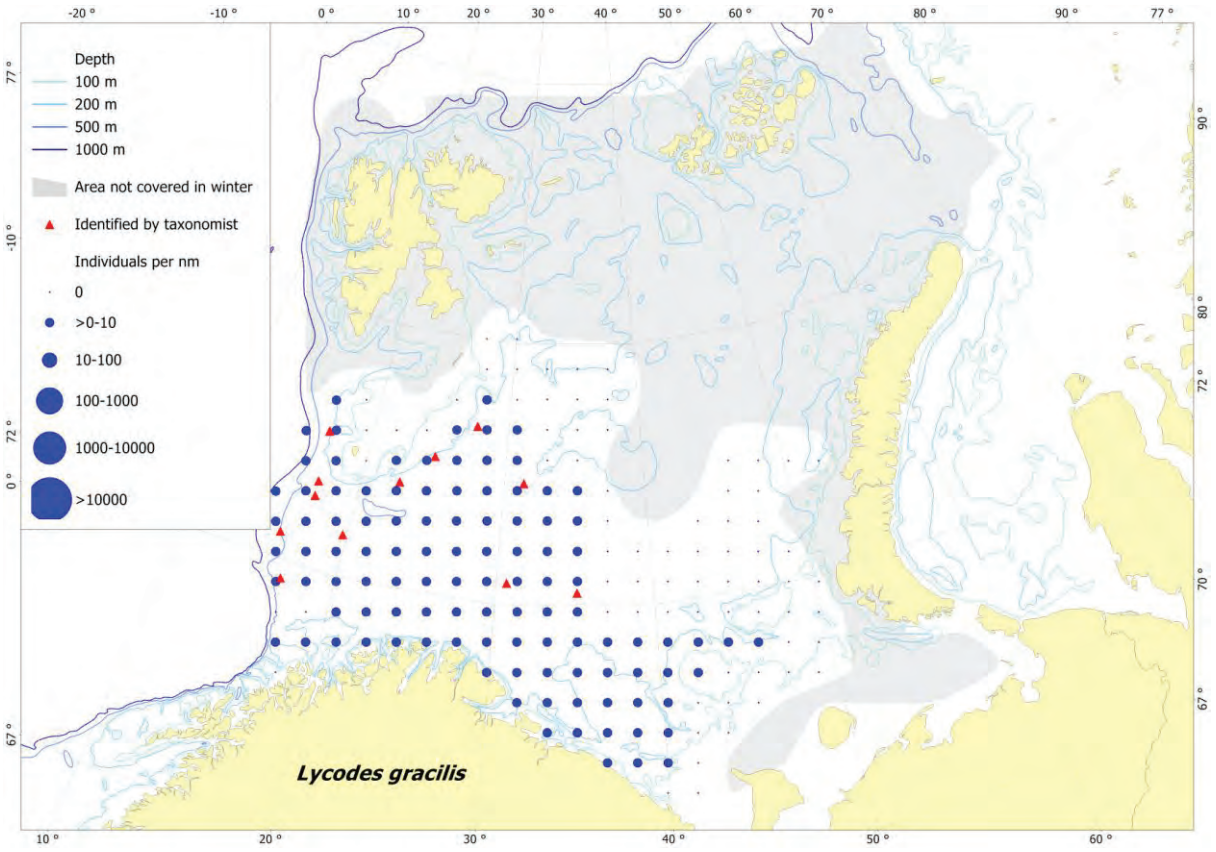


Photo: Andrey Dolgov

Spatial distribution

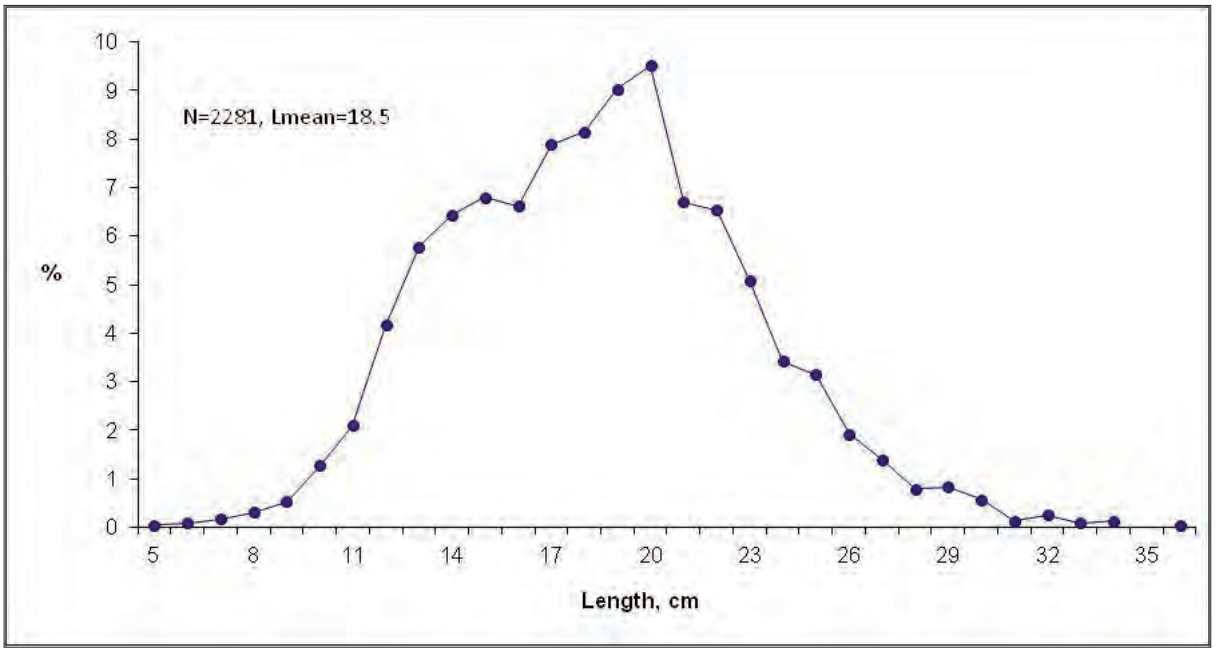
Known along the Scandinavian Peninsula and Iceland.

Found in large parts of the southern and western Barents Sea, in the same area as during the ecosystem survey (see page 198 in “Atlas of the Barents Sea Fishes”).



Length composition

Length distribution was similar in winter and autumn.



Life history

Mainly boreal, demersal, on muddy bottom at 100-365 m depth and temperatures above 0 ºC. Can reach up to 35 cm and 7 years, matures at length 20 cm. Feeds on polychaetes, bivalves, ophiuroids, crustaceans and foraminiferas. Spawns in late summer - early autumn 50-120 eggs (4.5 mm in diameter).

Population and exploitation

Of no economic importance, but frequently taken as bycatch in the shrimp fishery.

References

Andriashev AP. 1986. Zoarcidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1130-1150

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Dolgov AV. 2004. Non-target fishes. In: Shevelev MS (ed) Investigations by PINRO in the Spitsbergen archipelago area. Murmansk, PINRO Press pp 230-265 (in Russian)

Dolgov AV. 2006. New Data on the Distribution of Rare and New Fish Species in Russian Waters of the Barents Sea. Journal of Ichthyology 46:139-147

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Lycodes pallidus Collett 1879

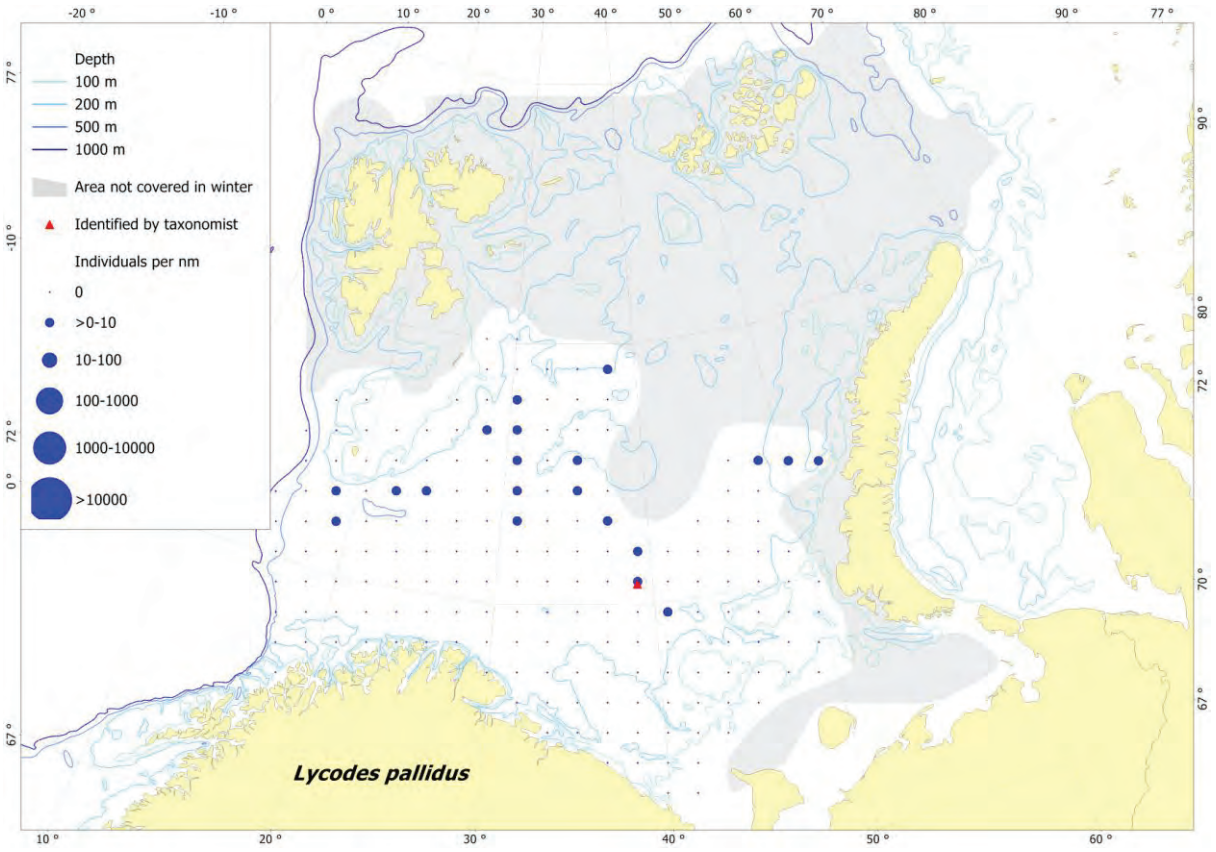
Family: Zoarcidae
English name: pale eelpout
Norwegian name: blek ålebrosme
Russian name: бледный ликод (bledniy likod)

Photo: Thomas de Lange Wenneck

Spatial distribution

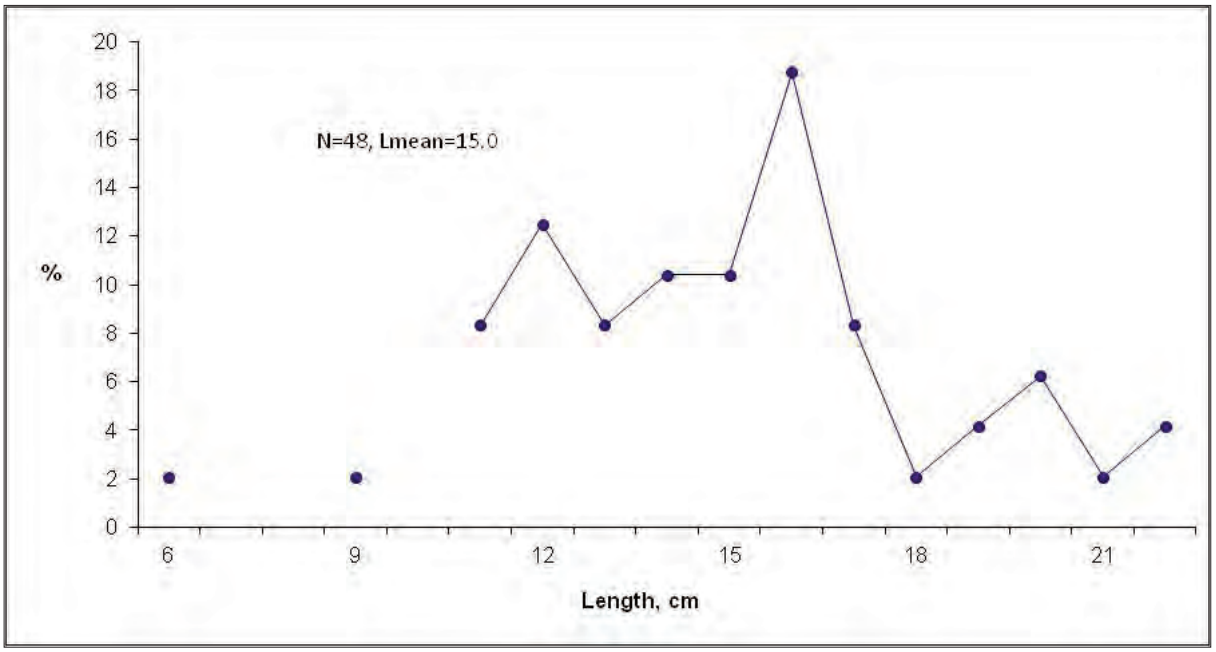
Known in the northern North Atlantic including Iceland and Greenland, the Kara and Laptev Sea, but has often been confused with several other eelpout species.

Found in the central and northern parts of the surveyed area, in the same area as during the ecosystem survey, but not that far south (see page 204 in “Atlas of the Barents Sea Fishes”).



Length composition

Length distribution was similar in winter and autumn.



Life history

Arctic, demersal, preferring muddy bottom at 60-960 m, temperatures below 0 ºC and 34-35 ‰ salinity. Reaches at least 28.7 cm, matures about at length 13 cm. Feeds on ophiuroids, polychaetes, bivalves and amphipods. Ripe females where found in the Kara Sea in September, fecundity low (30-50 demersal eggs, 5.0-5.8 mm in diameter).

Population and exploitation

Of no economic importance.

References

Andriashev AP. 1986. Zoarcidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1130-1150

Bjelland O, Bergstad OA, Skjæraasen JE, Meland K. 2000. Trophic ecology of deep-water fishes associated with the continental slope of the eastern Norwegian Sea. Sarsia 85:101-117

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Møller PR. 2001. Redescription of the *Lycodes pallidus* species complex (Pisces, Zoarcidae), with a new species from the Arctic/North Atlantic Ocean. Copeia:972-996

Neyelov AV, Chernova NV 2005. Results of fish investigations of the Spitsbergen shelf and continental slope waters during the cruise of RV "Polarstern" ARK VIII/2 1991 ('EPOS II'='SEAS'. In: Kotlyakov VM (ed) Arctic and Antarctic, 4(38). Moscow, Nauka Publishing. pp 130-170 (in Russian)

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Lycodes polaris (Sabine 1824)

Family: Zoarcidae
English name: Canadian eelpout
Norwegian name: polarålebrosme
Russian name: полярный ликод (poliarniy likod)

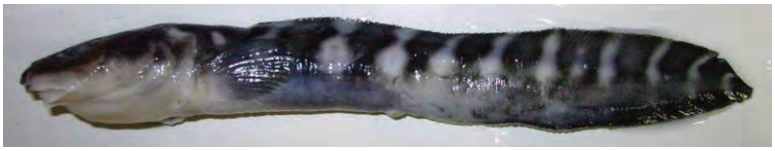
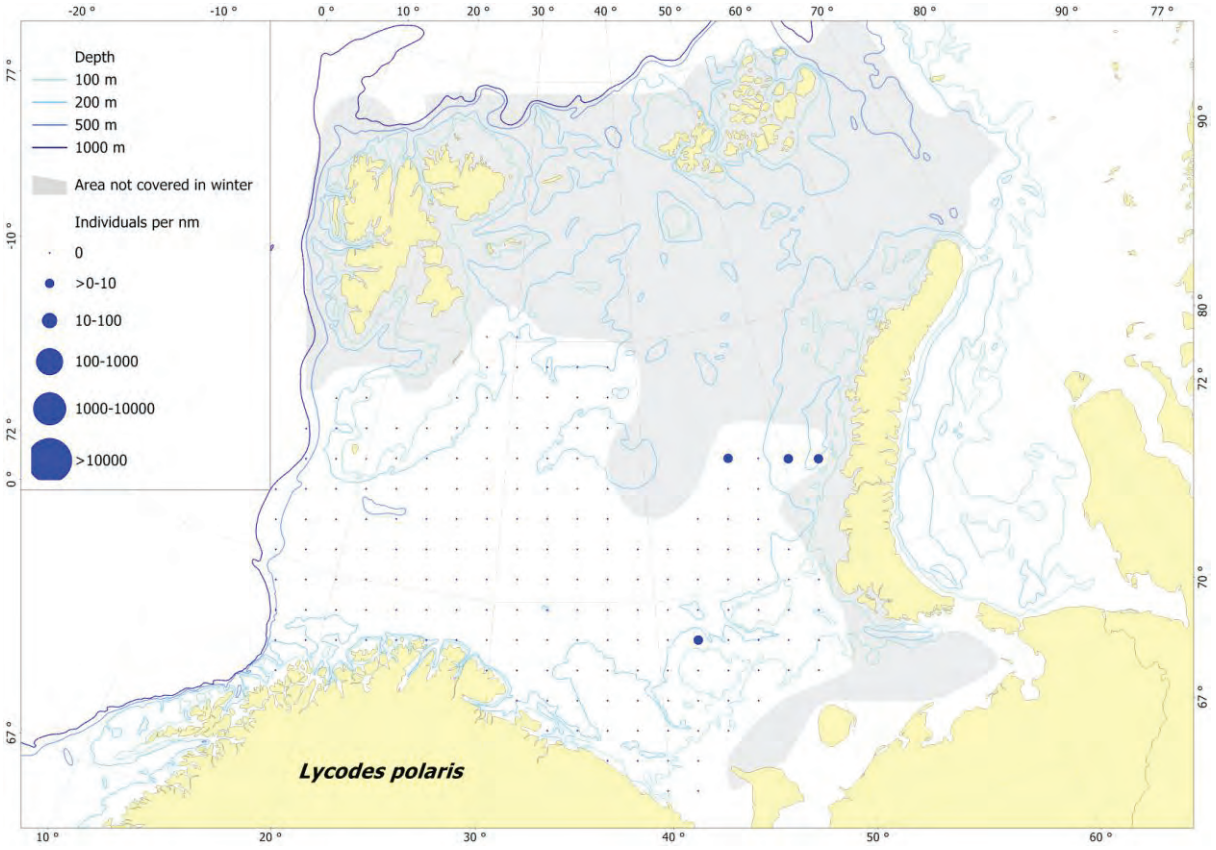


Photo: Andrey Dolgov

Spatial distribution

Known along arctic coasts from the White Sea eastward to North America and Greenland.

Found in the eastern part of the surveyed area, in the same area as during the ecosystem survey (see page 206 in "Atlas of the Barents Sea Fishes").



Length composition

15 specimens (10-45 cm, mean length 21.0 cm) were caught. The mean length was slightly larger during the winter, but far less specimens were caught.

Life history

Arctic, demersal, on muddy bottoms at 10-200 m, prefers temperatures below 0 ºC, avoids salinities below 25-30 ‰. Burrows into the mud tail first. Reported to reach 25 cm, present data indicate at least 55 cm. Feeds primarily on gammarids, also polychaetes and bivalves. Spawns in late autumn 100-200 demersal eggs (4-5 mm in diameter).

Population and exploitation

Of no economic importance.

References

Andriashev AP. 1986. Zoarcidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1130-1150

Lycodes reticulatus Reinhardt 1835

Family: Zoarcidae
English name: Arctic eelpout
Norwegian name: nettålebrosme
Russian name: сетчатый ликод (settchatiy likod)

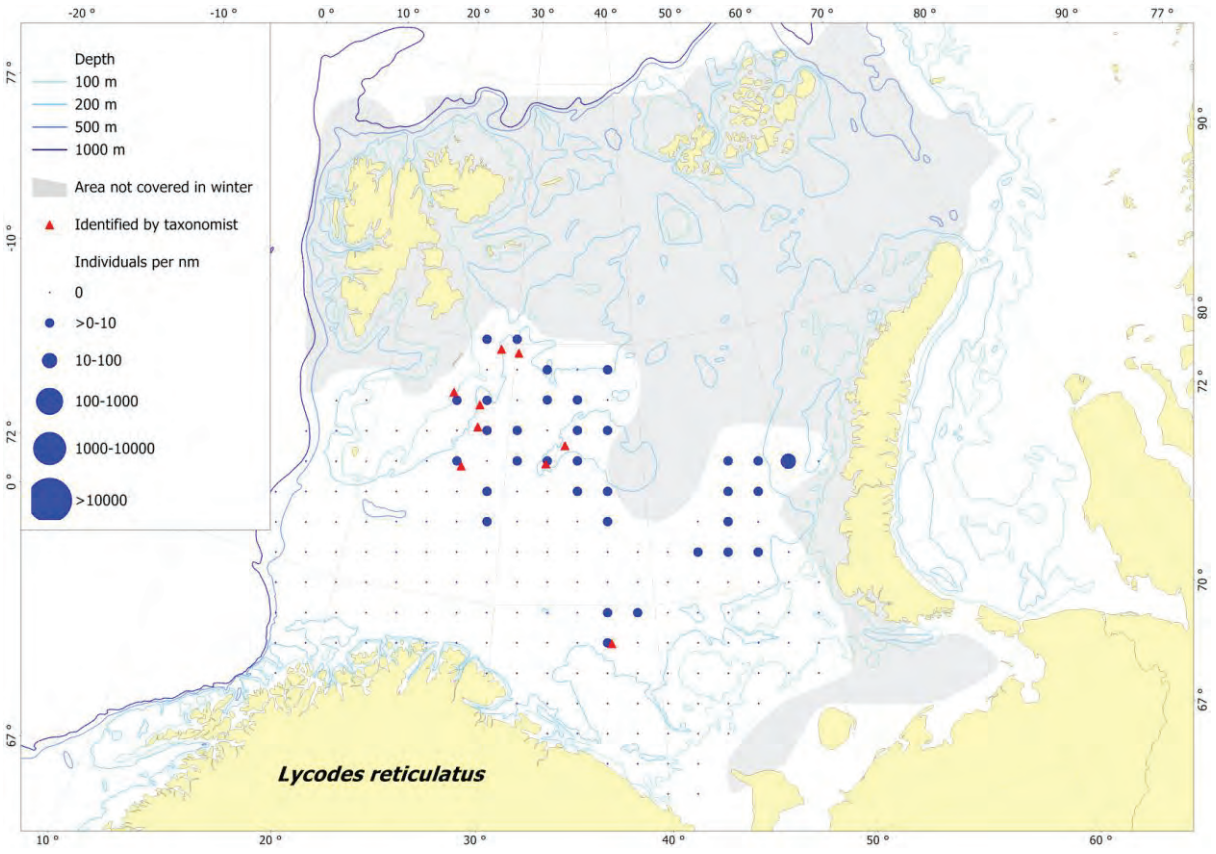
Photo: Thomas de Lange Wenneck

Note on identification: *L. reticulatus* and *L. rossi* are difficult to distinguish when young.

Spatial distribution

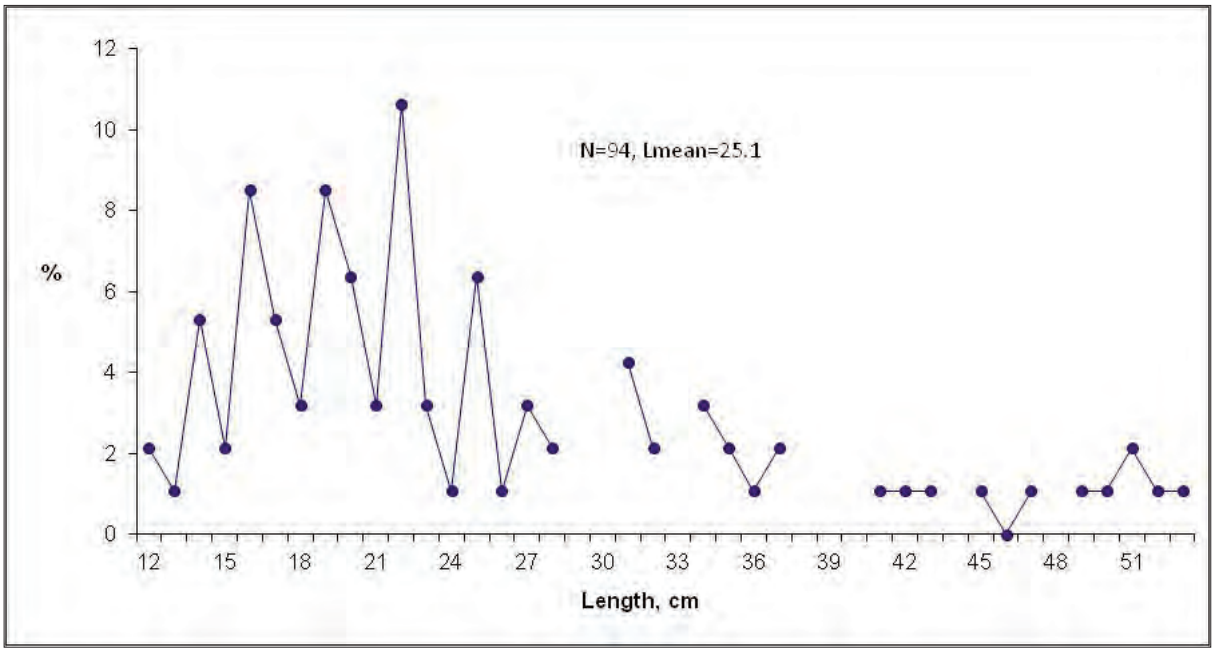
Known in the Arctic, from northeastern Canada east to the Laptev Sea.

Found mainly in the northern part of the surveyed area, in the same area as during the ecosystem survey, but also further south (see page 208 in "Atlas of the Barents Sea Fishes").



Length composition

Length distribution was similar in winter and autumn.



Life history

Arctic, demersal, on soft bottom at 100-380 m (young fishes may occur shallower), and at temperatures below 0 ºC. Can reach 55 cm and 10 years. Feeds on fish and bottom invertebrates.

Population and exploitation

Of no economic importance, occurs as bycatch in longline and bottom trawl fisheries.

References

Andriashev AP. 1986. Zoarcidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1130-1150

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Mecklenburg CW, Møller PR, Steinke D. 2011. Biodiversity of arctic marine fishes: taxonomy and zoogeography. Marine Biodiversity 41:109-140

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Lycodes rossi Malmgren 1865

Family: Zoarcidae
English name: threespot eelpout
Norwegian name: nordlig ålebrosme
Russian name: ликод Росса
(likod Rossa)

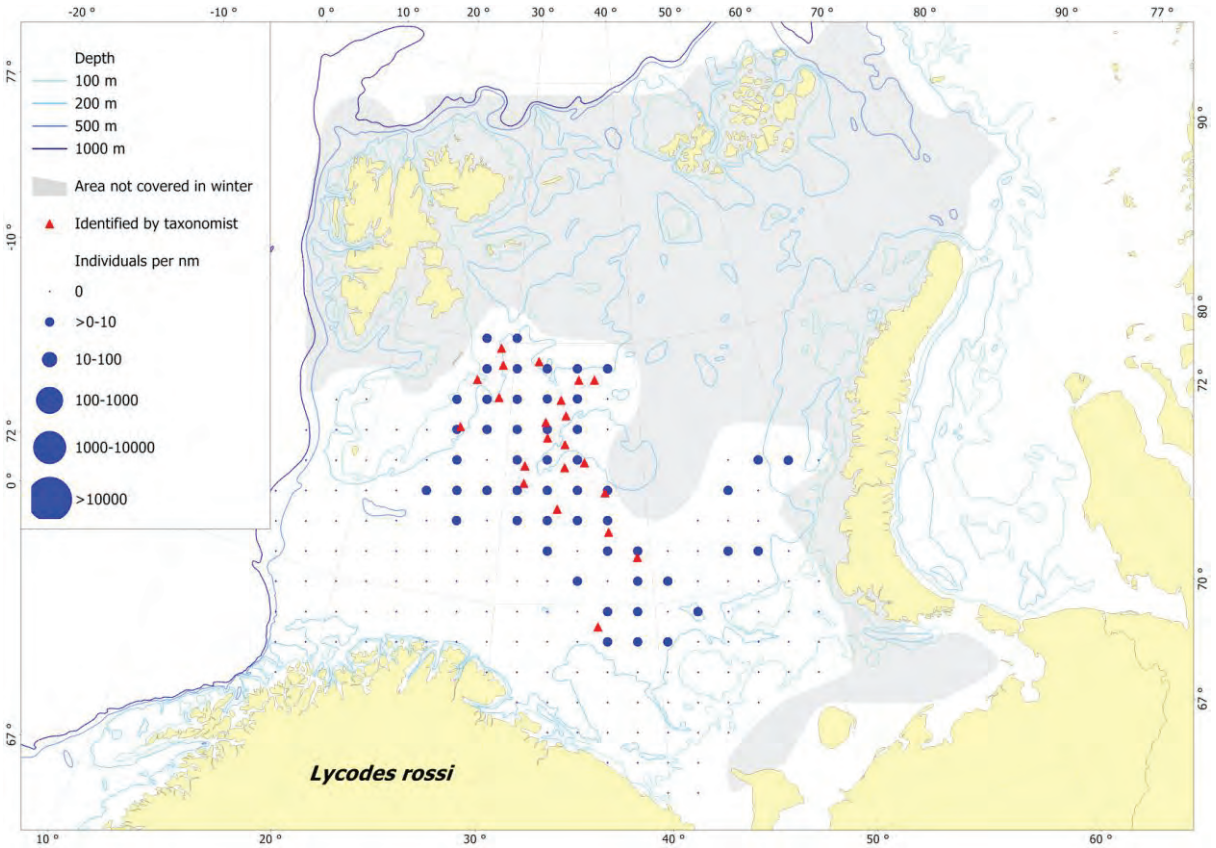
Photo: Thomas de Lange Wenneck

Note on identification: *L. reticulatus* and *L. rossi* are difficult to distinguish when young.

Spatial distribution

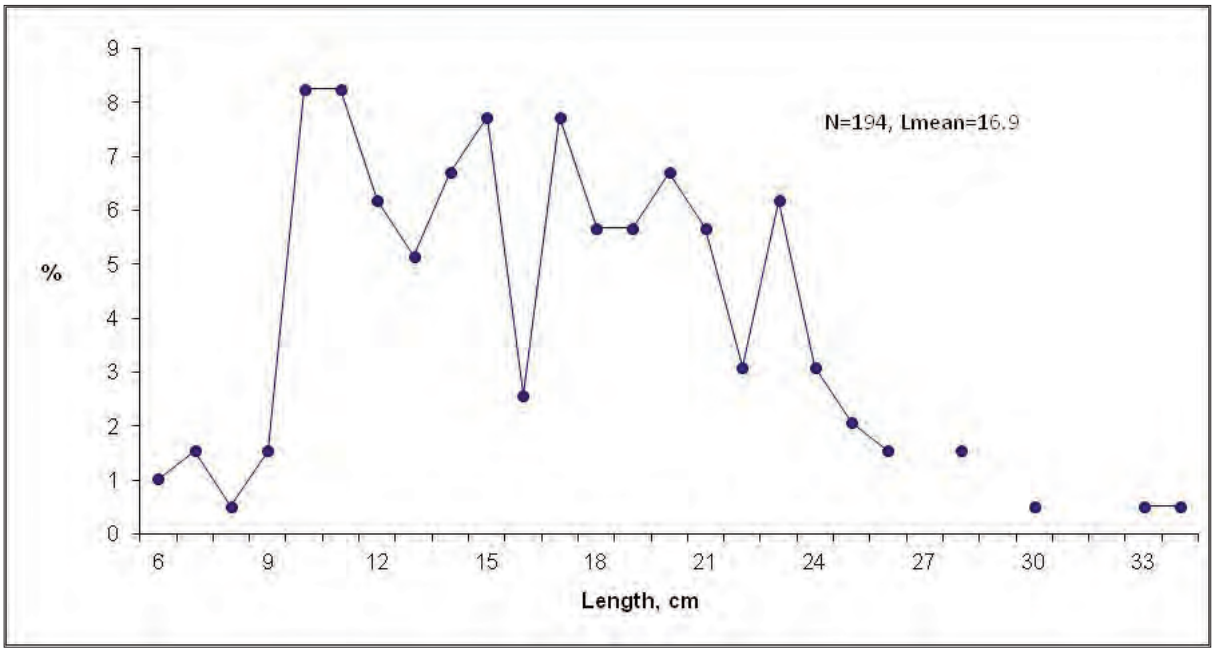
Known in the Barents Sea, the Kara Sea, off Iceland, and in the Beaufort Sea.

Widespread in the northern and central parts of the surveyed area, found in the same area as during the ecosystem survey, but also further south (see page 210 in "Atlas of the Barents Sea Fishes").



Length composition

Length distribution was similiar in winter and autumn.



Life history

Arctic, demersal, on soft bottoms at 45-365 m (young fishes may occur shallower), and temperatures below 0 ºC. Can reach 31 cm and 9 years. Feeds on crustaceans, polychaetes and bivalves. Spawns probably in winter or early spring up to 390 eggs (3-4 mm in diameter).

Population and exploitation

Of no economic importance.

References

Andriashev AP. 1986. Zoarcidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1130-1150

Dolgov AV. 1994. Some aspects of biology of non-target fish species in the Barents Sea. ICES C.M. 1994/O:12. 23 pp

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Mecklenburg CW, Møller PR, Steinke D. 2011. Biodiversity of arctic marine fishes: taxonomy and zoogeography. Marine Biodiversity 41:109-140

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Lycodes seminudus Reinhardt 1837

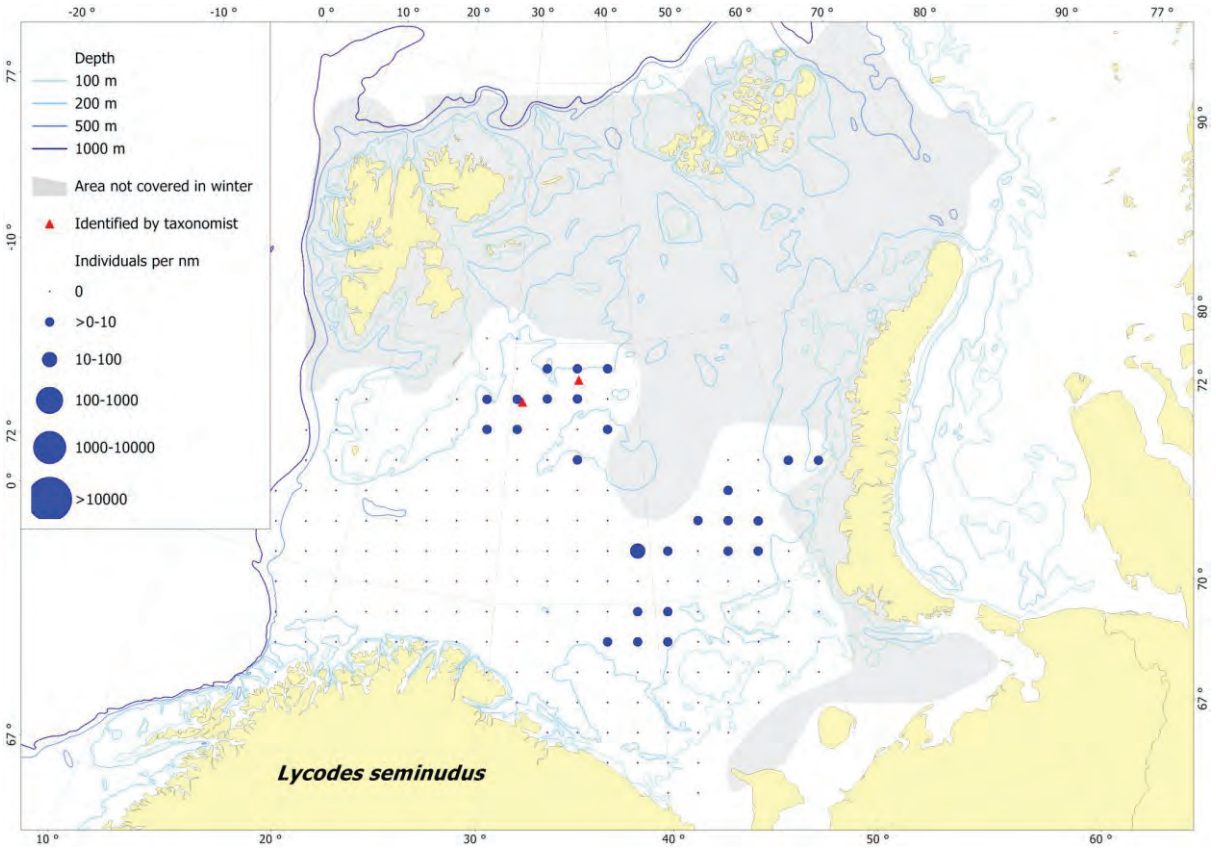
Family: Zoarcidae
English name: longear eelpout
Norwegian name: halvnaken ålebrosme
Russian name: полуголый ликод
(polugoliy likod)

Photo: Thomas de Lange Wenneck

Spatial distribution

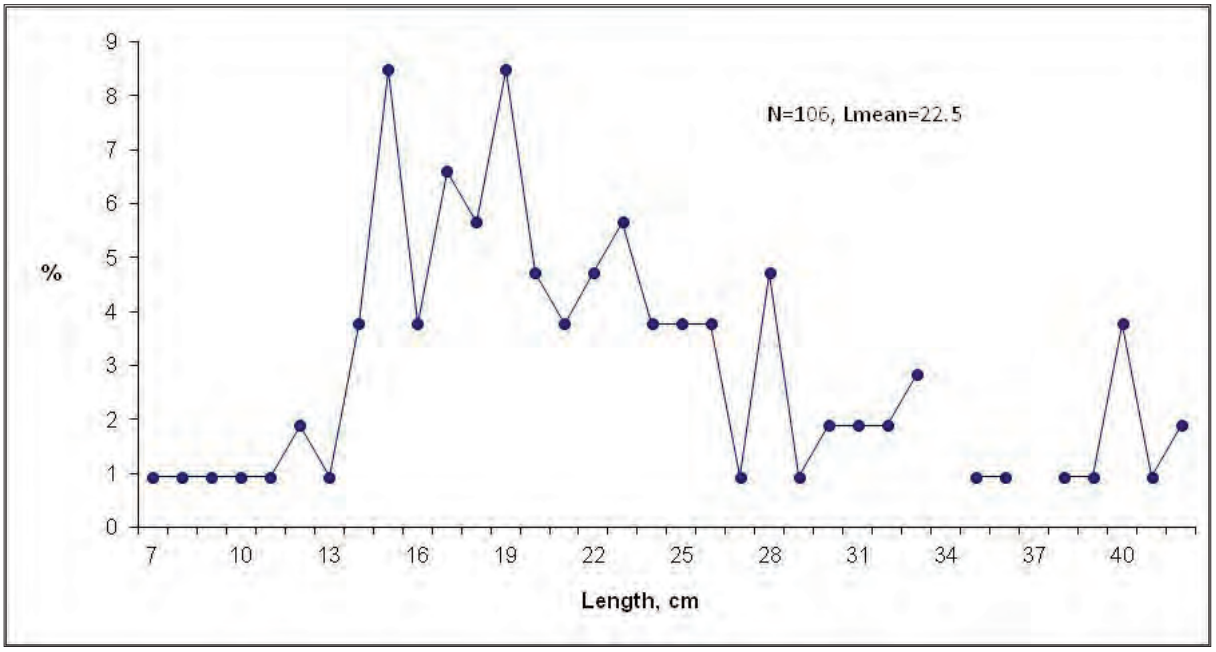
Known in the Norwegian, Barents, Kara, and Beaufort Seas, also off Iceland, Greenland, and the arctic Canada and Alaska.

Found in cold-water parts of the surveyed area, in the same area as during the ecosystem survey (see page 212 in “Atlas of the Barents Sea Fishes”).



Length composition

Mean length seems to be larger during the winter, but fewer specimens were caught during the winter survey.



Life history

Arctic, demersal, preferring soft muddy bottom at 100-1200 m depth, temperatures below 0 ºC and salinity above 34.5 ‰. Can reach 51 cm (commonly less than 30 cm), and up to 8 years. Feeds on bottom crustaceans and polychaetes as well as fishes. Ripe females were recorded in June and September-October; up to 380 demersal eggs (5-6 mm in diameter).

Population and exploitation

Of no economic importance.

References

Andriashev AP. 1986. Zoarcidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1130-1150

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Neyelov AV, Chernova NV 2005. Results of fish investigations of the Spitsbergen shelf and continental slope waters during the cruise of RV "Polarstern" ARK VIII/2 1991 ('EPOS II'='SEAS'. In: Kotlyakov VM (ed) Arctic and Antarctic, 4(38). Moscow, Nauka Publishing. pp 130-170 (in Russian)

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Lycodes squamiventer Jensen 1904

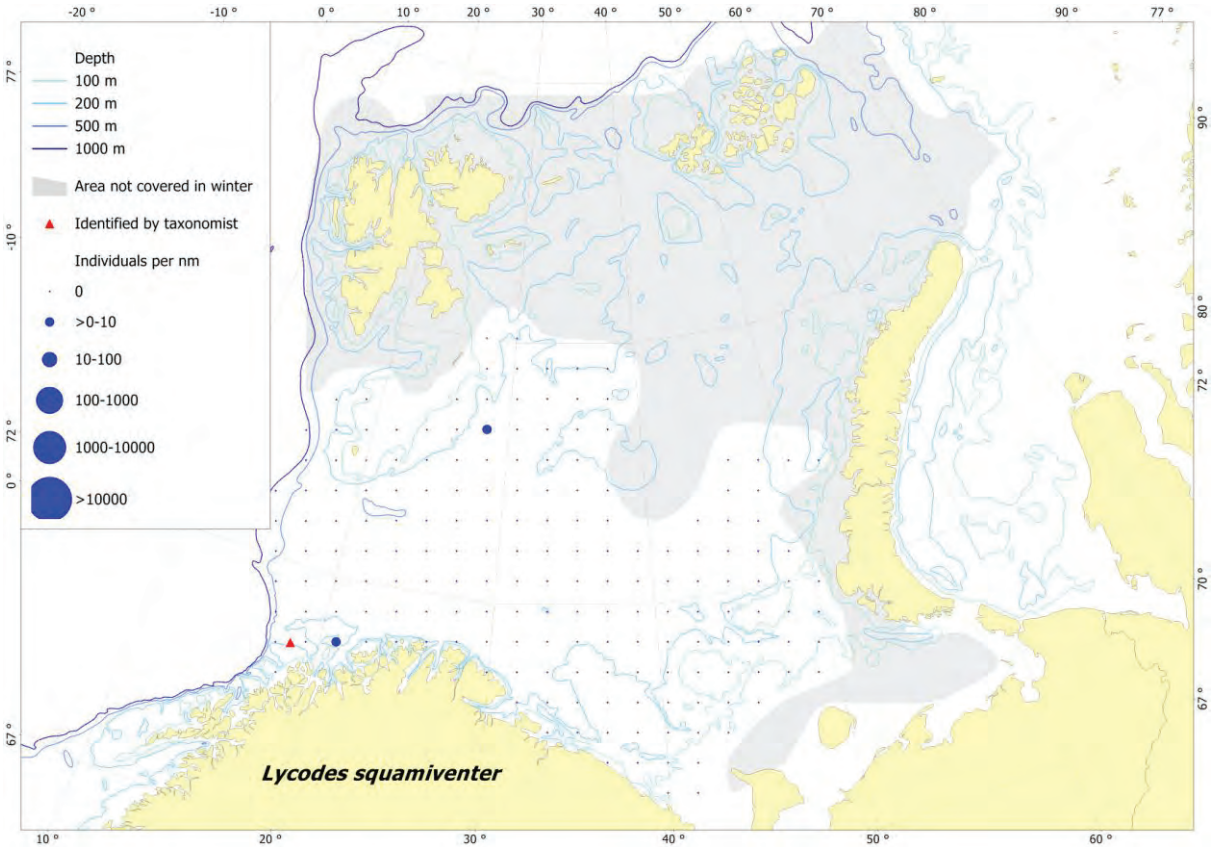
Family: Zoarcidae
English name: scalebelly eelpout
Norwegian name: skjellålebrosme
Russian name: чешуебрюхий ликод (tcheshuyebryukhiy likod)

Photo: Ingvar Byrkjedal

Spatial distribution

Known in the Norwegian Sea, Kara Sea, off Faeroese-Shetland Ridge and possibly in the Beaufort Sea and Davis Strait.

Found off the Norwegian mainland coast and in the Hopen trench, further south than during the ecosystem survey (see page 214 in "Atlas of the Barents Sea Fishes").



Length composition

One specimen (21 cm) was measured.

Life history

Arctic, demersal, on muddy bottoms at 160-1750 m depth and temperatures below 0 ºC. Reaches at least 26 cm, females mature at length 14 cm, males at 17.9 cm. Feeds on polychaetes, ophiuroids, bivalves and crustaceans. Spawning takes place in autumn, 50-60 demersal eggs, ripe females have also been found in June.

Population and exploitation

Of no economic importance.

References

Andriashev AP. 1986. Zoarcidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1130-1150

Møller PR. 2001. Redescription of the Lycodes pallidus species complex (Pisces, Zoarcidae), with a new species from the Arctic/North Atlantic Ocean. Copeia:972-996

Neyelov AV, Chernova NV 2005. Results of fish investigations of the Spitsbergen shelf and continental slope waters during the cruise of RV "Polarstern" ARK VIII/2 1991 ('EPOS II'='SEAS'. In: Kotlyakov VM (ed) Arctic and Antarctic, 4(38). Moscow, Nauka Publishing. pp 130-170 (in Russian)

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Anisarchus medius (Reinhardt 1837)

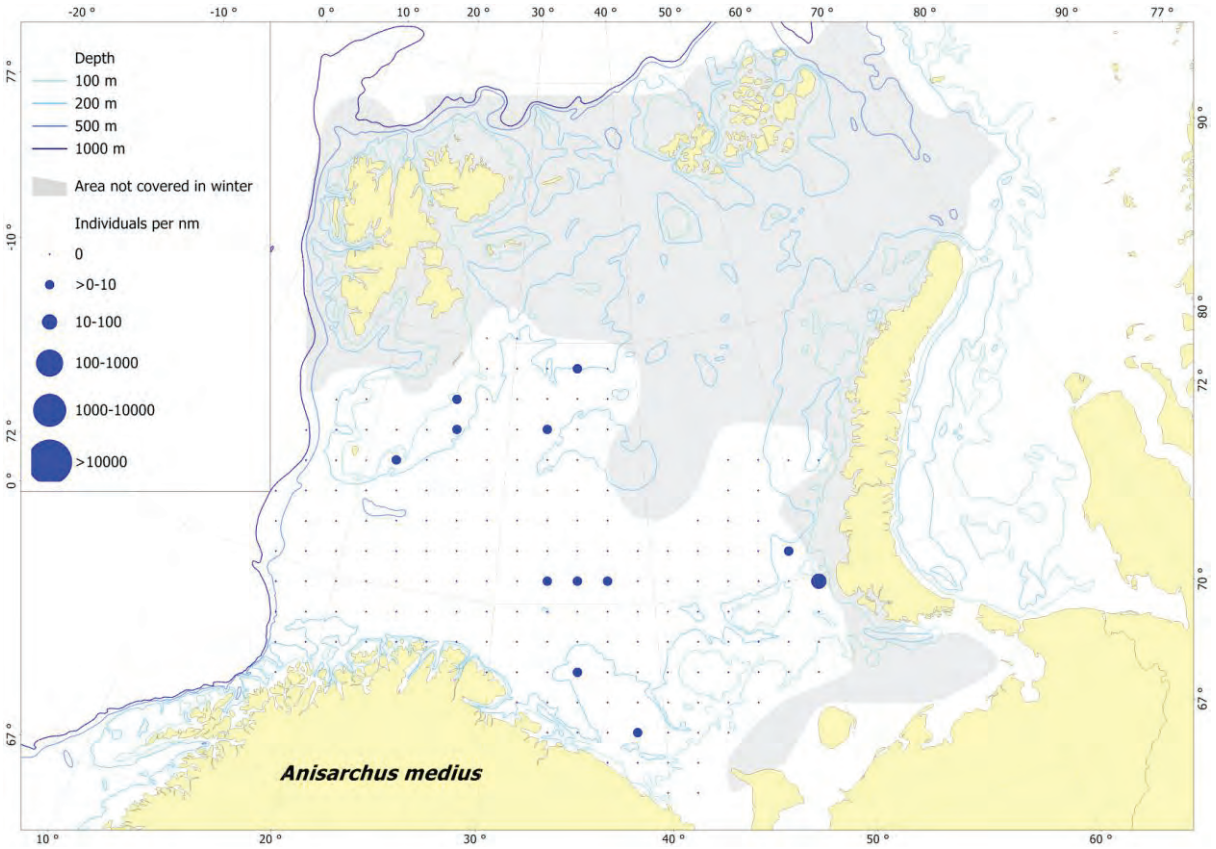
Family: Stichaeidae
English name: stout eelblenny
Norwegian name: rundhalet langebarn
Russian name: средний люмпен
(sredniy lyumpen)

Photo: Thomas de Lange Wenneck

Spatial distribution

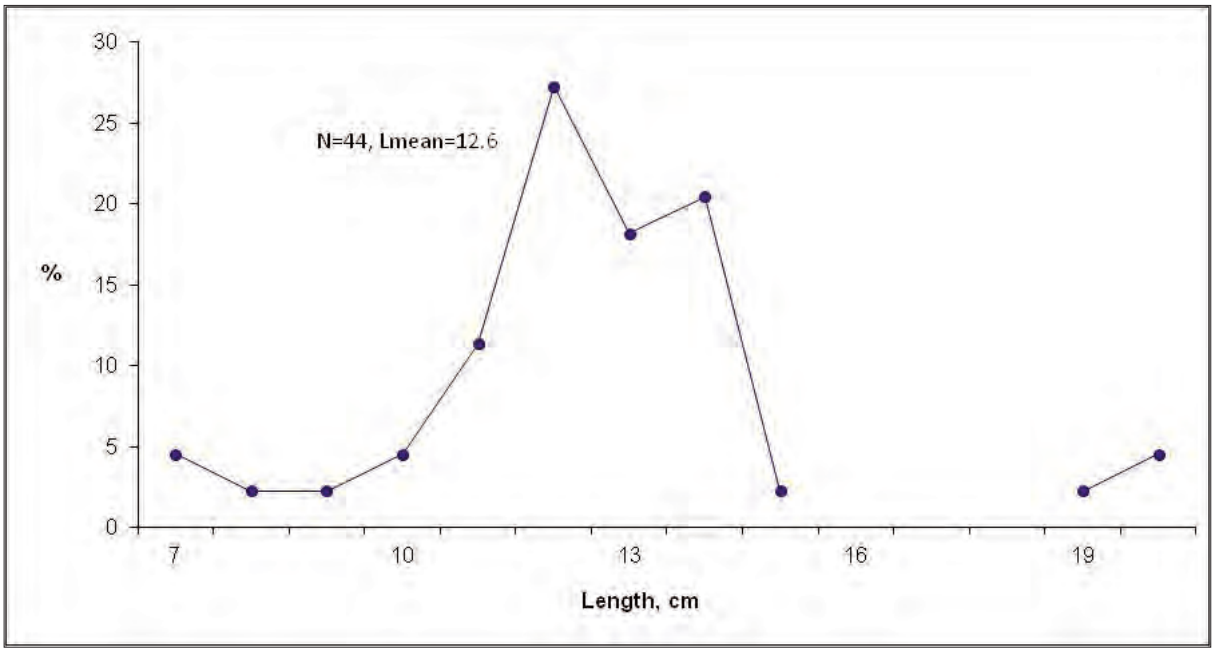
Circumpolar, from the Barents and White Sea, along the Siberian coasts and off southern Greenland; also in the western North Atlantic and the North Pacific.

Widely distributed in the surveyed area, found in the same area as during the ecosystem survey (see page 218 in “Atlas of the Barents Sea Fishes”).



Length composition

Length distribution was similar in winter and autumn.



Life history

Arctic, demersal, on mud bottom at depths of 10-150 m, preferring temperatures below 0 ºC and salinities above 30 ‰. Can reach 18 cm (commonly 10-15 cm). Feeds on small polychaetes, crustaceans and bivalves.

Population and exploitation

Of no economic importance.

References

Makushok VM. 1986. Lumpenidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1126-1129

Mecklenburg CW, Sheiko BA. 2004. Family Stichaeidae Gill 1864 - pricklebacks. California Academy of Sciences, Annotated Checklists of Fishes 35, 36 pp

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Leptoclinus maculatus (Fries 1838)

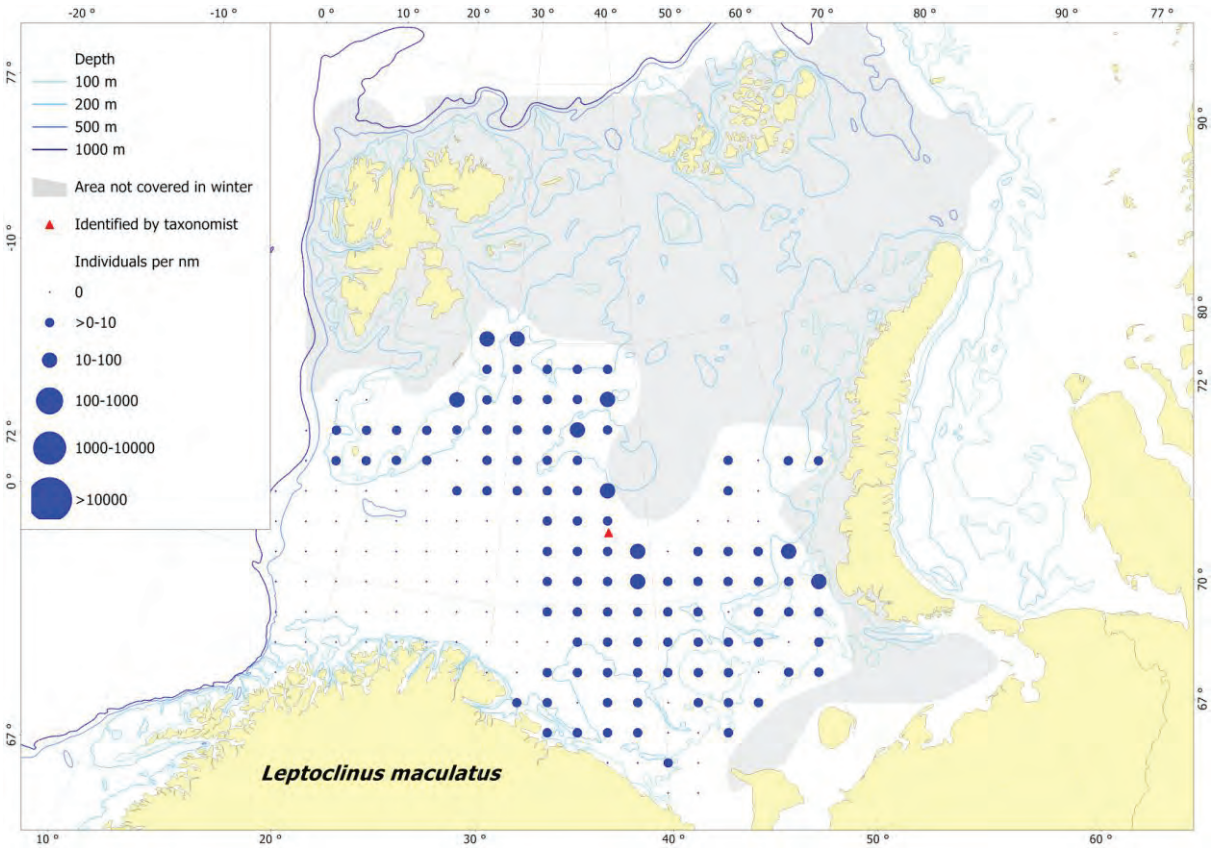
Family: Stichaeidae
English name: daubed shanny
Norwegian name: tverrhalet langebarn
Russian name: пятнистый лептоклин
(piatnistiy leptoklin)

Photo: Thomas de Lange Wenneck

Spatial distribution

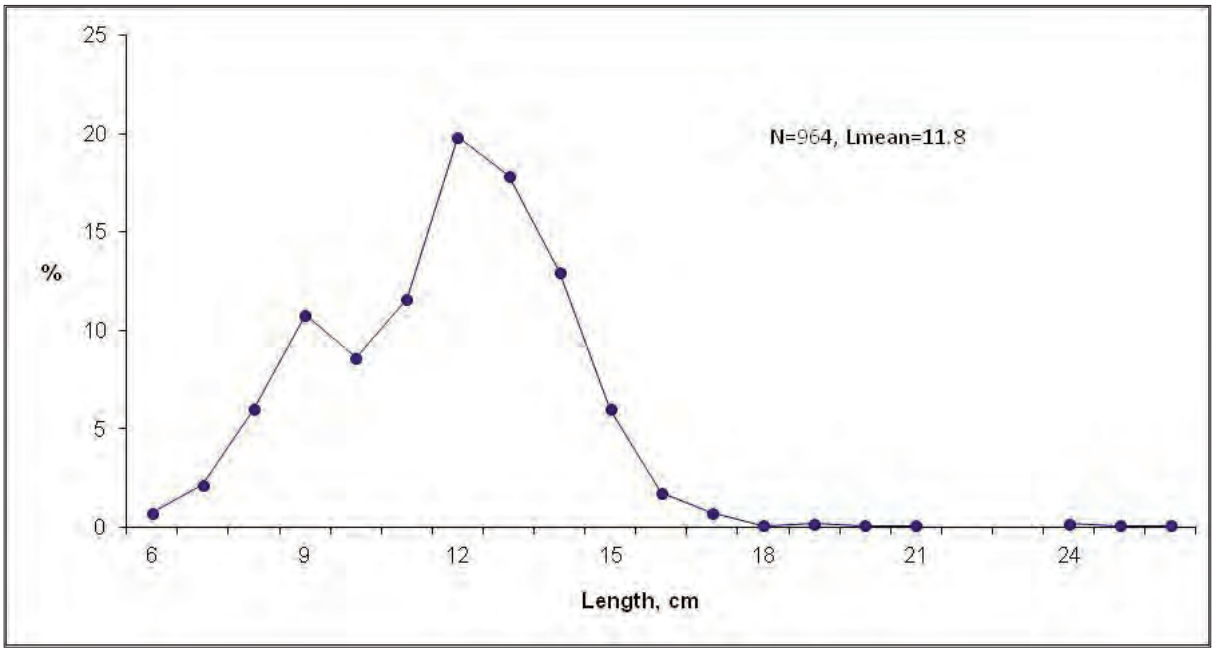
Known off the Norwegian coast, in the Barents, Kara, and White Seas, also off Iceland, Jan Mayen, southern Greenland, the western North Atlantic and the North Pacific.

Widely distributed in the northern and eastern parts of the surveyed area, found in the same area as in the ecosystem survey (see page 220 in "Atlas of the Barents Sea Fishes").



Length composition

ength distribution was similar in winter and autumn.



Life history

Arcto-boreal, demersal, on mud and pebble bottom at depths of 2-475 m, usually in less than 170 m and generally shallower during winter. Prefers low temperatures (around 0 ºC) and high salinities (33.5-35 ‰) in the Barents Sea, tolerates wider ranges in other areas. Can reach 20 cm (commonly less than 15 cm), matures at length 9 cm. Feeds on small polychaetes, crustaceans and echinoderms. About 1 000 demersal eggs are spawned in winter, larvae are pelagic.

Population and exploitation

Of no economic importance.

References

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Dolgov AV. 1994. Some aspects of biology of non-target fish species in the Barents Sea. ICES C.M. 1994/O:12. 23 pp

Makushok VM. 1986. Lumpenidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1126-1129

Mecklenburg CW, Sheiko BA. 2004. Family Stichaeidae Gill 1864 - pricklebacks. California Academy of Sciences, Annotated Checklists of Fishes 35, 36 pp

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Lumpenus fabricii Reinhardt 1836

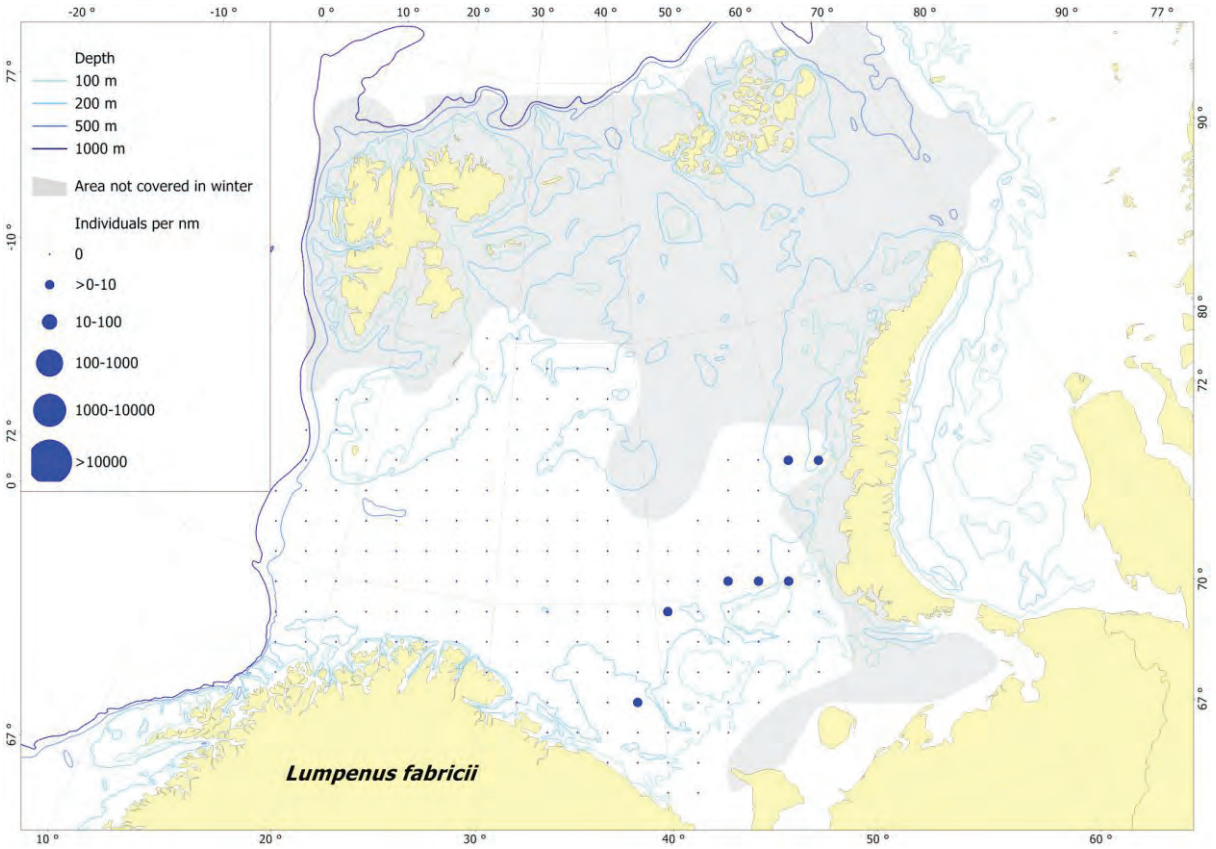
Family: Stichaeidae
English name: slender eelblenny
Norwegian name: arktisk langebarn
Russian name: люмпен Фабрициуса (lyumpen Fabritsiusa)

Photo: Gunnar Langhelle

Spatial distribution

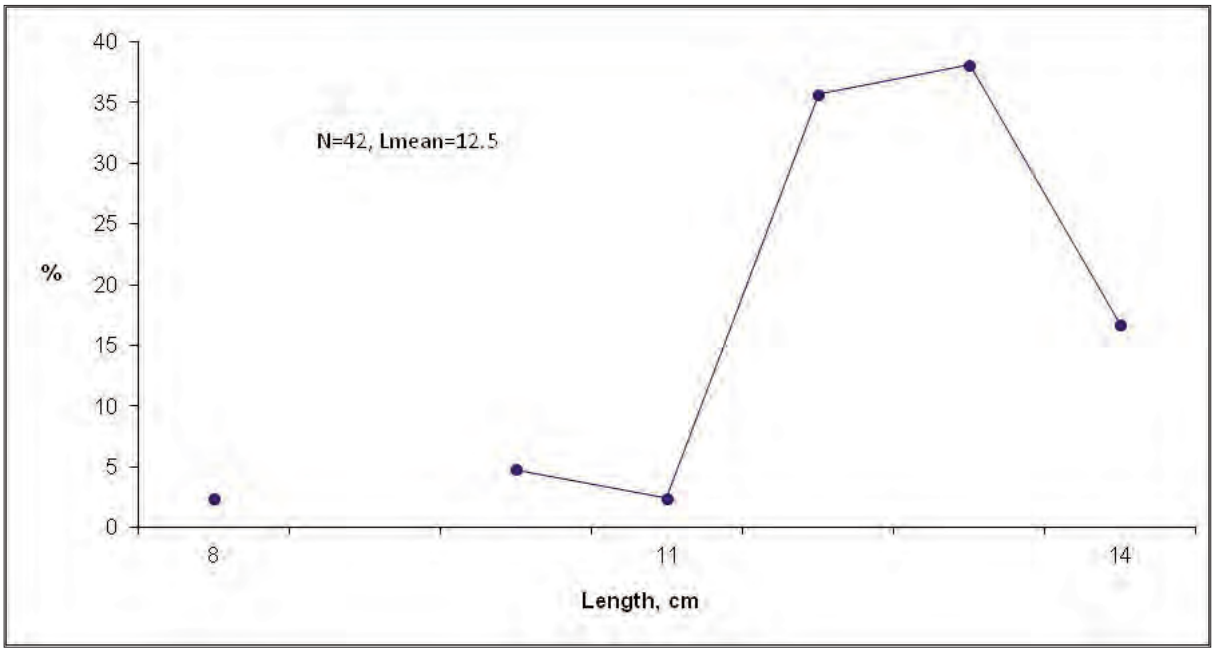
Circumpolar from the southeastern Barents Sea eastward to western Greenland; further south in the western North Atlantic and the North Pacific.

Found in the eastern part of the surveyed area, in the same area as during the ecosystem survey (see page 222 in “Atlas of the Barents Sea Fishes”).



Length composition

Specimens larger than 14 cm (and up to 26 cm) were only caught in autumn.



Life history

Mainly arctic, demersal, on sandy and rocky bottoms, often in sea grass or algae and down to 175 m depth, in the Barents Sea at temperatures around 0 ºC. Reaches up to 36.5 cm (commonly 20-23 cm). Feeds on crustaceans, annelids and fish eggs. A 16.4 cm long female was found with 490 nearly ripe eggs in the Kara Sea in October/November.

Population and exploitation

Of no economic importance.

References

Andriashev, AP. 1954. Fishes of the northern seas of the USSR. Academy of Science Press, Moscow-Leningrad. 566 pp (in Russian)

Makushok VM. 1986. Lumpenidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1126-1129

Mecklenburg CW, Sheiko BA. 2004. Family Stichaeidae Gill 1864 - pricklebacks. California Academy of Sciences, Annotated Checklists of Fishes 35, 36 pp

Lumpenus lampretaeformis (Walbaum 1792)

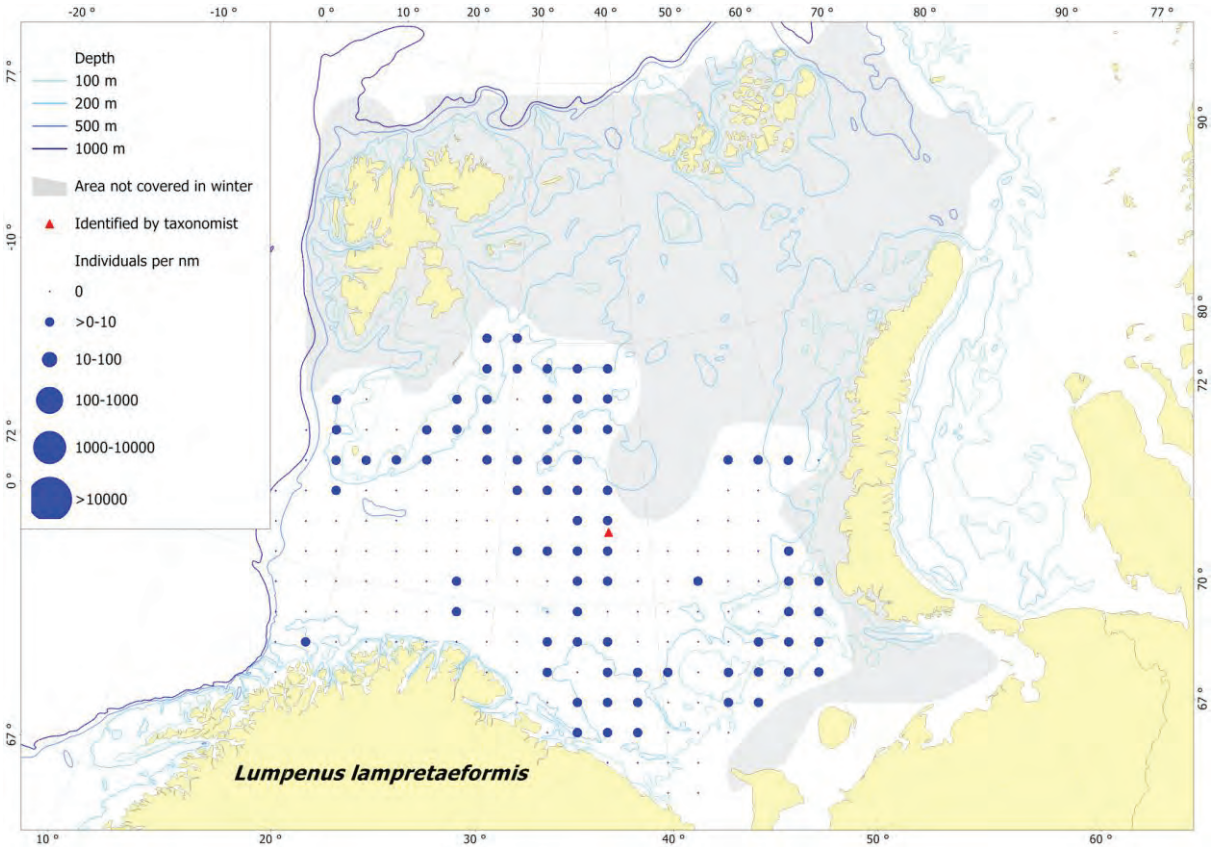
Family: Stichaeidae
English name: snakeblenny
Norwegian name: langhalet langebarn
Russian name: миноговидный люмпен
(minogovidniy lyumpen)

Photo: Andrey Dolgov

Spatial distribution

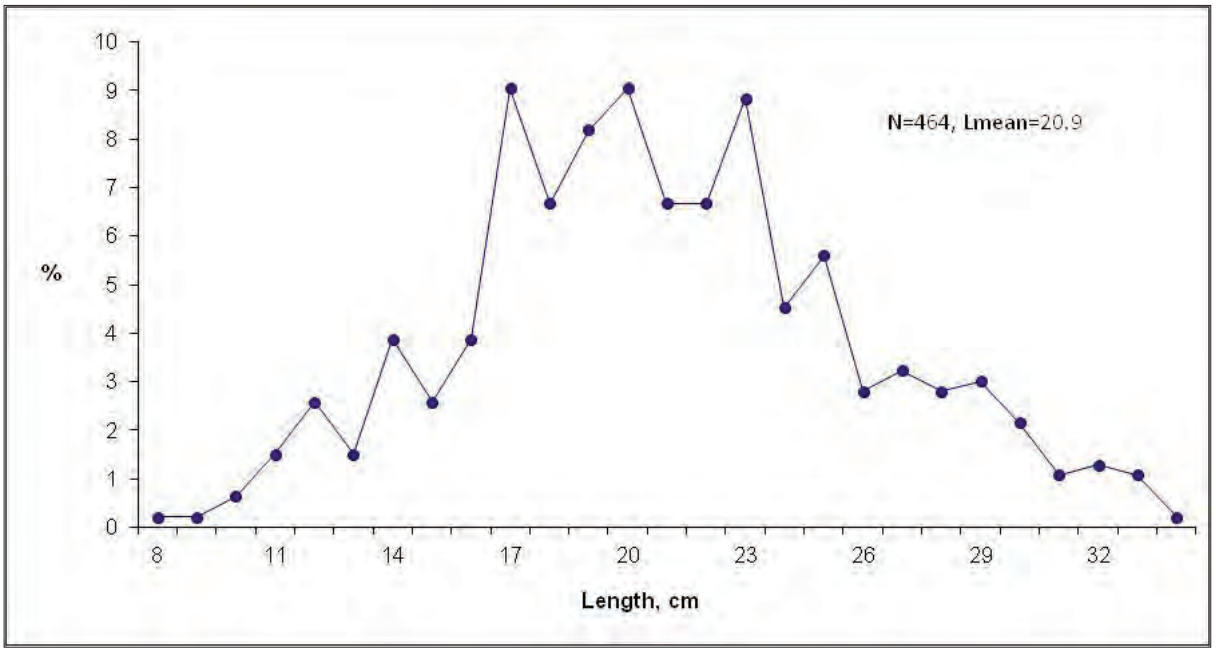
Known off the coasts of the North Atlantic, including the Baltic, North, Norwegian, Greenland, and Barents Seas; also in the western North Atlantic.

Widely distributed in the surveyed area, found in the same area as during the ecosystem survey (see page 224 in “Atlas of the Barents Sea Fishes”).



Length composition

Length distribution was similiar in winter and autumn.



Life history

Mainly boreal, demersal, burrows in muddy bottom at 30-330 m depths, most common at 40-100 m, prefers low temperatures (around 0 ºC) and salinities above 34 ‰. Can reach 49 cm (commonly less than 30 cm). Matures at age 3 years, measures 5-6 cm at 1 year, 13 cm at 2, 17-24 cm at 3, and 23-28 at 4 years. Feeds on small crustaceans, polychaetes, echinoderms and bivalves. Spawns in December/January up to 1 100 demersal eggs. Larvae are pelagic in upper layers until 3-4 cm long.

Population and exploitation

Of no economic importance.

References

Andriashev, AP. 1954. Fishes of the northern seas of the USSR. Academy of Science Press, Moscow-Leningrad. 566 pp (in Russian)

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Dolgov AV. 1994. Some aspects of biology of non-target fish species in the Barents Sea. ICES C.M. 1994/O:12. 23 pp

Makushok VM. 1986. Lumpenidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 1126-1129

Mecklenburg CW, Sheiko BA. 2004. Family Stichaeidae Gill 1864 - pricklebacks. California Academy of Sciences, Annotated Checklists of Fishes 35, 36 pp

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Anarhichas denticulatus Krøyer 1845

Family: Anarhichadidae
English name: Northern wolffish
Norwegian name: blåsteinbit
Russian name: синяя зубатка
(siniaya zubatka)

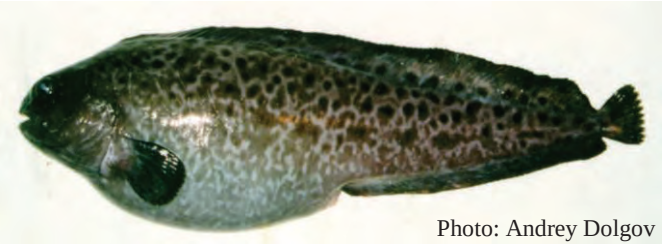


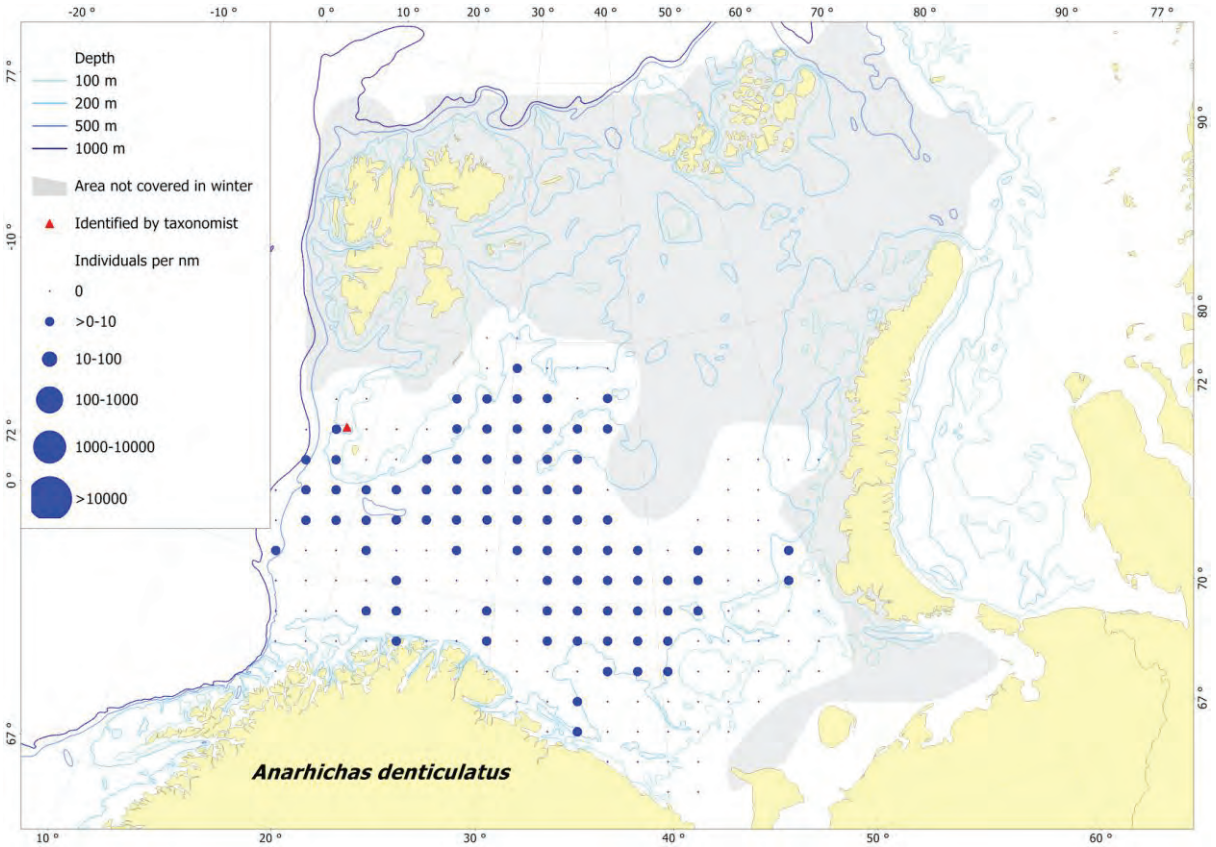
Photo: Andrey Dolgov

Note on identification: Species identification of small specimens might be doubtful.

Spatial distribution

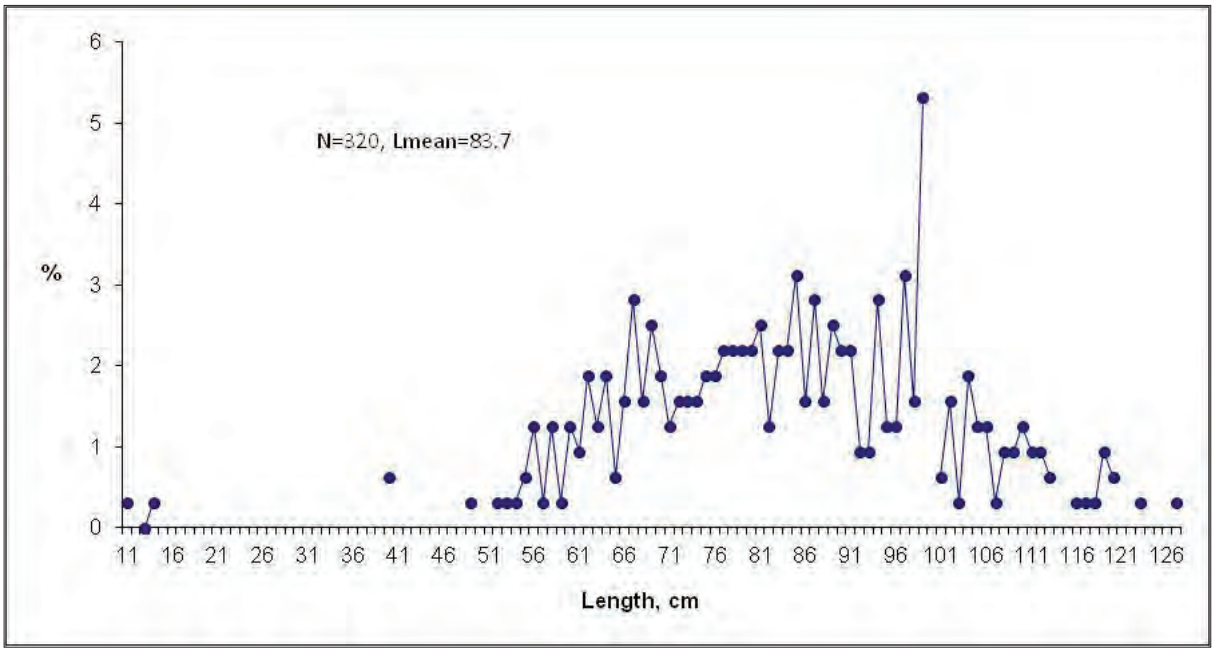
Known in the North Atlantic and the Arctic, from Iceland, the Faroe Islands, the Norwegian and Barents Seas, also in the western North Atlantic.

Found in large parts of the surveyed area, in the same area as during the ecosystem survey, but also closer to the European mainland coast (see page 226 in "Atlas of the Barents Sea Fishes").



Length composition

Length distribution was similar in winter and autumn.



Life history

Mainly boreal, pelagic to benthopelagic, solitary on muddy bottom and at depths down to 1325 m. Tolerates temperatures from -1.4 to +7 ºC and prefers high salinity. Reaches 138 cm, 32 kg and up to 16 years. Females mature at age 6-8 years (about 80 cm). The fastest growing of the three wolffish species in the Barents Sea, reaching 110 cm in 10 years. Feeds on soft shelled bottom invertebrates, fish, ctenophores and jellyfish. No foraging in February-March when teeth are shed. Spawns between April and October (peak in summer) on the continental slope of the Barents Sea and Norwegian Sea at depths below 400 m up to 42 500 eggs (6-8 mm in diameter), which account for 25-35 % of the body weight. Performs extensive daily vertical migrations and seasonal migrations between spawning, feeding and wintering grounds.

Population and exploitation

The Barents Sea population is not isolated from other populations in the North Atlantic. Based on Russian data stock biomass decreased over the past decades from 130 000 to approx. 10 000-20 000 tonnes.

Of low economic importance, targeted in Russia (annual catch 16 000-32 000 tonnes) and marginally in Norway. Bycatch in line and trawl fishery.

References

Barsukov VV, Shevelev MS. 1986. Wolffishes. In: Matishov GG (ed) Ichthyofauna and its Living Conditions in the Barents Sea. KFAN Press, Apatity. pp 34-40 (in Russian)

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Mecklenburg CW. 2003. Family Anarhichadidae Bonaparte 1846 - wolffishes. California Academy of Science, Annotated Checklists of Fishes 10, 6 pp

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Shevelev MS, Johannesen E. 2011. Wolffish. In: Jakobsen T, Ozhihin V (eds) The Barents Sea – Ecosystem, Resources and Management. Half a Century of Russian-Norwegian Cooperation. Tapir Academic Press, Trondheim

Anarhichas lupus Linnaeus 1758

Family: Anarhichadidae
English name: Atlantic wolffish
Norwegian name: gråsteinbit
Russian name: полосатая зубатка (polosataya zubatka)

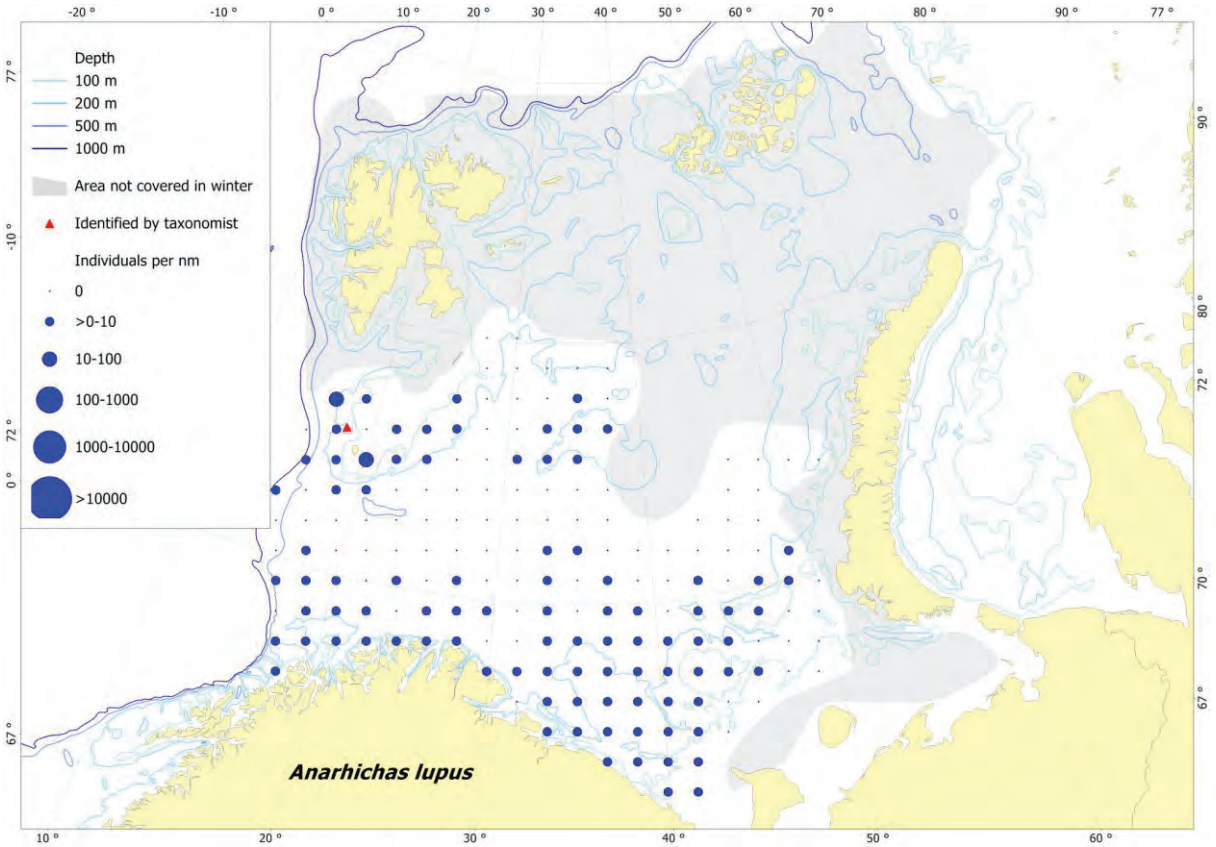
Photo: Andrey Dolgov

Note on identification: Identification of small specimens and the northeasternmost observations might be doubtful.

Spatial distribution

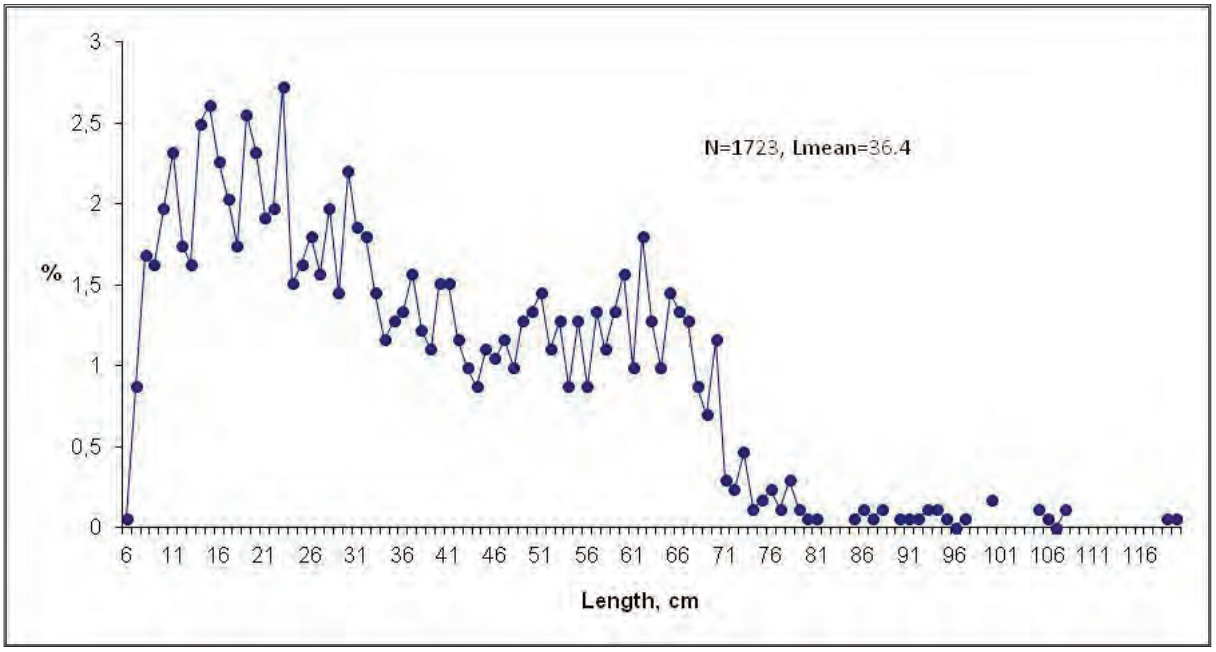
Known in the North Atlantic and the Arctic from off Greenland, the British Isles, the North Sea and northward to the Barents Sea and White Sea; also in the western North Atlantic.

Found mainly in shallow waters of the surveyed area, in the same area as during the ecosystem survey (see page 229 in "Atlas of the Barents Sea Fishes").



Length composition

Length range was similar in winter and autumn, but mean length was larger during the winter survey.



Life history

Mainly boreal, demersal, solitary, preferring rocky bottom in coastal areas from 0-540 m depth, tolerates temperatures from -1.5 to +7.4 ºC). Reaches 125 cm, 20 kg and 20 years. Growth rates high, but lowest of the three wolffish species: measures 10-15 cm after one year, 18 cm after 2, 23 cm after three years. Matures at age 6-7 years (50-60 cm), females earlier and smaller than males. Feeds on hard-shelled bottom invertebrates (mollusks, crabs and echinoderms), sheds its teeth every year. Spawns in July-October (peak in summer) near the coast in inlets and bays at 50-150 m depth. Demersal eggs, number of eggs size-dependent, up to 25 000 (5-7 mm in diameter). Males guard the egg batch until hatching in March-June the next year. Stationary, performing only small seasonal migrations from coastal to deeper areas in winter.

Population and exploitation

The population is probably isolated from other populations in the North Atlantic, and consists of four stocks with different spawning grounds in the Barents Sea. Based on Russian data total stock biomass varies between 5 000 and 25 000 tonnes, slightly rising during the past years. Smallest individual size, and highest stock abundance but lowest biomass of the wolffish species in the Barents Sea.

Of minor economic importance, due to coastal habitat bycatch rates are low, annual Russian catch 300-900 tonnes.

References

Barsukov VV, Shevelev MS. 1986. Wolffishes. In: Matishov GG (ed) Ichthyofauna and its Living Conditions in the Barents Sea. KFAN Press, Apatity. pp 34-40 (in Russian)

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Mecklenburg CW. 2003. Family Anarhichadidae Bonaparte 1846 - wolffishes. California Academy of Science, Annotated Checklists of Fishes 10, 6 pp

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Shevelev MS, Johannesen E. 2011. Wolffish. In: Jakobsen T, Ozhihin V (eds) The Barents Sea – Ecosystem, Resources and Management. Half a Century of Russian-Norwegian Cooperation. Tapir Academic Press, Trondheim

Anarhichas minor Olafsen 1772

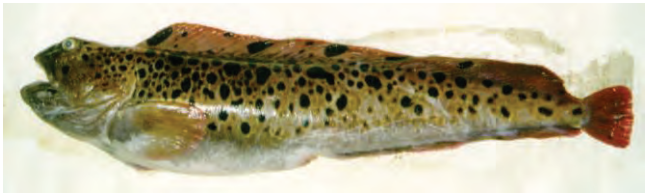


Photo: Andrey Dolgov

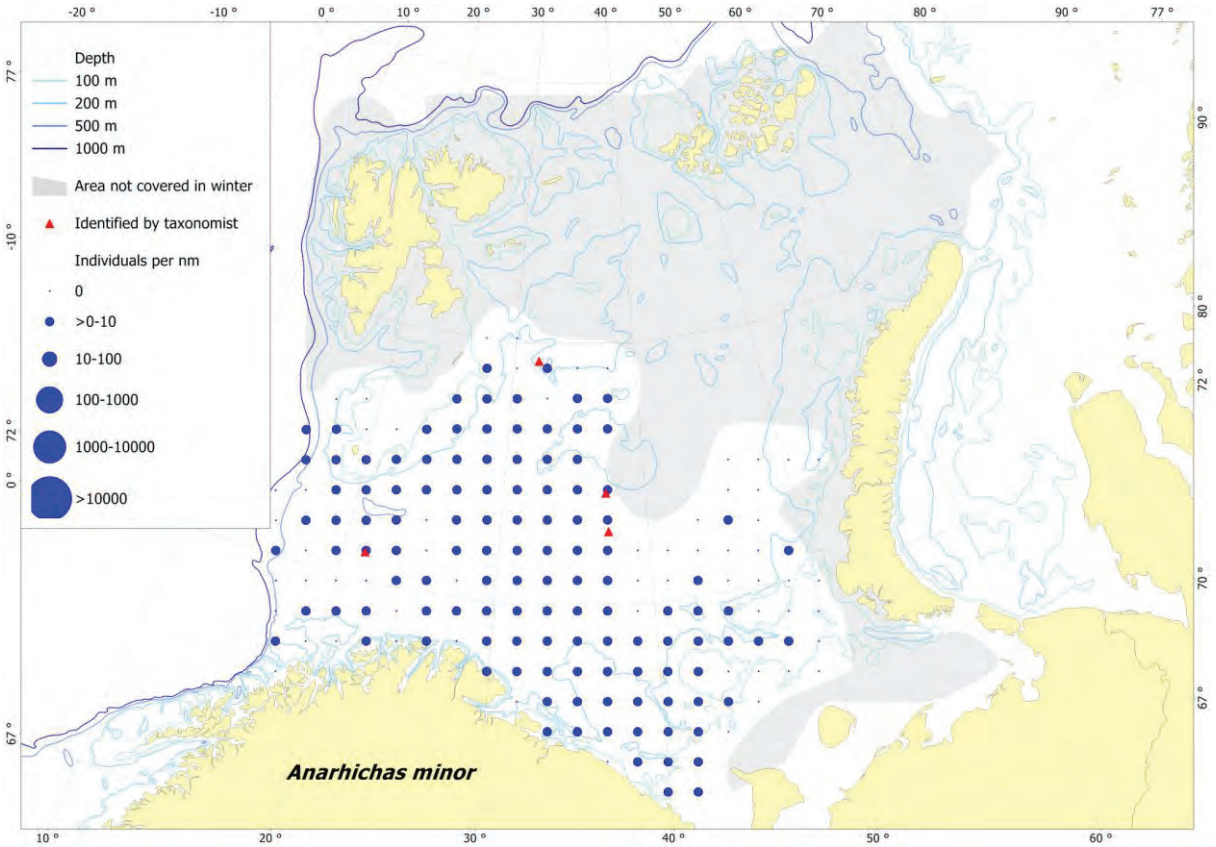
Family: Anarhichadidae
English name: spotted wolffish
Norwegian name: flekksteinbit
Russian name: пятнистая зубатка, пестрая зубатка (piatnistaya zubatka), (piostraya zubatka)

Note on identification: Identification of small specimens might be doubtful.

Spatial distribution

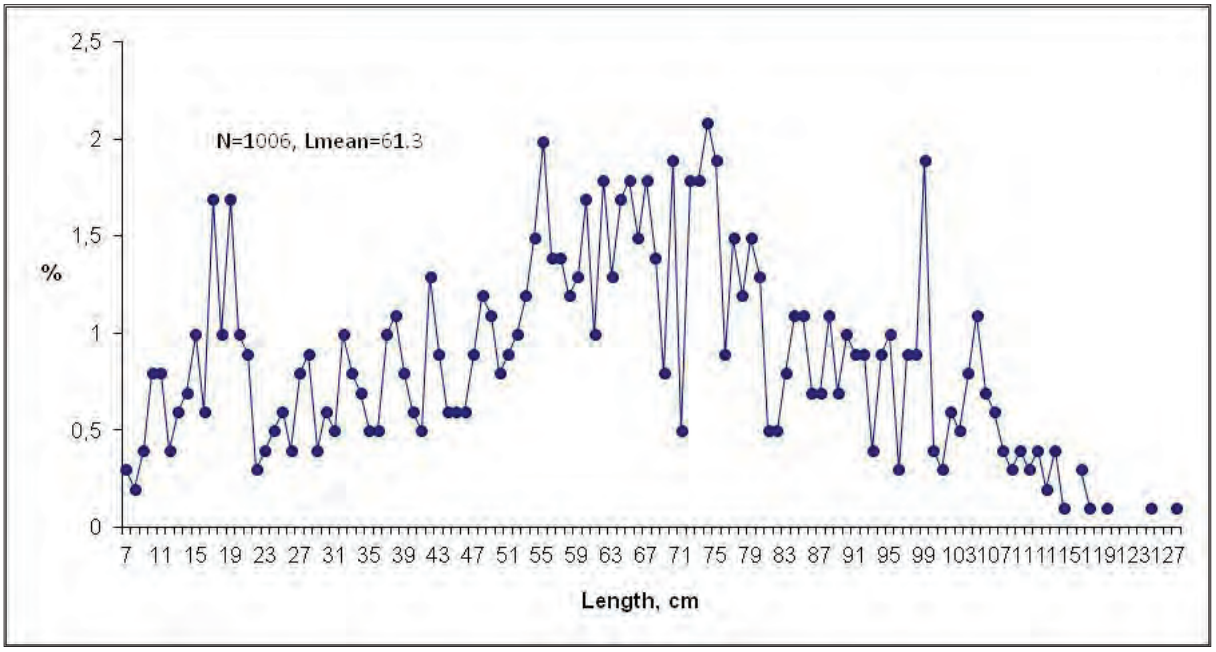
Known in the North Atlantic and the Arctic from off Greenland, Iceland, Faroe Islands, the Norwegian Sea and Barents Seas, also in the western North Atlantic.

Widely distributed in the surveyed area, found in the same area as during the ecosystem survey (see page 232 in "Atlas of the Barents Sea Fishes").



Length composition

Length distribution was similar in winter and autumn, but mean length was larger during the winter survey.



Life history

Mainly boreal, demersal to benthopelagic, solitary on muddy and muddy-sand bottom, on the continental shelf at 50-450 m depth. Tolerates temperatures from -1.3 to +7.3 ºC. Reaches at least 140 cm, 26 kg and 40 years. Measures 15-20 cm after one year, 45-60 after 5 years and matures at age 7-10 years (70-90 cm). Feeds on bottom invertebrates (primarily echinoderms, mollusks and crustaceans). Spawns between April and September (peak in summer) in the southwestern part of the Barents Seas at 300-400 m depth. Number of eggs size dependent, up to 50 000 demersal eggs (5.5-6.7 mm in diameter) in several batches, pelagic larvae. Performs extensive seasonal migrations between wintering and spawning grounds and the feeding areas in the northern and eastern Barents Sea.

Population and exploitation

Probably only one stock in the Barents Sea, isolated from other populations in the North Atlantic. Based on Russian data total stock biomass varies between 10 000 and 70 000 tonnes, slightly increasing lately.

Of minor economic importance in Norway. In Russia bycatch in long-line and bottom trawl fisheries (3 000-17 000 tonnes annual catch). Distribution and habitat overlaps with cod, the fishery on cod has a larger impact on this than on the other two wolffish species.

References

Barsukov VV, Shevelev MS. 1986. Wolffishes. In: Matishov GG (ed) Ichthyofauna and its Living Conditions in the Barents Sea. KFAN Press, Apatity. pp 34-40 (in Russian)

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Mecklenburg CW. 2003. Family Anarhichadidae Bonaparte 1846 - wolffishes. California Academy of Science, Annotated Checklists of Fishes 10, 6 pp

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Shevelev MS, Johannesen E. 2011. Wolffish. In: Jakobsen T, Ozhihin V (eds) The Barents Sea – Ecosystem, Resources and Management. Half a Century of Russian-Norwegian Cooperation. Tapir Academic Press, Trondheim

Ammodytes spp.

Family: Ammodytidae
English name: sandeel
Norwegian name: sil
Russian name: песчанка (pestchanka)

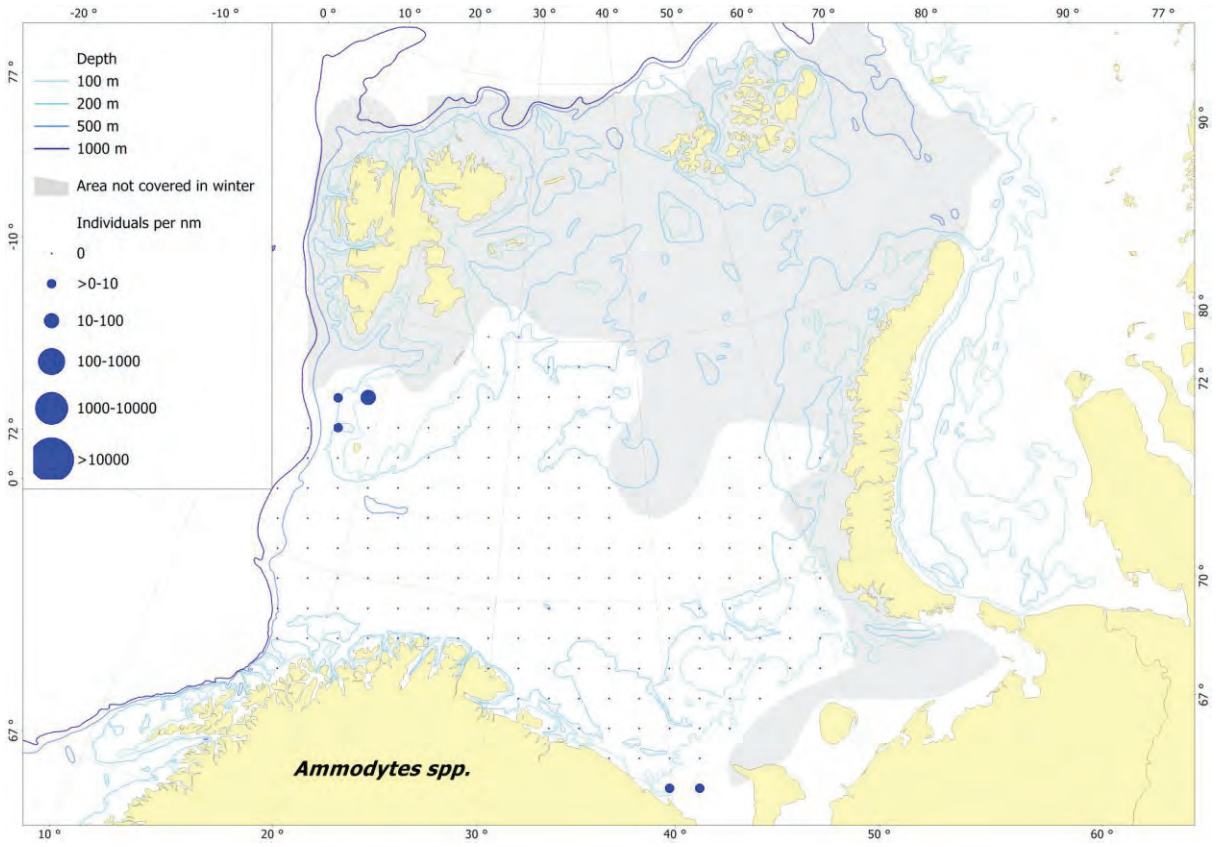
Photo: Thomas de Lange Wenneck

Note on identification: *Ammodytes marinus* Raitt 1934 and *Ammodytes tobianus* Linnaeus 1758 differ primarily in the number of dorsal finrays (49-55 in *A. tobianus*, 56-67 in *A. marinus*) and vertebrae (60-66 versus 67-75). Due to the demanding species identification on board the specimens have not been identified to species level and the data are presented for the genus. *A. tobianus* and *Hyperoplus lanceolatus* (Le Sauvage 1824) were previously reported from the Murman and the Norwegian coasts as well as the Svalbard/Spitsbergen archipelago. However, verified specimens from the present data do not confirm the presence of these species in the Barents Sea.

Spatial distribution

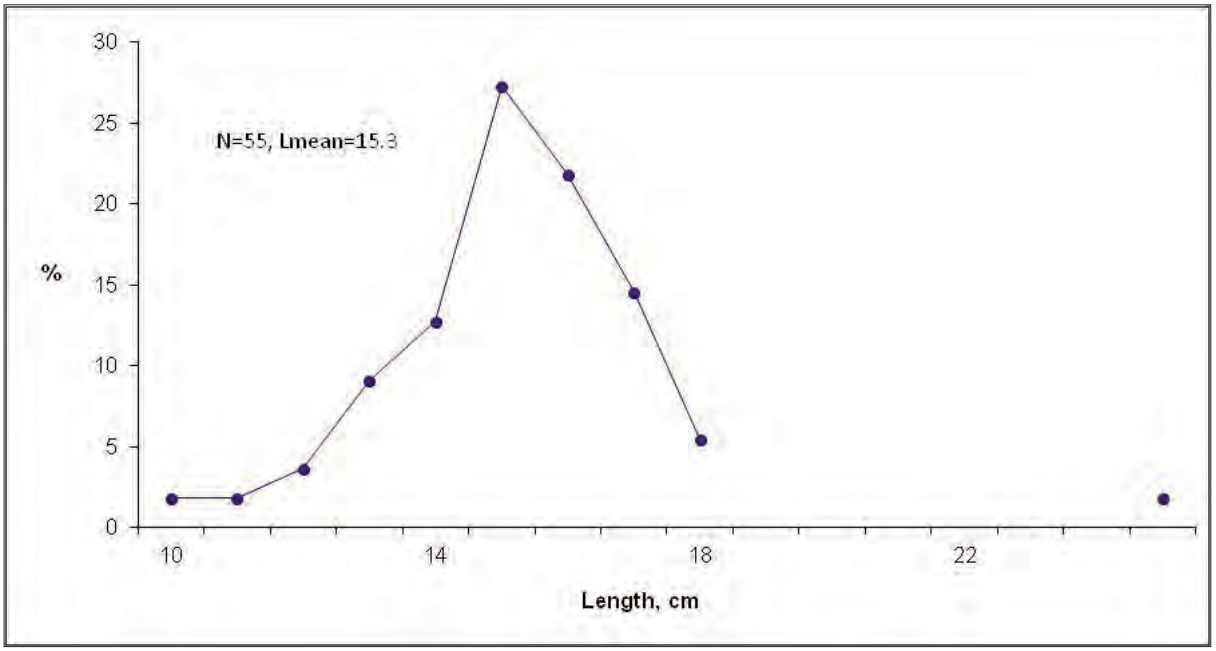
Ammodytes marinus is known from the British Isles to the Kola Peninsula, off Iceland, eastern Greenland and in the southern Baltic.

In the Barents Sea, *Ammodytes* is mainly found on shallow banks in the southeastern area and around Bear Island. Found at fewer stations but in the same area as during the ecosystem survey (see page 234 in “Atlas of the Barents Sea Fishes”).



Length composition

Larger specimens were found during the winter survey, specimens smaller than 10 cm (dominating in autumn) were absent.



Life history

Boreal (*A. tobianus*) and mainly boreal (*A. marinus*), demersal, highly adapted to and dependant on sandy habitat, spending nights and dark days buried in sand, also hiding when alarmed. Can rest in the sand for several months, found at depths down to 40 m. Reaches 20 cm (*A. tobianus*), 24 cm (*A. marinus*), 0.1 kg, and hardly more than 10 years. Forages pelagically and often in dense schools on planktonic crustaceans, fish eggs and larvae. Important food source for other fish species as well as birds and sea mammals. Spawning period varies with geographic area, eggs are laid in the sand, larvae pelagic. *Ammodytes marinus* matures at age 1-2 years, spawns in portions 4 000-25 000 eggs, which hatch after 10 days.

Population and exploitation

Several populations in the North Sea. The spawning stock decreased during the past 10 years. Norwegian authorities have repeatedly stopped exploitation in Norwegian waters, mostly because of the spatial limitations of the stocks.

Of no economic importance in the Barents Sea.

References

Andriashev AP, Chernova NV. 1995. Annotated list of fishlike vertebrates and fish of the Arctic Seas and adjacent waters. Journal of Ichthyology 35:81-123

Berger TS, Nizovtsev GP. 1965. Record of great sandeel in the waters off Western Spitsbergen. Voprosy ikhthyologii 34:722-726 (in Russian)

Johannessen T. 2010. Tobis. In: Gjøsæter H, Haug T, Hauge M, Karlsen Ø, Knutsen JA, Røttingen I, Skilbrei O, Sunnsett BH (eds) Havforskningsrapporten 2010. Fisken og havet I-2010:152 (in Norwegian)

Muus BJ, Nielsen JG. 1998. Våre saltvannsfisker. NKS, Oslo

Nævdal G, Thorkildsen S. 2002. Genetic studies on species composition and population structure of sand eels (Genera: *Ammodytes*, *Hyperoplus* and *Gymnammodytes*) in Norwegian waters. Journal of Applied Ichthyology 18:124-126

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Reay PJ. 1986. Ammodytidae. In: Whitehead PJP, Bauchot M-L, Hureau J-C, Nielsen J, Tortonese E (eds) Fishes of the North-eastern Atlantic and the Mediterranean. Unesco, Paris, pp 945-950

Lepidorhombus whiffiagonis (Walbaum 1792)

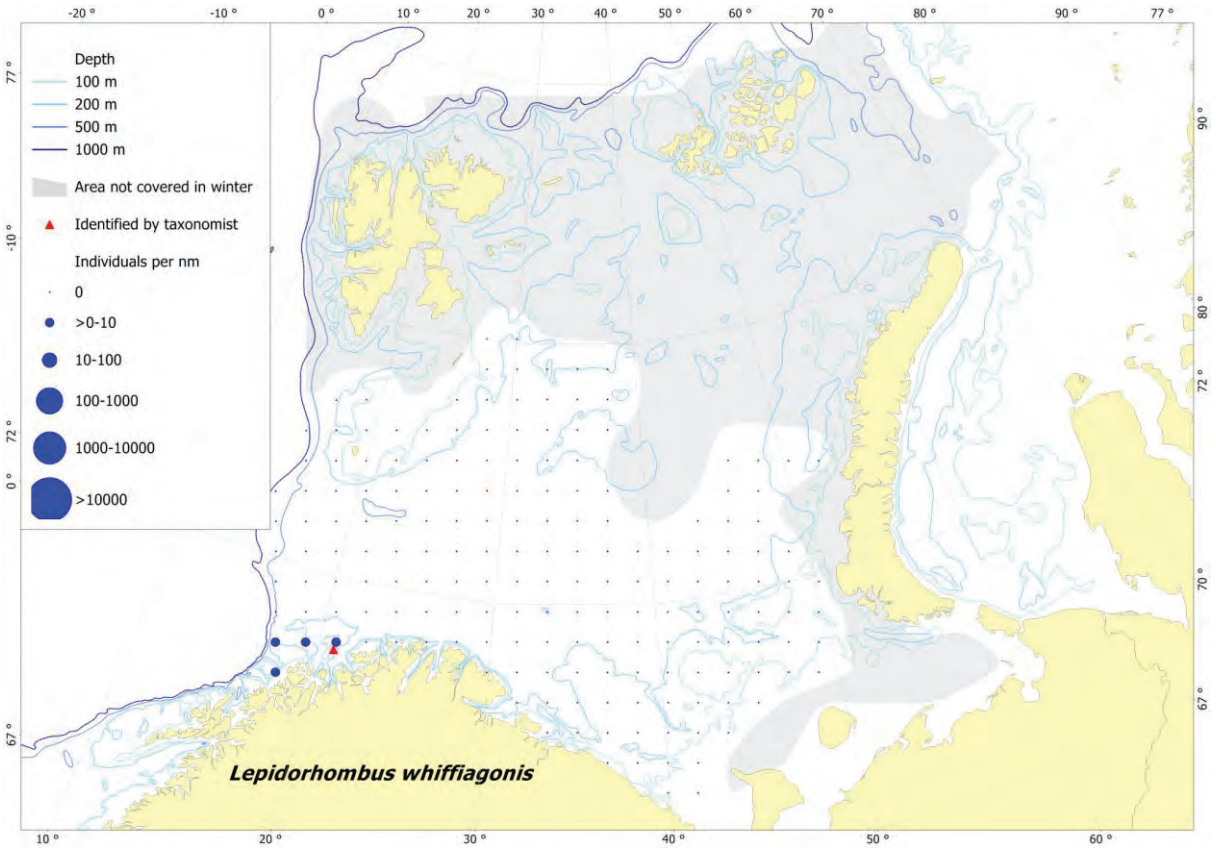
Family: Scophthalmidae
English name: megrim
Norwegian name: glassvar
Russian name: мегрим
(megrim)

Photo: Andrey Dolgov

Spatial distribution

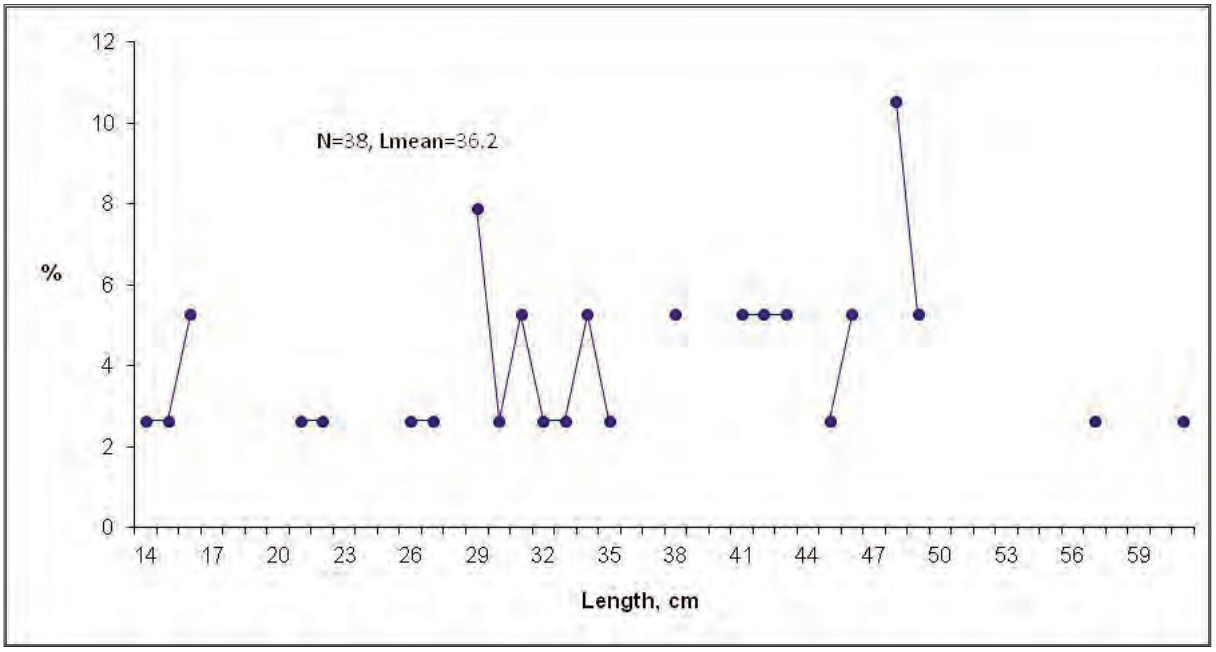
Known from the Atlantic coasts off northern Africa to Norway, including the Mediterranean, the British Isles and Iceland.

Found in the southwestern part of the surveyed area, in the same area as during the ecosystem survey (see page 241 in “Atlas of the Barents Sea Fishes”).



Length composition

Due to more intense sampling at the coast, more specimens were caught during winter. Only two specimens (24 and 26 cm) were caught during the ecosystem survey (2004-2009).



Life history

Demersal, on mixed bottom at 50-300 m. Can reach of 61 cm, commonly 35-45 cm. Feeds on small bottom living fishes as well as on squids and crustaceans. In the North Sea spawning takes placed from March-May. Eggs and larvae are pelagic, settling at a length of around 20 mm.

Population and exploitation

Of no economic importance in the Barents Sea.

References

Muus BJ, Nielsen JG. 1998. Våre saltvannsfisker. NKS, Oslo

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Glyptocephalus cynoglossus (Linnaeus 1758)

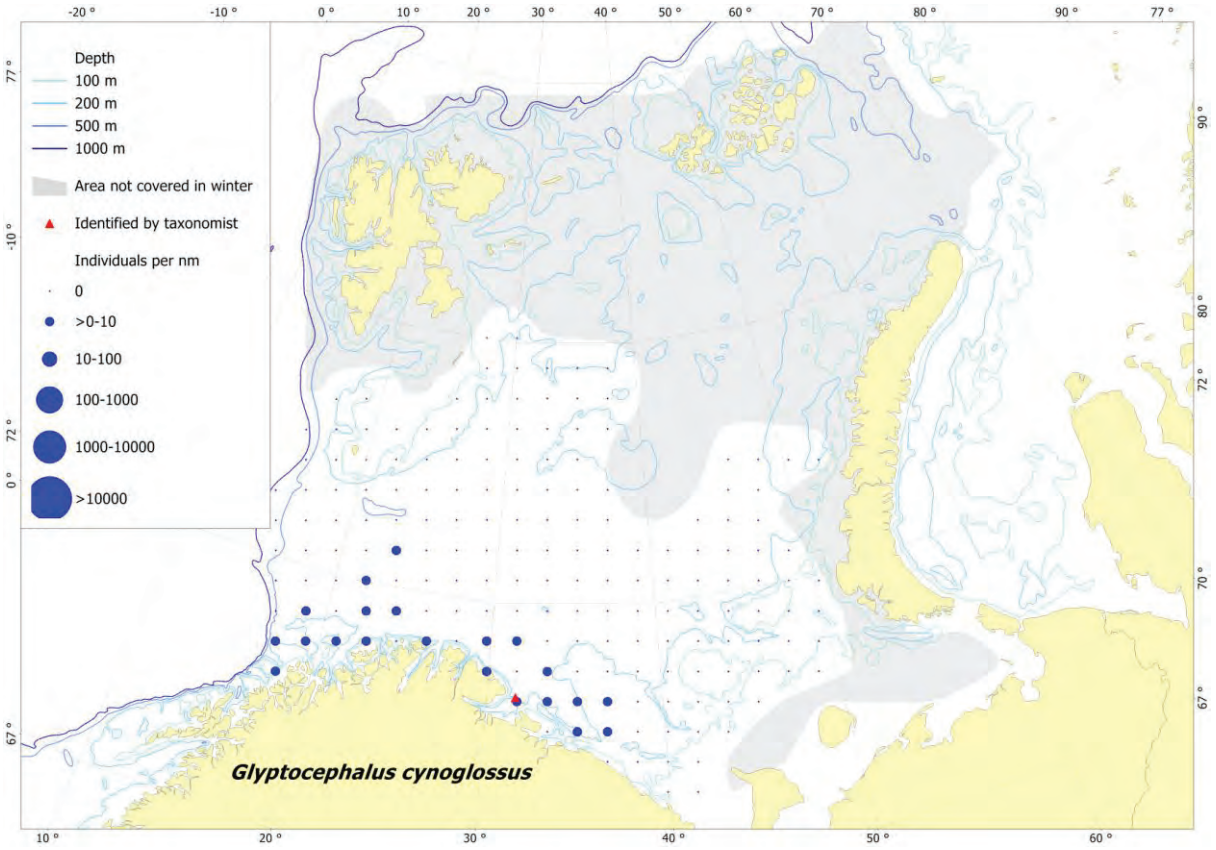
Family: Pleuronectidae
English name: witch flounder
Norwegian name: smørflyndre
Russian name: красная (длинная) камбала
(krasnaya (dlinnaya) kambala)

Photo: Andrey Dolgov

Spatial distribution

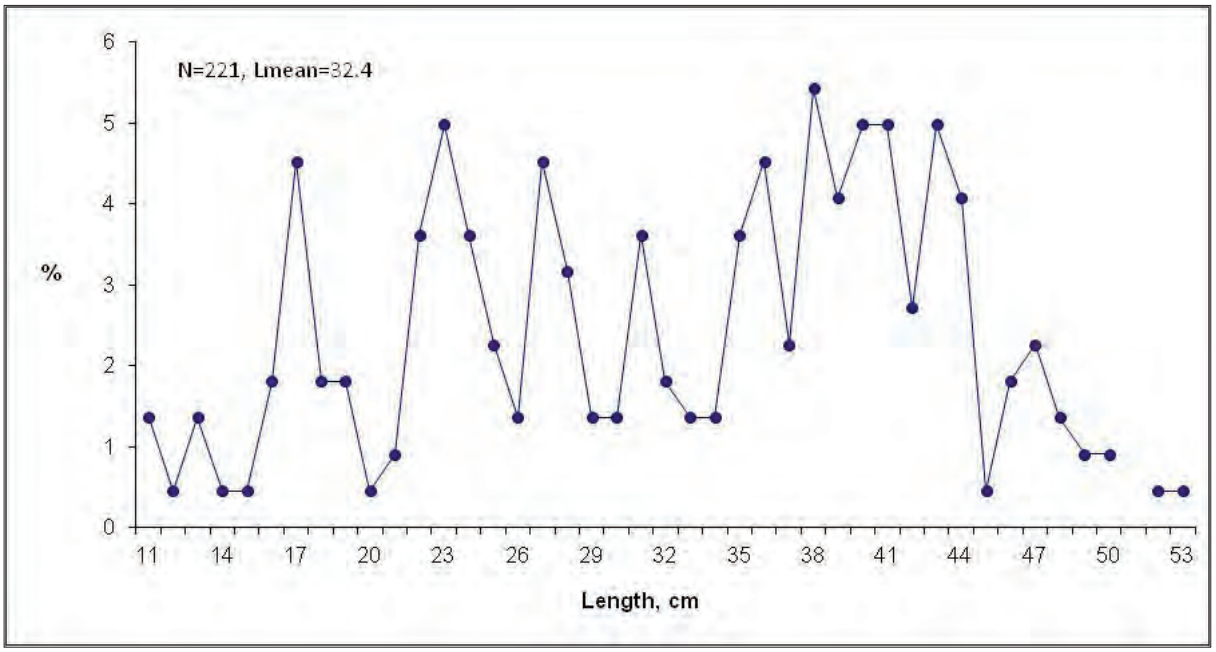
Known from the Gulf of Biscay northward to Iceland and the Barents Sea, also in the western North Atlantic, common in deep fjords.

Found in the southern part of the surveyed area, in the same area as during the ecosystem survey (see page 245 in “Atlas of the Barents Sea Fishes”).



Length composition

Length distribuion was similar in winter and autumn.



Life history

Mainly boreal, demersal, preferring soft bottom at depths of 40-1500 m, and high temperatures (4-7 ºC). In contrast to other flatfish species, smaller individuals are often found deeper than larger ones. Reaches 62 cm (commonly less than 50 cm), 2.5 kg, and 18 years. Growth rates vary between areas, in the North Sea 29 cm long fishes are 5 years old. Matures at age 4-5 years (25-35 cm). Feeds on bottom invertebrates (polychaetes, crustaceans, mollusks) and fishes. Spawns in March-September at 50-150 m depth. Eggs and larvae pelagic, 4 mm long larvae hatch after 7-8 days and settle at around 40 mm length.

Population and exploitation

Of no economic importance in the Barents Sea, bycatch in bottom trawls.

References

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Kovtsova MV. 1990. Flatfishes of the Barents Sea and adjacent waters. In: Biological resources of shelf and border seas. Moscow, Nauka Publishing. pp 250-268 (in Russian)

Muus BJ, Nielsen JG. 1998. Våre saltvannsfisker. NKS, Oslo

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Hippoglossoides platessoides (Fabricius 1780)

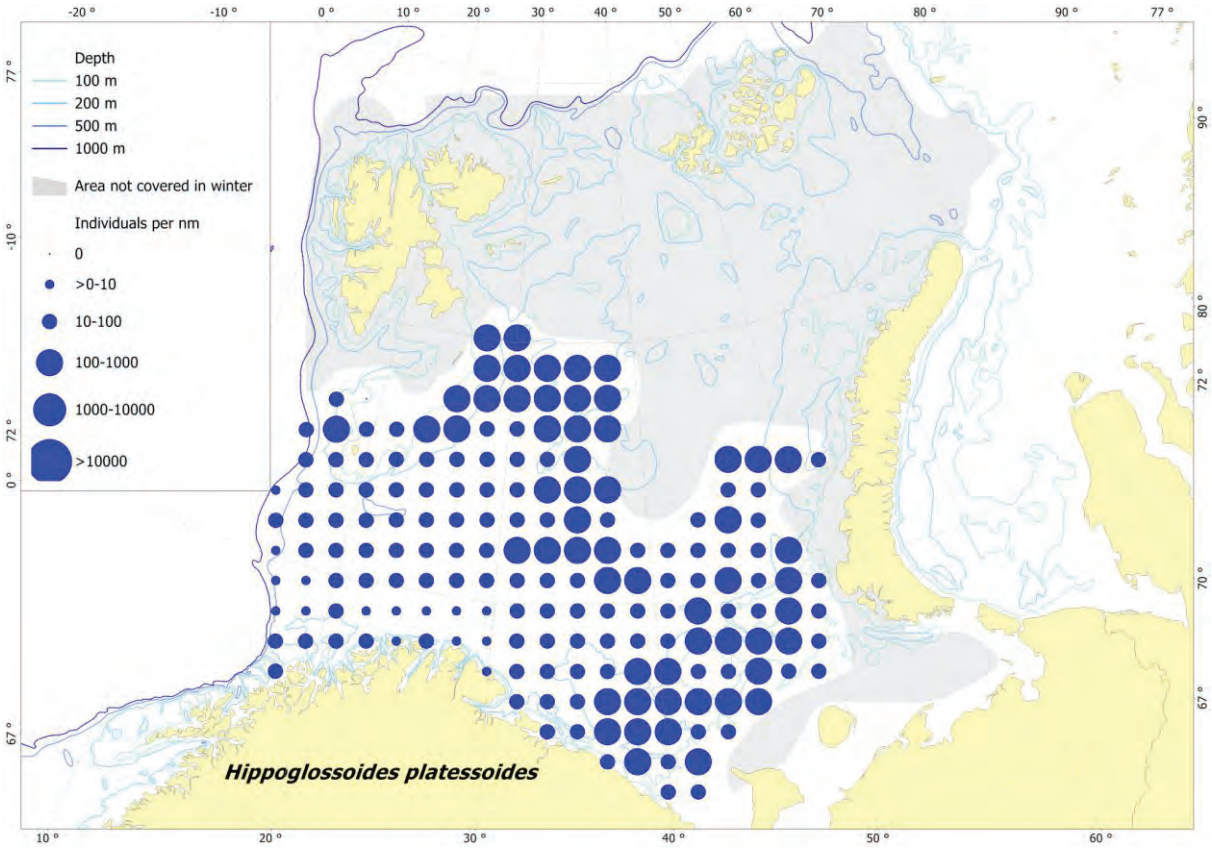
Family: Pleuronectidae
English name: long rough dab
Norwegian name: gapeflyndre
Russian name: камбала-ерш
(kambala-yorsh)

Photo: Andrey Dolgov

Spatial distribution

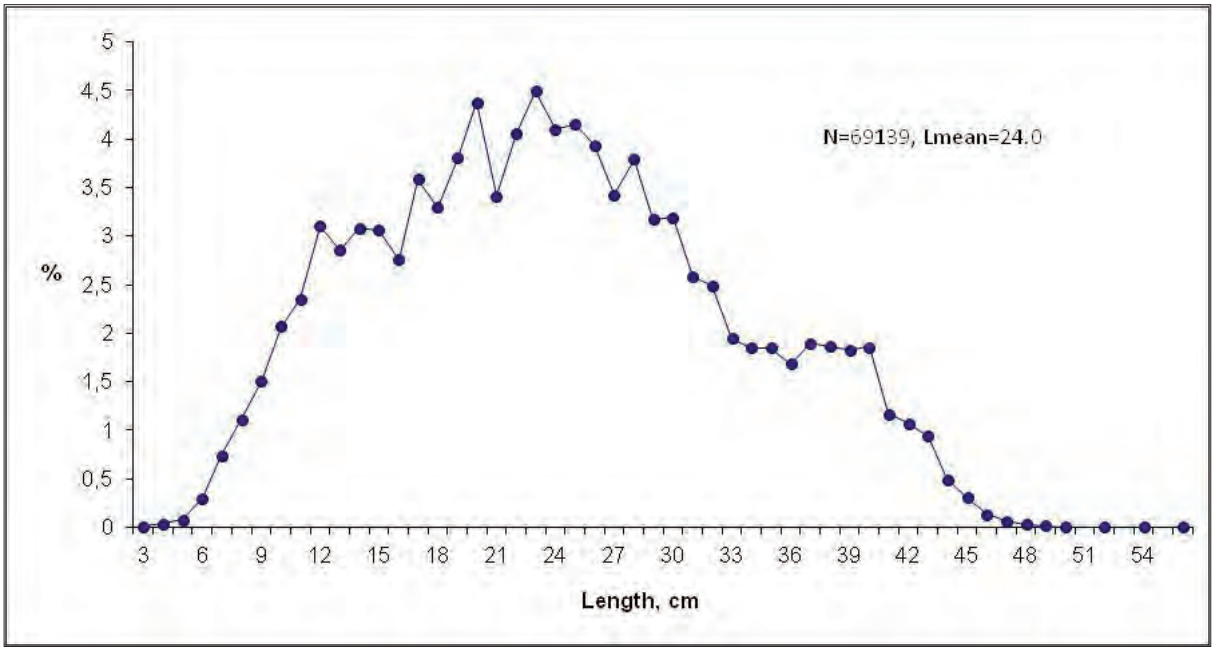
Known in the North Atlantic, with two recognized subspecies: Long rough dab, *Hippoglossoides platessoides limandoides* (Bloch 1787) in the northeastern Atlantic (from off Iceland, the British Isles to the Barents Sea) and American plaice, *Hippoglossoides platessoides platessoides* (Fabricius 1780) in the northwestern Atlantic (off western Greenland and Labrador to Rhode Island).

As in the ecosystem survey, found throughout the surveyed area (see page 247 in "Atlas of the Barents Sea Fishes").



Length composition

Length range was similar in winter and autumn, but mean length was larger during the winter survey.



Life history

Mainly boreal, demersal, on soft and sandy bottom at 100-300 m, tolerates wide range of temperature (-1 to +8 ºC). Can reach 54 cm, 1.5 kg, and 20 years. Growth rates low (1-3 cm per year), females grow faster, larger and older than males. Matures at age 4 (males) and 5-6 (females) years. Feeds on benthic fish (e.g. capelin, polar cod, small cod) and demersal invertebrates (shrimp, echinoderms, polychaetes, mollusks). Spawns in warm Atlantic currents in a wide area in the western Barents Sea from March to July at 125-250 m. Depending on size females spawn 33 000-370 000 pelagic eggs (2.6-3.3 mm in diameter), 4-5 mm long larvae hatch after 11-14 days. Juveniles are only found in the open sea, transported by the Spitsbergen Current northward to the Svalbard/Spitsbergen archipelago and then eastward to Franz Joseph Land, where they settle, having reached a length of about 3 cm. Migration behavior is hardly known but migration activity is believed to be low.

Population and exploitation

Very abundant and widely distributed in the Barents Sea. Based on Russian data total stock biomass varied from 70 000 to 200 000 tonnes and increased over the past years. Frequent bycatch in the trawl fishery. Russia fishes up to 5 000 tonnes per year.

References

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Dolgova NV, Albert OT. 2011. Long rough dab. In: Jakobsen T, Ozhihin V (eds) The Barents Sea – Ecosystem, Resources and Management. Half a Century of Russian-Norwegian Cooperation. Tapir Academic Press, Trondheim

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Muus BJ, Nielsen JG. 1998. Våre saltvannsfisker. NKS, Oslo

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Simacheva IA, Berestovsky EG, Mukhina NV. 1986. Long rough dab. In: Matishov GG (ed) Ichthyofauna and its Living Conditions in the Barents Sea. KFAN Press, Apatity, pp 43-45 (in Russian)

Hippoglossus hippoglossus (Linnaeus 1758)

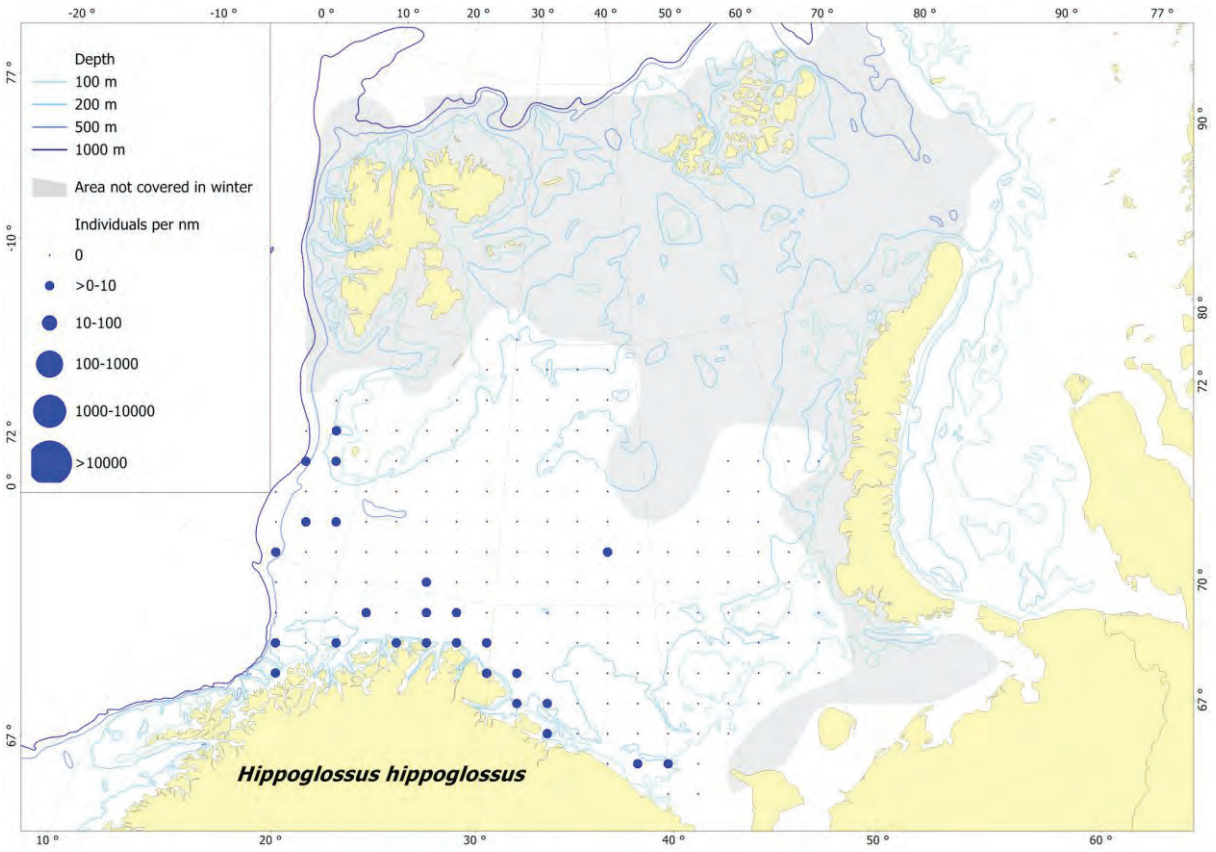
Family: Pleuronectidae
English name: Atlantic halibut
Norwegian name: kveite
Russian name: белокорый палтус
(belokoriy paltus)

Photo: Andrey Dolgov

Spatial distribution

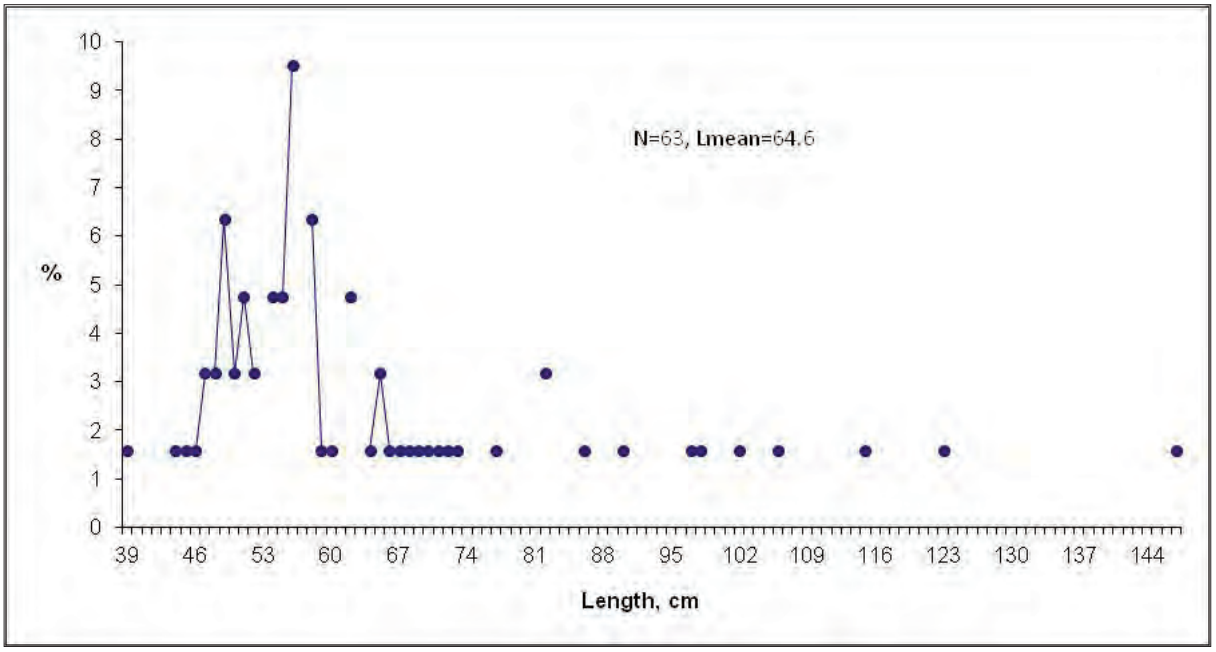
Known from the Gulf of Biscay northward to Svalbard/Spitsbergen and Novaya Zemlya, also off Iceland and in the western North Atlantic.

Found mainly in the western and southern parts of the surveyed area, further north and east than during the ecosystem survey (see page 249 in “Atlas of the Barents Sea Fishes”).



Length composition

More large specimens were caught in the winter than in the autumn, but overall size range and mean lengths were similar.



Life history

Mainly boreal, demersal to benthopelagic, juveniles close to the coast in relatively shallow waters, adults in the open sea at depth of 300-2000 m and temperatures between 0-10 ºC. Females can reach more than 3.5 m and up to 350 kg, males up to 1.8 m and 50 kg. Females grow faster and considerably older than males, reaching an age of 60 years. Males mature earliest at age 7 years (about 70 cm), females earliest at age 8 years (about 125 cm), but the majority matures not before the age of 12-13 years. Juveniles feed on large crustaceans (crabs, shrimp) and fish, adults on benthic and pelagic fish. Spawning takes place between December and March along the coast in deep pits and in the fjords at 300-700 m depth, as far north as Hammerfest. Females spawn at or near the bottom up to 7 million eggs, 6.5-7 mm long larvae hatch after about 18 days. Eggs, larvae and juveniles are pelagic until a length of 4.5-7 cm. No or only little foraging during spawning. Mainly stationary, some individuals might migrate southward.

Population and exploitation

Population structure is unknown; due to the high age at maturity the stock is vulnerable. Size of the stock in the North Atlantic is low. There are no quota regulations, but fishery is forbidden in spawning season between 20th December and 31st March, and the minimum size was increased to 80 cm in 2010. The species is mainly taken as bycatch in fisheries for other species; its commercial catch has increased since 1997.

References

Byrkjedal I, Høines Å. 2007. Distribution of demersal fish in the south-western Barents Sea. Polar Research 26:135-151

Kovtsova MV. 1990. Flatfishes of the Barents Sea and adjacent waters. In: Biological resources of shelf and border seas. Moscow, Nauka Publishing. pp 250-268 (in Russian)

Michalsen K. 2010. Kveite - Atlantisk kveite. In: Gjøsæter H, Haug T, Hauge M, Karlsen Ø, Knutsen JA, Røttingen I, Skilbrei O, Sunnsett BH (eds) Havforskningsrapporten 2010. Fisken og havet I-2010:122 (in Norwegian)

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Limanda limanda (Linnaeus 1758)

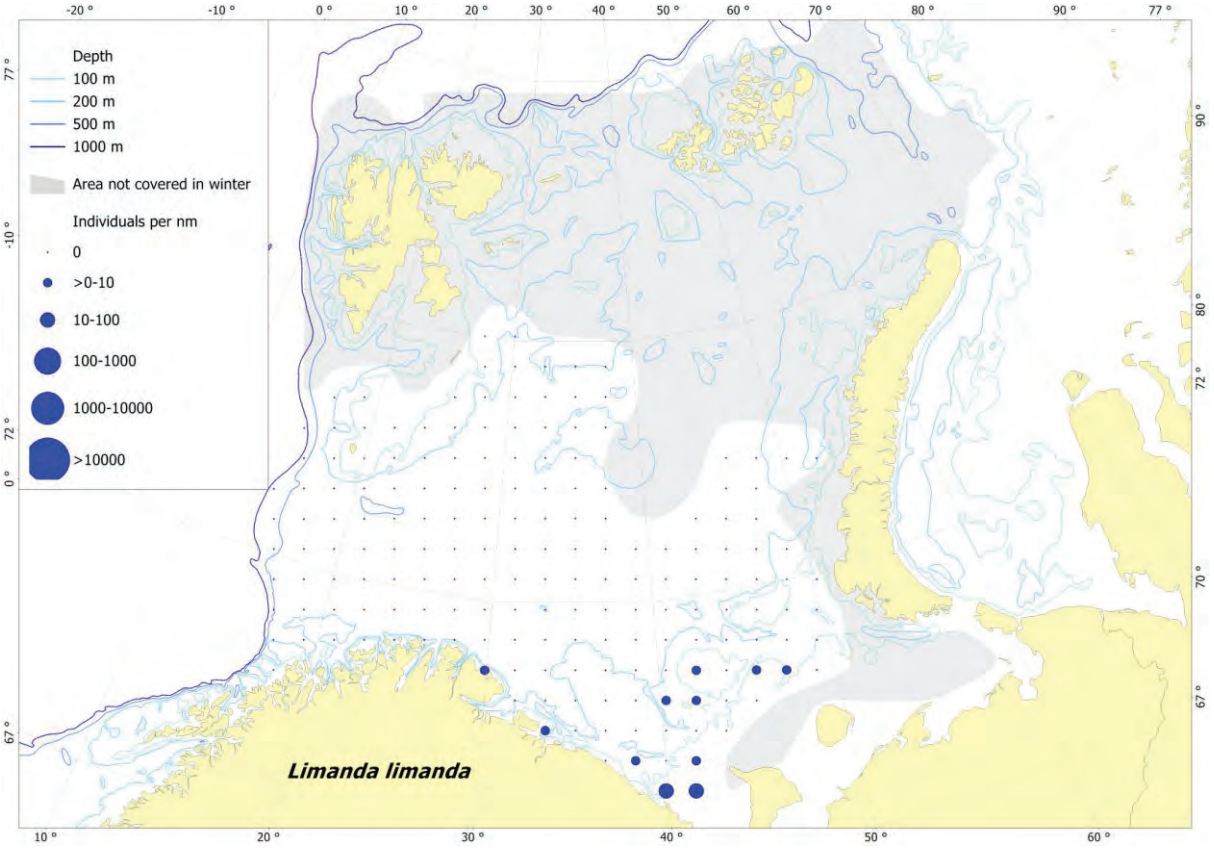
Family: Pleuronectidae
English name: common dab
Norwegian name: sandflyndre
Russian name: лиманда, ершоватка (limanda), (ershovatka)

Photo: Andrey Dolgov

Spatial distribution

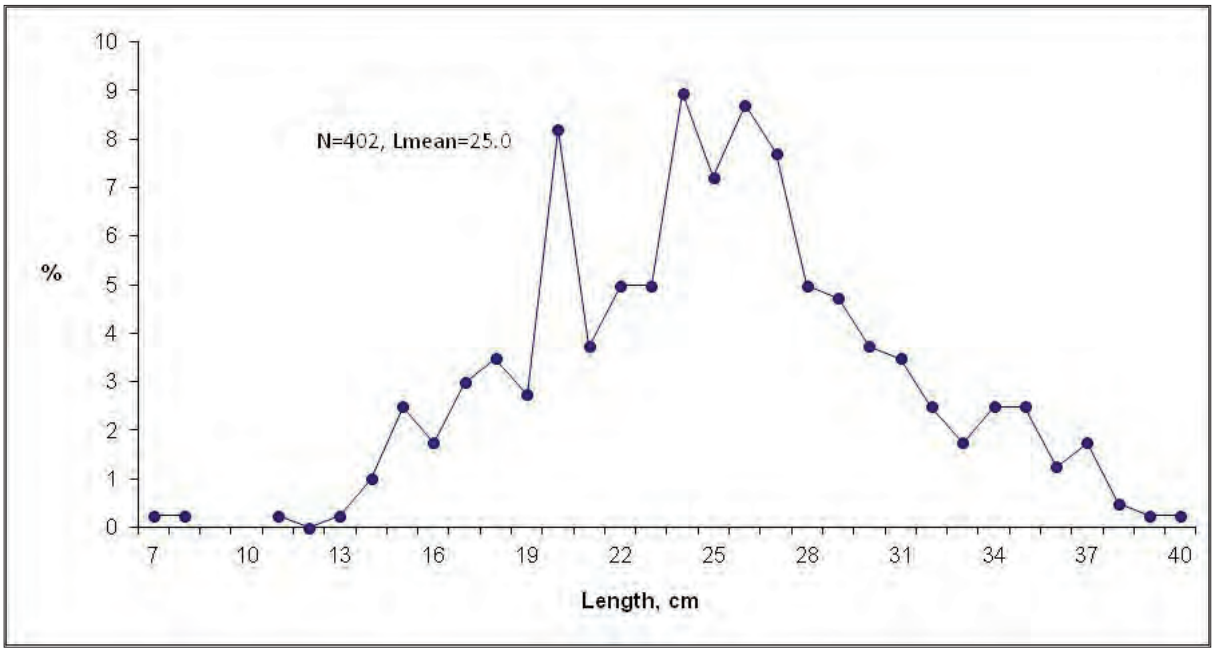
Known from the Gulf of Biscay to the White Sea, also off Iceland.

Found in the southeastern shallow part of the surveyed area, further north than during the ecosystem survey (see page 251 in “Atlas of the Barents Sea Fishes”). Commonly caught in shallow areas along the Norwegian coast of the Barents Sea, not covered by the ecosystem or winter survey.



Length composition

Length distribution was similar in winter and autumn.



Life history

Mainly boreal, demersal, coastal, preferring sandy and soft bottoms at 2-150 m, adults found deeper than young. Can reach 42 cm (commonly less 30 cm), 1.3 kg, and 13 years. Females grow larger than males, growth rates are variable, in the southern Barents Sea 8 year old specimens measure 27 cm. Specimens in northern Norway mature at age 4 (males) and 5 years (females), in Russian waters at age 5-6 years (22-24 cm). Feeds primarily on benthic invertebrates (polychaetes, ophiuroids, mollusks), and in the Barents Sea on capelin and sandeels. Spawning takes place along the Murman coast in May-August at 20-40 m depth. Females spawn up to 150 000 pelagic eggs (0.7-1.0 mm in diameter), 2.5 mm long larvae hatch after 3-12 days and settle at a length of 13-16 mm, migrating to deeper waters with increasing length.

Population and exploitation

Of minor economic importance, common bycatch in bottom trawl fishery for plaice.

References

Kovtsova MV. 1990. Flatfishes of the Barents Sea and adjacent waters. In: Biological resources of shelf and border seas. Moscow, Nauka Publishing. pp 250-268 (in Russian)

Muus BJ, Nielsen JG. 1998. Våre saltvannsfisker. NKS, Oslo

Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Microstomus kitt (Walbaum 1792)

Family: Pleuronectidae
English name: lemon sole
Norwegian name: lomre
Russian name: малоротая камбала
(malorotaya kambala)

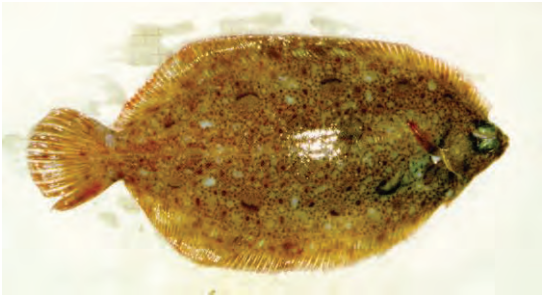
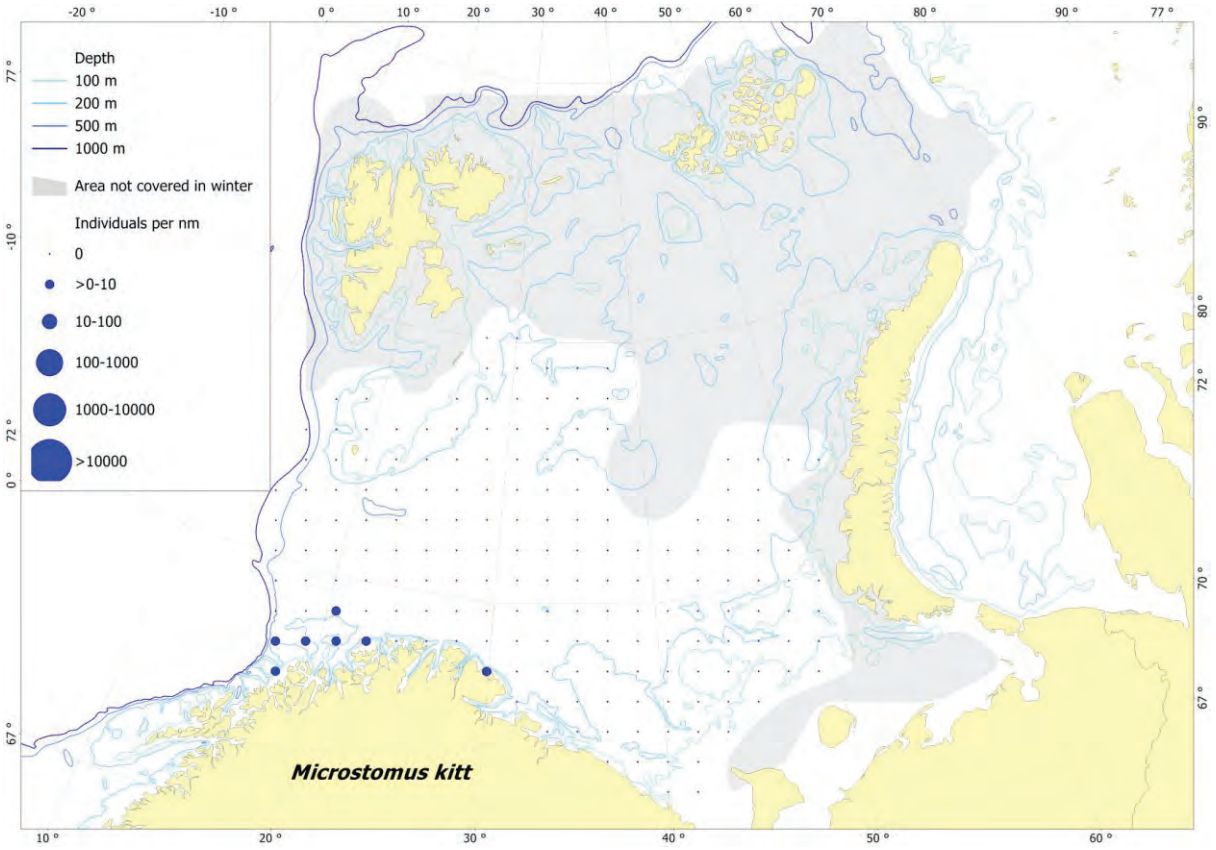


Photo: Andrey Dolgov

Spatial distribution

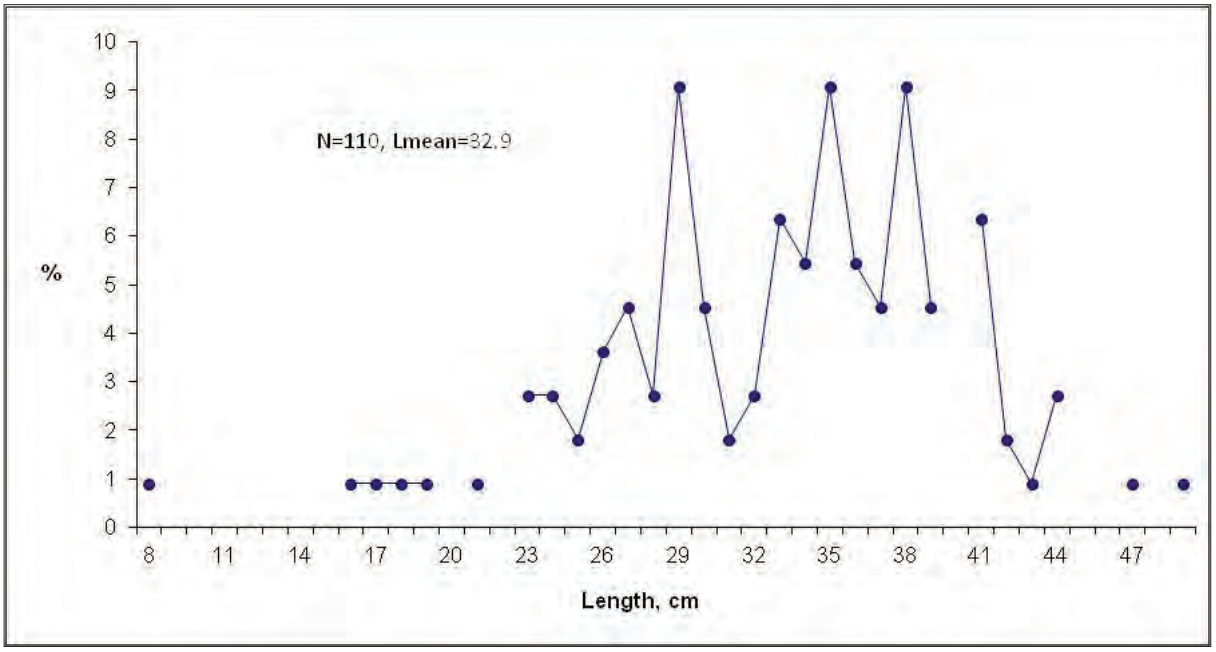
Known from the Gulf of Biscay to the White Sea, also off Iceland.

Found in the southwestern part of the surveyed area, in the same area as during the ecosystem survey (see page 255 in “Atlas of the Barents Sea Fishes”).



Length composition

Overall size range was similar in winter and autumn, but mean length was larger during the winter survey.



Life history

Boreal, demersal, prefers sandy and rocky bottoms at 10-260 m, higher temperatures (4-10 °C) and salinities above 34 ‰. Can reach 60 cm (commonly less than 40 cm), 2 kg, and 10 years. Females grow larger than males. Matures at length 20-30 cm, males at age 3-4 and females at 4-6 years. Feeds mainly on polychaetes and other invertebrates (crustaceans, mollusks, ophiuroids). Spawns at 40-100 m depth from April-September, earliest in southern areas. Eggs are pelagic, 4-5 mm long larvae hatch after 6-8 days and live pelagically at 50-100 m until they settle at a length of 15-25 mm.

Population and exploitation

Of no economic importance in the Barents Sea.

References

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Pleuronectes platessa Linnaeus 1758

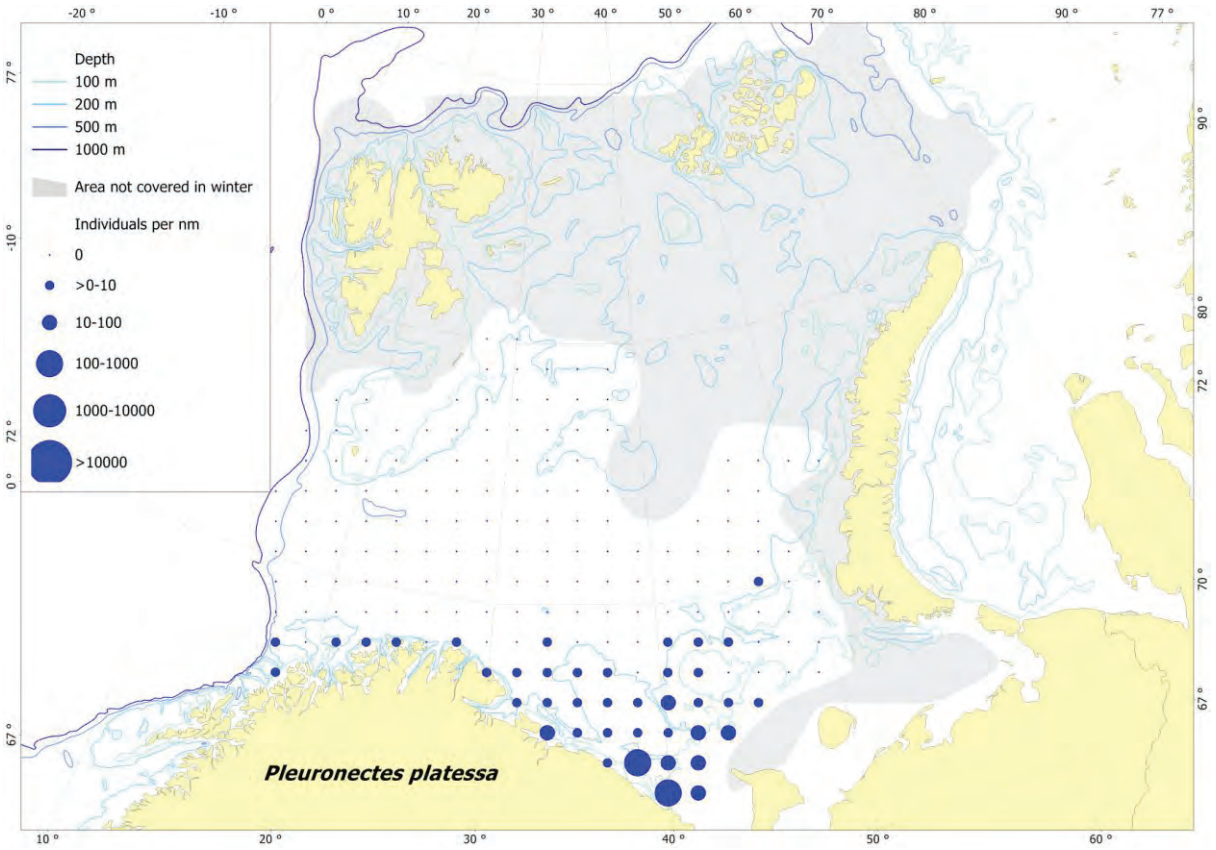
Family: Pleuronectidae
English name: European plaice
Norwegian name: rødspette
Russian name: морская камбала
(morskaya kambala)

Photo: Andrey Dolgov

Spatial distribution

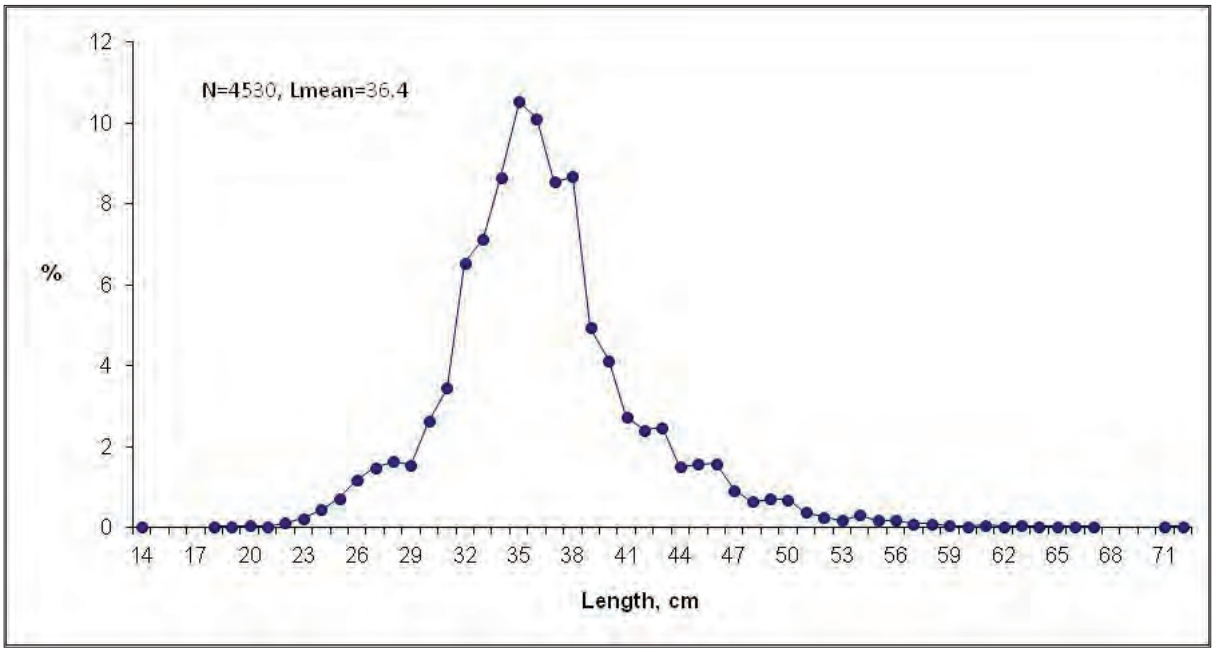
Known from the Mediterranean, the northwestern African coast and northward to the White Sea, most abundant in the North Sea.

Found in the southern part of the surveyed area, in the same area as during the ecosystem survey (see page 257 in “Atlas of the Barents Sea Fishes”).



Length composition

Length distribution was similar in winter and autumn.



Life history

Mainly boreal, demersal, prefers soft bottom at 0-250 m, juveniles at 0-10 m, and temperatures between 1-3 ºC. Can reach at least 86 cm, 7 kg, and 36 years, but commonly less than 0.5 m, 2-3 kg and 15 years. Females grow larger and older than males. Matures at age 6-9 (males) and 9-11 (females) years. Growth rates vary considerably, depending on food availability, being highest during the first 6 years. Feeds on bivalves and polychaetes. In the Barents Sea spawning takes place in the southern coastal areas from January to July (peak in March-May). Depending on size, females spawn up to 600 000 eggs at the bottom in several batches. Pelagic eggs and larvae, hatching after about 20 days (depending on temperature), settling at a length of about 12-14 mm. Juveniles less than 20-22 cm dwell in shallow coastal waters. Feeding areas are further north, migrates at least partly pelagically.

Population and exploitation

There are several stocks, the one in the North Sea being the largest and in good condition. Based on Russian data, the biomass in the Barents Sea varied between 60 000 and 70 000 tonnes during past decade.

The Barents Sea stock is exploited by different fisheries. In Russia caught by direct bottom trawl fisheries and as bycatch in bottom trawl fishery for cod and haddock, 1 000-4 000 tonnes annual Russian catch.

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Pethon P. 2005. Aschehougs store fiskebok. Aschehoug, Oslo

Reinhardtius hippoglossoides (Walbaum 1792)

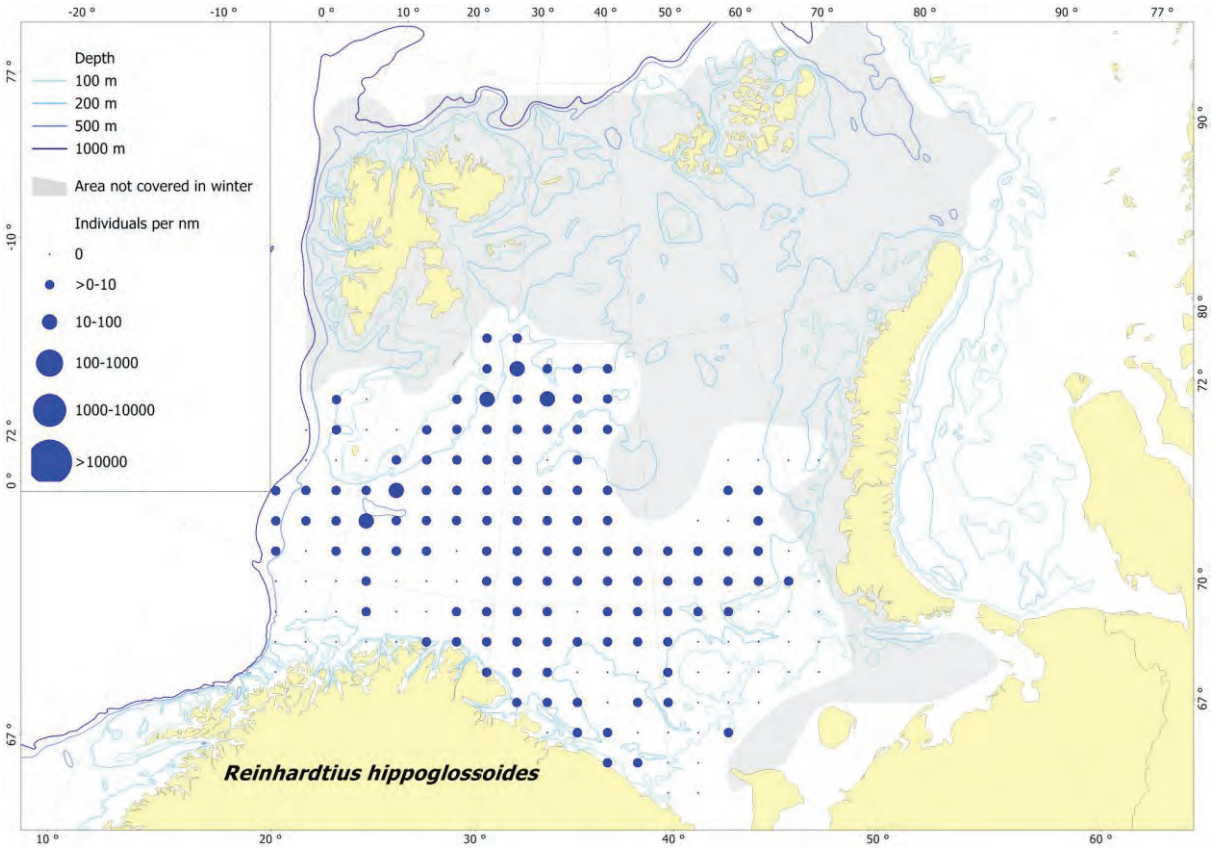
Family: Pleuronectidae
English name: Greenland halibut
Norwegian name: blåkveite
Russian name: черный (синекорый) палтус
(tcherniy (sinekoriy) paltus)

Photo: Thomas de Lange Wenneck

Spatial distribution

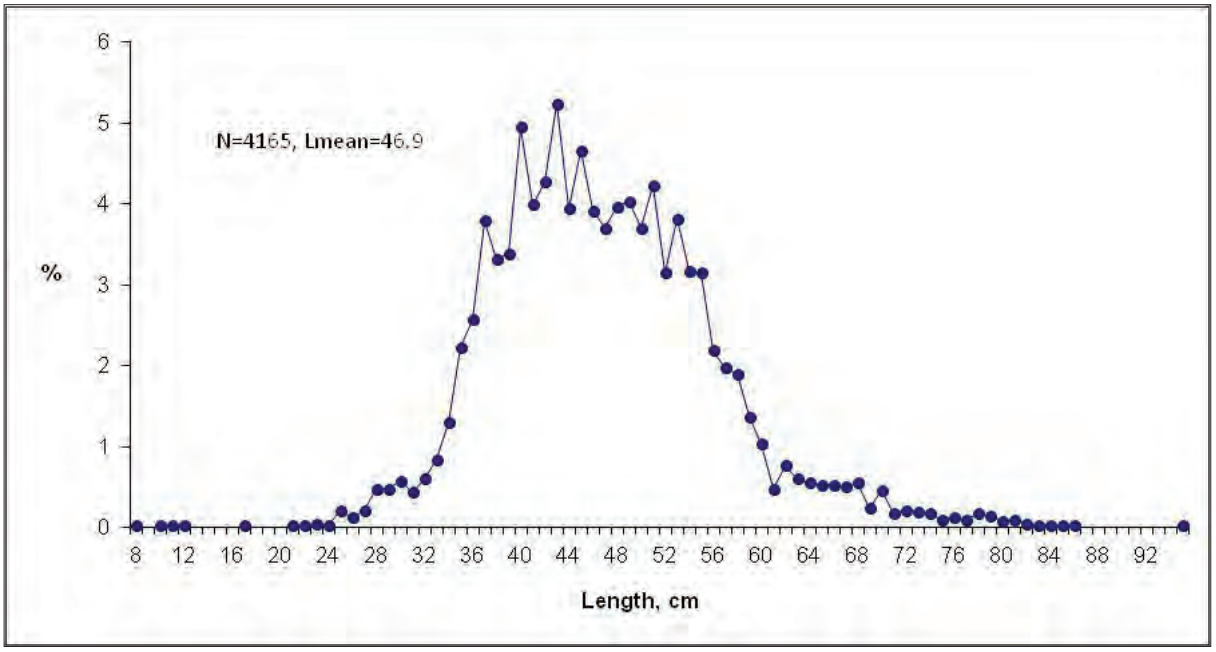
Known from Greenland, Iceland, the British Isles and northward to the Barents and Kara Seas including Svalbard/Spitsbergen and Novaya Zemlya, also in the western North Atlantic and the North Pacific.

Found in large parts of the surveyed area, in the same area as during the ecosystem survey (see page 259 in “Atlas of the Barents Sea Fishes”).



Length composition

Overall length range was similar in winter and autumn, but mean length was considerably larger during the winter survey.



Life history

Mainly boreal, demersal to benthopelagic, adults most abundant in the area between Norway and Bear Island at depths of 500-800 m, hardly found in waters warmer than 4 ºC. Can reach 1.2 m, 44 kg, and more than 30 years, but age determination is difficult and uncertain. Females grow slightly faster and older than males. Females mature at age 7 (about 55 cm), males at 5 years (about 40 cm). Feeds on fish, crustaceans and cephalopods. Compared to other flatfishes fecundity is rather low (6 400-94 400 eggs). Eggs and larvae are pelagic. Spawns in the area between Norway and Bear Island with a peak in December-January. Juveniles are found in the northern and eastern parts of the Barents Sea, migrating southward with age. Despite of being a flatfish, Greenland halibut is an excellent and fast swimmer and frequently found in the pelagic.

Population and exploitation

The Northeast Arctic Greenland halibut (i.e. the Barents and Norwegian Sea) is managed as one stock unit. The biomass varied from 45 000 to 312 000 tonnes during 1964-2009 (mean biomass 126 000 tonnes). The spawning stock has been slowly recovering from a historic low in the early 1990s. Abundance of juveniles in the nursery area (north and east of the Svalbard/Spitsbergen archipelago and in the Kara Sea) is increasing since 2000. Norwegian and Russian authorities agreed in 2009 to regulate the fishery for the species, deciding on a total catch quota of 15 000 tonnes per year in the years 2010-2012.

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