Torleif Holthe

THE POLYCHAETOUS ANNELIDS OF TRONDHEIMSFJORDEN, NORWAY

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THE POLYCHAETOUS ANNELIDS OF TRONDHEIMSFJORDEN,
NORWAY

by

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An annotated list of the 201 species of polychaetous annelids hitherto found in Trondheimsfjorden, Western Norway, is given. A zoogeographical analysis of the polychaete fauna is attempted.

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INTRODUCTION

It is 70 years since a survey of the polychaetes of Trondheimsfjorden was published (Bidenkap 1907). At that time 120 species were known to occur in the fjord. Today the number has reached 201. Between 1907 and 1970 eight papers dealt partly with the polychaetes of Trondheimsfjorden, and from 1965 to 1974 grab surveys in the fjord yielded much information about the level-bottom species.

MATERIAL AND METHODS


Of some species published by earlier authors no material any longer exists in the collections. These species I have quoted "according to" the authors in question. The general distributions of the species are combined from Hartmann-Schröder 1971 and my own research in polychaete literature.

The localities mentioned in the text are shown on the map in Fig. 1.
Fig. 1. Map of Trondheimsfjorden with localities mentioned in the text.
AMPHINOMORPHA

AMPHINOMIDAE

Paramphinome jeffreysi (McIntosh, 1886)

Not uncommon in the main fjord and Beitstadfjorden.
Distribution: Northern Atlantic, North Sea, Skagerrak.

EUPHROSINIDAE

Euphrosyne borealis Ørsted, 1843

Euphrosyne borealis; Storm 1879, Bidenkap 1906.
Found by Storm at Røberg in 240 m. According to records at
DKNVS, Museet, the species has also been found at Rissa.
Distribution: Arctic, north Pacific, north Atlantic, North Sea.

PHYLLODOCIDAE

APHRODITIDAE

Aphrodita aculeata Linnaeus, 1758

Aphrodite aculeata; Storm 1901, Bidenkap 1907, Aphrodita aculeata;
Occurring in small numbers in the main fjord, Beitstadfjorden and
Åsenfjorden.
Distribution: Entire northern hemisphere, North Sea, Skagerrak,
Danish waters.
Laetmonice filicornis Kinberg, 1855

Laetmonice filicornis; Storm 1879, 1901, Laetmonice filicornis; Bidenkap 1907, Holthe 1974.
Occuring in small numbers in the main fjord and Beitstadfjorden. According to Bidenkap (1907) also in Skarnsundet and Verrafjorden. Distribution: Entire northern hemisphere, North Sea, Skagerrak, Kattegat, the Sound.

POLYNOIDAE

Lepidonotus squamatus (Linnaeus, 1767)

Lepidonotus squamatus; Storm 1879, 1901, Bidenkap 1907, Nordgaard 1923, Holthe 1973.
Common in all parts of the fjord, especially common in Borgenfjorden. Distribution: Entire northern hemisphere (mainly boreal) and Gulf of Guinea, North Sea, Skagerrak, Danish waters, western Baltic.

Gattyana amondseni (Malmgren, 1867)

Lepidonotus amondseni; Bidenkap 1907.
According to Bidenkap (1907) found in Trondheimsfjorden by Storm. Distribution: Arctic, north Pacific, north Atlantic to Skagerrak, Kattegat, the Sound.

Gattyana cirrosa (Pallas, 1766)

Nychia cirrosa; Storm 1879, Lepidonotus cirrosus; Bidenkap 1907, Nordgaard 1923, Gattyana cirrosa; Holthe 1973, 1974.
Not common in the main fjord. Found several times in Borgenfjorden, usually in the tubes of Amphitrite cirrata.
Distribution: Arctic, north Pacific, north Atlantic, North Sea, Skagerrak, Danish waters, western Baltic.
Malmgrenia alba (Malmgren, 1865)

Lamilla alba; Storm 1880, Harmothoe alba; Bidenkap 1907.
According to Bidenkap found at Rissa (350 m) by Swenander, and at Röberg (140 m) by Storm.
Distribution: Arctic and northern Atlantic (?).

Harmothoe clavigera (Sars, 1836)

Polynoe clavigera; Storm 1879, Harmothoe clavigera; Bidenkap 1907.
One specimen found by Storm at Röberg (10-60 m).
Distribution: Norway (?).

Harmothoe imbricata (Linnaeus, 1767)

Found in the main fjord and Verrafjorden, not uncommon in Borgenfjorden.
Distribution: Entire northern hemisphere and New Caledonia, North Sea, Skagerrak, Danish waters, Baltic to southern Finland.

Harmothoe impar (Johnston, 1839)

Evarne impar; Storm 1879, 1880, Harmothoe impar; Bidenkap 1907, Holthe 1973.
Found in the main fjord, Borgenfjorden and Verrafjorden.
Distribution: Arctic, north Atlantic, Mediterranean, North Sea, Skagerrak, Danish waters, western Baltic.
Harmothoe mollis (Sars, 1872)

Lennila mollis; Storm 1879, Harmothoe mollis; Bidenkap 1907.
According to Bidenkap (1907) found by Storm at Röberg (240 m)
and in Verrafjorden (140 m), and by Nordgaard at Tautra.
Distribution: North Atlantic to Skagerrak, the Sound (?).

Harmothoe oculinarum (Storm, 1879)

Lennila oculinarum; Storm 1879, Harmothoe oculinarum; Storm 1901,
Bidenkap 1907.
Found by Storm at Rissa and Röberg (160-400 m).
Distribution: Norway.

Harmothoe paradoxa (Bidenkap, 1895)

Polynnae paradoxa; Storm 1901, Eupolynnae paradoxa; Bidenkap 1907.
According to Bidenkap (1907) found by Storm at Röberg.
Distribution: Norway.

Harmothoe violacea (Storm, 1879)

Lennila violacea; Storm 1879, Harmothoe violacea; Storm 1901,
Bidenkap 1907.
According to Storm (1879) not uncommon at Röberg (300-400 m).
Distribution: Norway and Iceland.

Harmothoe (Antinoella) sarsi (Kinberg in Malmgren, 1865)
(Antinoella sarsi sarsi)

Occurs in the main fjord and Borgenfjorden.
Distribution: Arctic, northern Pacific, northern Atlantic, North
Sea, Danish waters, Baltic to Finland.
Harmothoe (Eunoe) nodosa (Sars, 1860)

Harmothoe nodosa; Storm 1880, Bidenkap 1907.
According to Bidenkap (1907) found by Storm and Swenander in the outer parts of the main fjord.
Distribution: Arctic, north Pacific, north Atlantic, North Sea, Skagerrak, Kattegat, the Sound.

Harmothoe (Eunoe) oerstedi (Malmgren, 1865)

Eunoa oerstedi; Storm 1879, 1880.
According to Storm (1879) found at Råberg.
Distribution: Arctic, north Atlantic.

Harmothoe (Eucranta) villosa Malmgren, 1865

Eucranta villosa; Storm 1881, Harmothoe villosa; Bidenkap 1907.
According to Bidenkap (1907) found frequently by Storm in the inner part of the main fjord (40-400 m), by Nordgaard in Verrafjorden, and by Swenander at Gjeitneset (one specimen).
Distribution: Arctic, north Atlantic to Skagerrak.

Alentia gelatinosa (Sars, 1835)

Alentia gelatinosa; Storm 1879, Bidenkap 1907.
Found by Storm at Råberg.
Distribution: Eastern Atlantic from the Faeroes to West Africa, North Sea, Skagerrak.

Leucia nivea Sars, 1863

Leucia nivea; Sars 1863, Storm 1879, Bidenkap 1907, Holthe 1973.
Occurs in the main fjord and in the narrow inlet to Borgenfjorden.
Distribution: Norway, Skagerrak.
Acanthiolepis asperrima (Sars, 1861)

*Polynoe asperrima; Sars 1863, Dasylepis asperrima; Storm 1879, 1901, Harmothoe asperrima; Bidenkap 1907.*

Found at Austrat by Sars and at Röberg by Storm.

Distribution: North-eastern Atlantic to the Azores, North Sea, Skagerrak.

Lagisca propinqua Malmgren, 1867

*Lagisca propinqua; Storm 1879, Harmothoe propinqua; Bidenkap 1907.*

According to Storm (1879) found at Röberg (50-60 m).

Distribution: Arctic, Scandinavia, Japan, New Caledonia.

Lagisca rarispina (Sars, 1861)

*Lagisca rarispina; Storm 1879, Harmothoe rarispina; Bidenkap 1907.*

According to Storm (1879) found at Röberg (50-60 m).

Distribution: Arctic, Canadian Pacific coast, Norway.

Heteropolyne nordgaardi Bidenkap, 1907

*Heteropolyne nordgaardi; Bidenkap 1907.*

According to Bidenkap (1907) found at Malvik (180 m) by Swenander.

Distribution: Norway.

Polynoe kinbergi (Malmgren, 1865)

*Polynoe kinbergi; Holthe 1973, 1974.*

Rare in the main fjord and in Buvika, found several times in Borgenfjorden.

Distribution: Northwestern Europe, North Sea, Skagerrak, Kattegat, the Sound, western Baltic.
POLYODONTIDAE

_Panthalis oerstedii_ Kinberg, 1855

_Panthalis oerstedii_; Storm 1880, Bidenkap 1907, Holthe 1974.
Occurring in small numbers in the main fjord, Beitstadfjorden and Verrafjorden.
Distribution: Worldwide distribution, excluding the Arctic and Antarctic, North Sea, Skagerrak, Kattegat.

SIGALIONIDAE

_Leanira tetragona_ (Ørsted, 1845)

_Leanira tetragona_; Storm 1879, 1880, Bidenkap 1907, Holthe 1974, Leanira; Storm 1901.
Found in the main fjord, rare.
Distribution: Arctic, north Atlantic to the Mediterranean, North Sea, Skagerrak, Kattegat, South Africa.

_Phloe minuta_ (Fabricius, 1780)

Very common and abundant in all parts of the fjord.
Distribution: Arctic, north Pacific, north Atlantic, Mediterranean, Black Sea, North Sea, Skagerrak, Danish waters to middle Baltic, Southwest and South Africa, Chile.
PHYLLODOCIDAE

*Phyllodoce laminosa* Savigny, 1818

*Phyllodoce laminosa*; Holthe 1974.
Found once in Buvika (50 m).
Distribution: Western Norway, British Isles, western coast of Central Europe, Morocco, Mediterranean, Black Sea.

*Anaitides groenlandica* (Orsted, 1843)

Occuring all over the fjord, common in Borgenfjorden.
Distribution: Arctic, north Pacific, north Atlantic, North Sea, Skagerrak, Kattegat, the Sound, Bay of Kiel

*Anaitides maculata* (Linnaeus, 1767)

*Anaitides maculata*; Bidenkap 1907, Holthe 1974.
Occuring in all parts of the fjord in small numbers.
Distribution: Arctic, north Pacific, north Atlantic, North Sea, Skagerrak, Kattegat, the Sound, western Baltic.

*Genetyllis lutea* Malmgren, 1865

*Genetyllis lutea*; Holthe 1974.
Found once near Trondheim (50 m) and once near Tautra (200 m).
Distribution: North Atlantic between Spitzbergen and Scotland, northern part of the North Sea, Skagerrak, Kattegat, the Sound.
Notophyllum foliosum (Sars 1835)

Notophyllum foliosum; Storm 1879, Bidenkap 1907.
Found at Kivnebbnes, Röberg, Ytterøya, Skarnsundet, and Verrafjorden. Rare.
Distribution: North Pacific, north Atlantic, Mediterranean, North Sea, Skagerrak, Danish waters.

Eulalia viridis (Linnaeus, 1767)

Eulalia viridis; Bidenkap 1907, Holthe 1973.
According to Bidenkap (1907) found only in the outer part of the fjord. A few specimens were, however, found during the investigations in Borgenfjorden, 1967-1970.
Distribution: Entire northern hemisphere, North Sea, Skagerrak, Danish waters, Bay of Kiel.

Eumida sanguinea (Orsted, 1843)

Distribution: Worldwide distribution excluding the Arctic and Antarctic, North Sea, Skagerrak, Danish waters, Bay of Kiel.

Sige fusigera Malmgren, 1865

Found in the outer parts of the fjord, to Tautra, rare.
Distribution: North Atlantic, Skagerrak, Kattegat, the Sound.
Eteone Longa (Fabricius, 1780)

Found several times during the investigations in Borgenfjorden.
Distribution: Arctic, north Pacific, north Atlantic to the Mediterranean, North Sea, Skagerrak, Danish waters to the western Baltic.

HESIONIDAE

Kefersteinia cirrata (Keferstein, 1862)

Found once in the main fjord outside the entrance to Borgenfjorden.
Distribution: Atlantic between Iceland and South Africa, Mediterranean, Indochina, Antarctic, North Sea to the Bay of Kiel.

Ophiodromus flexuosus (Delle Chiaje, 1822)

Ophiodromus vittatus; Storm 1873, Bidenkap 1907, Ophiodromus flexuosus; Holthe 1973, 1974.
Common in all parts of the fjord.
Distribution: North Atlantic, Mediterranean, North Sea, Skagerrak, Kattegat to the Sound.

Nereimyra punctata (Muller, 1788)

Occurring in small numbers in all parts of the fjord.
Distribution: Arctic, Bering Sea, north Atlantic, Mediterranean, West Africa, North Sea, Skagerrak, Danish waters, Bay of Kiel
SYLLIDAE

Remark: Most syllids collected in Trondheimsfjorden remain unidentified.

Syllis nidrosiensis Bidenkap, 1907

Syllis nidrosiensis; Bidenkap 1907.

According to Bidenkap (1907) found north of Garten.
Distribution: Norway.

Typosyllis armillaris (Müller, 1776)

Syllis armillaris; Bidenkap 1907, Nordgaard 1923, Augener 1925,
Found by Bidenkap at Brekstad, by Augener in Skarnsundet, by
Nordgaard in Borgenfjorden, and during the investigations in
Distribution: Cosmopolitan, North Sea, Skagerrak, Danish waters.

Typosyllis cornuta (Rathke, 1843)

Not uncommon in Borgenfjorden, found in Beitstadfjorden and may
well occur in other parts of the fjord.
Distribution: Cosmopolitan, Atlantic to the British Channel and
Skagerrak.
Typosyllis hyalina (Grube, 1863)

Syllis borealis; Bidenkap 1907.
According to Bidenkap (1907) one specimen was found by Nordgaard in Verrafjorden. Bidenkap, however, writes that the palps are more like those of T. armillaris than those of S. borealis.
Distribution: Cosmopolitan, Atlantic to the British Channel and Skagerrak.

Autolytus sp.

Found in the narrow inlet to Borgenfjorden.

NEREIDAE

Nereis diversicolor Müller, 1776

Nereis diversicolor; Malmgren 1867, Bidenkap 1907.
According to Malmgren found at Trondheim.
Distribution: North Atlantic, Mediterranean, Black Sea, Caspian Sea, North Sea, Skagerrak, Danish waters, Baltic, Bay of Finland, Bay of Bothnia.

Nereis pelagica Linnaeus, 1761

Probably occurring in all parts of the fjord.
Distribution: Cosmopolitan, North Sea, Skagerrak, Danish waters, western Baltic.
**Nereis virens** Sars, 1835

Found in small numbers in Beistadfjorden, Borgenfjorden, and in the inner parts of the main fjord.
Distribution: North Pacific, north Atlantic, North Sea, Skagerrak, Danish waters, Bay of Kiel.

**Ceratocephale loveni** Malmgren, 1867

*Ceratocephale loveni*; Holthe 1974.
Occuring in small numbers in the outer part of the fjord, to Verdal.
Distribution: North Pacific, north Atlantic, North Sea, Skagerrak, Kattegat.

**Nephtyidae**

*Nephtys caeca* (Fabricius, 1780)

Found in the main fjord. Orkdalsfjorden, and Verrafjorden.
Distribution: Arctic, north Pacific, north Atlantic, Black Sea, North Sea, Skagerrak, Danish waters, western and middle Baltic.

*Nephtys ciliata* (Müller, 1776)

Common in all parts of the fjord, the most abundant polychaete in Borgenfjorden.
Distribution: Arctic, north Pacific, north Atlantic, Mediterranean, Black Sea, North Sea, Skagerrak, Danish waters, western and middle Baltic.
Not uncommon in the main fjord, Orkdalsfjorden, Buvika, Åsenfjorden, and Beistadfjorden, according to Bidenkap also Verrafjorden.
Distribution: East Atlantic from the Barents Sea to South Africa, Mediterranean to the Black Sea, North Sea, Skagerrak, Danish waters, western Baltic.

Not uncommon in most parts of the fjord, from Stjønnsfjorden to Verrafjorden. Not found in Borgenfjorden.
Distribution: North Atlantic, Mediterranean to Bosporus, North Sea, Skagerrak, Kattegat, the Sound, Bay of Kiel.

Occuring in small numbers in all parts of the fjord.
Distribution: Arctic, north Pacific, north Atlantic, Madeira, Mediterranean, Black Sea, North Sea, Skagerrak to Kattegat.

SPHAERODORIDAE

Sphaerodorum gracilis (Rathke, 1843)
Ephesia gracilis; Storm 1881, Bidenkap 1907, Sphaerodorum gracilis; Holthe 1973, 1974.
Occuring in small numbers in all parts of the fjord.
Distribution: Arctic, north Atlantic, California, Antarctic, North Sea, Skagerrak, Kattegat, the Sound.
Sphaerodoridium philippi (Fauvel, 1911)

Found several times in the outer part of Borgenv fjorden, and once in the area outside the entrance to Borgenv fjorden.
Distribution: Arctic (Kara Sea), Norway, Skagerrak, Kattegat, the Sound.

GLYCERIDAE

Glycera alba (Müller, 1776)

Common in most parts of the fjord.

Glycera capitata Ørsted, 1843

Glycera capitata; Bidenkap 1907, Støp-Bowitz 1941, Holthe 1974.
Found in the outer parts of the fjord, and in Skarnsundet and Verrafjorden. Not common.
Distribution: Arctic, north Atlantic, North Sea.

Glycera lapidum Quatrefages, 1865

Occurring in small numbers in all parts of the fjord.
Distribution: North Atlantic to the Azores, Mediterranean, North Sea, the Sound.

Glycera rouxi Audoin & Milne Edwards, 1834

Common in most parts of the fjord, Beitstadfjorden, but not found in Borven fjorden.
Distribution: Pacific, Indian Ocean, north Atlantic, Mediterranean, Black Sea, North Sea, Skagerrak, Kattegat, the Sound.

GONIADIDAE

Goniada maculata Örsted, 1843

Distribution: Arctic, north Pacific, Persian Gulf, Atlantic, North Sea, Skagerrak, Danish waters, Bay of Kiel.

Goniada norvegica Örsted, 1845

*Goniada norvegica*; Støp-Bowitz 1941, Holthe 1974. Found mainly in the outer parts of the fjord (to Ytteroya), rare.
Distribution: Arctic, north Atlantic, Mediterranean, North Sea, Skagerrak.

Glycinda nordmanni (Malmgren, 1865)

*Glycinda nordmanni*; Støp-Bowitz 1941. According to Støp-Bowitz (1941) found at Röberg.
Distribution: North Pacific, north Atlantic to the Mediterranean, North Sea, Skagerrak to Kattegat.

EUNICEMORPHA

ONUPHIDAE

Onuphis quadricuspis Sars, 1872

*Onuphis quadricuspis*; Bidenkap 1907, Holthe 1974.
Found in the main fjord, Stjörnfjorden, and Beitstadfjorden, rare.
Distribution: North Pacific, northern to middle Atlantic, North Sea, Skagerrak.

Nothria conchylega (Sars, 1835)

*Onuphis conchylega; Bidenkap 1907, Nothria conchylega; Holthe 1973, 1974.*
Found near Trondheim and in Beitstadfjorden, not uncommon in the area outside the entrance to Borgenfjorden.
Distribution: Cosmopolitic, North Sea to Skagerrak.

Hyalinoecia tubicola (Müller, 1776)

*Onuphis tubicola; Danielssen 1859, Hyalinoecia tubicola; Holthe 1974.*
Found in the outer part of the main fjord, to Trondheim, rare.
Distribution: Cosmopolitic, North Sea, Skagerrak, Kattegat.

Eunicidae

Eunice norvegica (Linnaeus, 1767)

*Lecidoe norvegica; Storm 1879, Bidenkap 1907, Lecidoe gunneri; Storm 1881, 1901, Bidenkap 1907.*
Found in the main fjord, Skarnsundet, Beitstadfjorden, and Verrafjorden.
Distribution: Indian Ocean, Atlantic to the Mediterranean, North Sea, Skagerrak, the Sound (?).

Eunice pennata (Müller, 1776)

*Eunice pennata; Holthe 1973, 1974.*
Found in the inner part of the main fjord, Borgenfjorden and Beitstadfjorden. Not common.
Distrihution: Arctic, Antarctic, Mediterranean, North Sea, Skagerrak, Kattegat, the Sound.

LUMBRINERIDAE

*Lumbrineris fragilis* (Müller, 1766)

Common and abundant in all parts of the fjord.
Distribution: Arctic, north Pacific, Atlantic to the Mediterranean, North Sea, Skagerrak, Danish waters.

*Lumbrineris ater* Bidenkap, 1907

*Lumbrinereis (?) ater*; Bidenkap 1907.
Found by Bidenkap (1907) at Röberg and in Verrafjorden.
Distribution: Norway.

ARABELLIDAE

*Drilonereis filum* (Claparede, 1868)

*Drilonereis filum*; Holthe 1974.
Occuring in the main fjord, Buvika, Beitstadfjorden and Verrafjorden.
Distribution: Arctic, California, Atlantic, Mediterranean, Black Sea.

DORVILLEIDAE

*Staurocephalus rubrovittata* (Grube, 1855)

*Staurocephalus erucæformis*; Storm 1879, Bidenkap 1907,
*Staurocephalus*; Storm 1901.
Found by Storm (1879) at Röberg.
Distribution: Northern and middle Atlantic to the Caribbean,
Mediterranean to the Black Sea, North Sea to Skagerrak.

**SPIOMORPHA**

**ORBINIIDAE**

*Orbinia sertulata* (Savigny, 1820)
One specimen found in Stjørnfjorden, May 1965, 40-15 m.
Distribution: Eastern north Atlantic to the Mediterranean, North Sea, Skagerrak, Kattegat, the Sound, Bay of Kiel

*Phylo kupfferi* (Köhlers, 1875)
One specimen found at Ytterøya, October 1973, in 50 m.
Distribution: Arctic, north Atlantic to the Mediterranean, Persian Gulf, North Sea, Skagerrak.

*Phylo norvegica* (Sars, 1872)
*Aricia norvegica*; Storm 1881, Bidenkap 1907,*Phylo norvegica*; Holthe 1974.
Found in the main fjord, Stjørnfjorden and Beitstadfjorden, not uncommon at depths below 100 m.
Distribution: Worldwide distribution, excluding the arctic and Antarctic, North Sea, Skagerrak to Kattegat.
**Scoloplos armiger** (Müller, 1776)

Common and abundant in all parts of the fjord, most abundant in shallow depths.
Distribution: Cosmopolitan, North Sea, Skagerrak, Danish waters, Baltic.

**Naineris quadricuspida** (Fabricius, 1780)

Found once in the narrow inlet to Borgenfjorden.
Distribution: Arctic, north Pacific, north Atlantic to the northern North Sea, Skagerrak.

**PARAONIDAE**

**Paraonis gracilis** (Tauber, 1879)

Found in the main fjord, Buvika, Beitstadfjorden, and Borgenfjorden.
Distribution: Arctic, north Pacific, north Atlantic to the northern North Sea, Skagerrak, Danish waters, western Baltic, South Africa, Subantarctic, Antarctic.

**SPIONIDAE**

**Spio filicornis** (Müller, 1776)

Found in Orkdalsfjorden, Stjørdalsfjorden, Borgenfjorden, and
Beitstadfjorden, not common.
Distribution: Arctic, north Pacific, north Atlantic, Mediterranean, Black Sea, North Sea, Skagerrak, Danish waters, Bay of Kiel.

Spio armata (Thulin, 1957)

Found three times in the area outside the entrance to Borgenfjorden (15 m).
Distribution: Trondheimsfjorden, Kattegat, the Sound.

Laonice cirrata (Sars, 1851)

Common in all parts of the fjord.
Distribution: Arctic, Atlantic to the Mediterranean, North Sea, Skagerrak, Kattegat, Antarctic, Indian Ocean.

Pygospio elegans Claparede, 1863

Found in the littoral in Borgenfjorden and the area outside, and at 20 m in Orkdalsfjorden.
Distribution: Arctic, north Pacific, north Atlantic, South Africa, Mediterranean, Black Sea, North Sea, Skagerrak, Kattegat, the Sound, Baltic to Finland.

Prionospio cirrifera Wirén, 1883

Prionospio cirrifera; Holthe 1974.
Found in Buvika and near Ytterøya, rare.

Prionospio malmgreni Claparede, 1868

Prionospio malmgreni; Holthe 1974.
One specimen found in Orkdalsfjorden (50 m).
Distribution: Arctic, north Pacific, Indian Ocean, north Atlantic, Caribbean Sea, Mediterranean, Black Sea, South Africa, North Sea, Skagerrak, Kattegat, the Sound.

Polydora giardi Mesnil, 1896

Found only in the outer part of Borgenfjorden. Rare.
Distribution: North Pacific, eastern north Atlantic, South Africa, Mediterranean, southern North Sea.

Polydora quadrilobata Jacobi, 1883

Found during the investigations in Borgenfjorden, in the inner and outer parts of this fjord, and in the area outside. Common in the outer part.
Distribution: Arctic, north Pacific, north Atlantic, North Sea, Kattegat, the Sound.

Spiophanes krøyeri Grube, 1860

Found in Buvika, Stjørdalsfjorden, Borgenfjorden, and Beitstadfjorden.
Distribution: Arctic, north Pacific, Malayan Archipelago, northern and middle Atlantic to the Mediterranean, North Sea, Skagerrak, Kattegat, the Sound.

Aonides paucibranchiata Southern, 1914

One specimen found in the area outside the entrance to Borgenfjorden.
Distribution: Eastern north Atlantic, Black Sea, Skagerrak.

Scolelepis foliosa (Audoin & Milne Edwards, 1834)

Nerinea foliosa; Storm 1879, Spio foliosa; Bidenkap 1907.
According to Storm (1879) found in the littoral near Tautra.
Distribution: Eastern north Atlantic to the Mediterranean, North Sea, Skagerrak, Kattegat, the Sound.

TROCHOCHAETIDAE

Trochochaeta multiseta (Ørsted, 1843)

Found in Borgenfjorden and in the inner parts of the main fjord.
Distribution: Arctic, north Pacific, north Atlantic to the northern North Sea, Skagerrak, Kattegat, western Baltic.
CHAETOPTERIDAE

*Chaetopterus variopedatus* (Renier, 1804)

*Chaetopterus variopedatus*; Storm 1881, Bidenkap 1907.
Found by Storm at Gjeitneset.
Distribution: Worldwide distribution excluding the Arctic, North Sea, Skagerrak, Kattegat, the Sound.

*Spiochaetopterus typicus* Sars, 1856

*Spiochaetopterus typicus*; Holthe 1974.
Found in Stjornfjorden, Beitstadfjorden, and Verrafjorden.
Distribution: Arctic, north Pacific, north Atlantic to Madeira and the Mediterranean, South Africa, North Sea, Skagerrak, Kattegat, the Sound.

DRILOMORPHA

CIRRATULIDAE

*Cirratulus cirratus* (Müller, 1776)

Common in all parts of the fjord.
Distribution: Cosmopolitan, North Sea, Skagerrak, Danish waters, Bay of Kiel.

*Tharyx marioni* (Saint-Joseph, 1894)

*Tharyx marioni*; Holthe 1974.
Two specimens found near Ytterøya (20 and 100 m).

*Chaetonotus setosa* Malmgren, 1867

Common in all parts of the fjord.
Distribution: Cosmopolitan, North Sea, Skagerrak, Danish waters, western Baltic.

**CAPITELLIDAE**

*Capitella acutata* (Fabricius, 1780)

One specimen found in Orkdalsfjorden (50 m), June 1974.
Distribution: Worldwide distribution in cold and temperate seas, North Sea, Skagerrak, Danish waters, western Baltic.

*Heteromastus filiformis* (Claparede, 1864)

Common in all parts of the fjord.
Distribution: Arctic, north Pacific, north Atlantic, Mediterranean, Black Sea, Persian Gulf, South Africa, North Sea, Skagerrak, Kattegat, the Sound.

*Notomastus latericrus* Sars, 1851

Found in the main fjord, Stjørnfjorden, and Beitstadfjorden, not uncommon.
Distribution: Cosmopolitan, North Sea, Skagerrak, Danish waters.
**Dasybranchus caducus** (Grube, 1846)

*Dasybranchus caducus*; Holthe 1974.
Found in the main fjord, Stjörnafjorden, and Beitstadfjorden.
Distribution: Worldwide distribution in temperate and warm waters, Skagerrak.

**ARENICOLIDAE**

*Arenicola marina* (Linnaeus, 1758)

Abundant on littoral sand flats in all parts of the fjord.
Distribution: Arctic, north Pacific, north Atlantic, Mediterranean, Black Sea, North Sea, western and middle Baltic.

*Arenicola ecaudata* Johnston, 1865

*Arenicola bosckii*; Rathke 1843, *Arenicola ecaudata*; Storm 1881, Bidenkap 1907.
According to Bidenkap (1907) found by Rathke at Trondheim and by Storm in Trondheimsfjorden.
Distribution: Eastern north Atlantic, North Sea, Skagerrak.

**MALDANIDAE**

*Maldane sarxi* Malmgren, 1865

Common and abundant in all parts of the fjord. This species may reach high population densities in Trondheimsfjorden (over 10 000 ind./m² in parts of Borgenfjorden (Holthe 1973).
Distribution: Cosmopolitan, North Sea, Skagerrak, Danish waters.
Asychis biceps (Sars, 1861)

Common in all parts of the fjord.
Distribution: Arctic, north Pacific, north Atlantic, Mediterranean, Adriatic, North Sea, Baltic.

Lumbriclymene cylindricaoda Sars, 1872

Lumbriclymene cylindricaoda; Arwidson 1906, Bidenkap 1907.
Occuring in the main fjord and Stjørdalsfjorden, not common.
Distribution: Eastern north Atlantic, South Africa.

Lumbriclymene minor Arwidson, 1906

Lumbriclymene minor; Holthe 1974.
Found twice in the main fjord and once in Beitstadfjorden.
Distribution: Arctic, eastern north Atlantic, Brazil, South Africa.

Lumbriclymene sp.

Lumbriclymene sp.; Arwidson 1906, Bidenkap 1907.
Found at Røberg.

Notoproctus oculatus Arwidson, 1906

Notoproctus oculatus; Arwidson 1906, Bidenkap 1907.
Found in Stjørnfjorden.
Distribution: Arctic, north Atlantic.
Praxillura Longissima Arwidson, 1906

Praxillura longissima; Arwidson 1906, Bidenkap 1907.
Found in the outer part of the main fjord.
Distribution: Arctic, north Atlantic, Skagerrak, Kattegat, the Sound.

Microclymene acirrata Arwidson, 1906

Microclymene acirrata; Arwidson 1906, Bidenkap 1907.
Found at Røberg.
Distribution: North Pacific, western Norway, Swedish west coast.

Microclymene tricirrata Arwidson, 1906

Microclymene tricirrata; Arwidson 1906, Bidenkap 1907, Holthe 1974.
Found at Røberg (Arwidson 1906), in the inner part of the main fjord and in Beitstadfjorden, rare.
Distribution: North Atlantic.

Euclymene droebachiensis (Sars, 1872)

Euclymene droebachiensis; Arwidson 1906, Bidenkap 1907.
Found in the outer part of the main fjord.
Distribution: North Sea, Skagerrak, Kattegat, the Sound.

Pseudoclymene quadrilobata (Sars, 1856)

Pseudoclymene quadrilobata; Arwidson 1906, Bidenkap 1907.
Found in the outer part of the main fjord, and in Stjørnafjorden.
Distribution: Western and southern Norway.
**Heteroclymene robusta** Arwidson, 1906

*Heteroclymene robusta*; Arwidson 1906, Bidenkap 1907.
Occuring in the main fjord and in Stjordalsfjorden, not common.
Distribution: Eastern north Atlantic, northern North Sea, Skagerrak.

**Leiochone borealis** Arwidson, 1906

Occuring in the main fjord, Skarnsundet, and Beitstadfjorden, not common.
Distribution: Arctic, north Pacific, north Atlantic, northern North Sea, Skagerrak, Baltic (?).

**Praxillella gracilis** (Sars, 1861)

Occuring in small numbers in the inner part of the main fjord, Stjordalsfjorden, and Beistadfjorden.
Distribution: Arctic, north Pacific, north Atlantic.

**Praxillella praetermissa** (Malmgren, 1865)

Common in all parts of the fjord, very abundant in Borgenfjorden.
Distribution: Arctic, north Pacific, north Atlantic, Mediterranean, North Sea, Skagerrak, Danish waters, western Baltic.
Nicomache lumbricalis (Fabricius, 1780)

Nicomache lumbricalis var. borealis; Arwidson 1906, Bidenkap 1907, Nicomache lumbricalis; Holthe 1973.
Occuping in Stjørnfjorden and in the main fjord to the area outside Borgenfjorden.
Distribution: Arctic, north Pacific, north Atlantic, North Sea, Skagerrak, Danish waters, South Africa, subantarctic islands, Antarctic.

Nicomache personata Johnson, 1901

Nicomache minor; Arwidson 1906, Bidenkap 1907.
According to Arwidson (1906) found at shallow depths in Stjørnfjorden.
Distribution: Arctic, north Pacific, north Atlantic, North Sea, western Baltic.

Nicomache trispinata Arwidson, 1906

Nicomache trispinata; Arwidson 1906, Bidenkap 1907.
According to Arwidson (1906) found at Røberg.
Distribution: Arctic, eastern north Atlantic, Mediterranean (?), Black Sea (?), North Sea (?), Skagerrak, Kattegat, the Sound

Petaloproctus tenuis (Theel, 1879)

Petaloproctus tenuis var. borealis; Arwidson 1906, Bidenkap 1907.
Found in the main fjord and Stjørnfjorden.
Distribution: Arctic, north Pacific, north Atlantic, Skagerrak, Kattegat, the Sound.

Rhodine gracilior Tauber, 1879

Rhodine sp. (non loveni); Nordgaard 1923, Rhodine gracilior; Holthe 1973, 1974.
Found in the main fjord, Stjørdalsfjorden, Borgenfjorden, and Beitstadfjorden. Very common in Borgenfjorden.
Distribution: Arctic, Bering Sea, north Atlantic, South Africa, Persian Gulf, Mediterranean, North Sea, Skagerrak, Danish waters, western Baltic.

Rhodine loveni Malmgren, 1865

Rhodine loveni; Arwidson 1906, Bidenkap 1907, Holthe 1974.
Occurring in the main fjord, Åsenfjorden, and Beitstadfjorden.
Distribution: Arctic, Sea of Ochotsk, north Atlantic, Mediterranean, North Sea, Skagerrak, Danish waters, western Baltic, Antarctic.

SCALIBREGMIDAE

Scalibregma inflatum Rathke, 1843

Occurring in small numbers in all parts of the fjord.
Distribution: Cosmopolitan, North Sea, Skagerrak, Danish waters, western and middle Baltic.

Polyphysia crassa (Oersted, 1843)

Occurring in all parts of the fjord, abundant in Buvika.
Distribution: Arctic, north Atlantic to the Mediterranean, North Sea, Skagerrak, Kattegat, the Sound.
OPHELIIDAE

Ophelia limacina (Rathke, 1843)

Found at shallow depths both in the outer and the inner parts of the fjord.
Distribution: Arctic, north Pacific, north Atlantic, Mediterranean, Black Sea, North Sea, western Baltic.

Ophelia acuminata Ørsted, 1843

Ammotrypane aulogastra; Storm 1881, Ammotrypane aulogaster; Bidenkap 1907, Holthe 1973, Ophelina acuminata; Støp-Bowitz 1946a, Holthe 1974.
Occurring in moderate numbers in all parts of the fjord.
Distribution: Entire northern hemisphere, South Africa, North Sea, Skagerrak, Kattegat, the Sound.

Ophelina norvegica Støp-Bowitz, 1946

Ophelina norvegica; Støp-Bowitz 1946a, Holthe 1974.
Occurring in small numbers in the main fjord, Beitstadfjorden, and Størnfjorden.
Distribution: Norwegian coast to Troms, Skagerrak, Adriatic.

Travisia forbesi Johnston, 1840

Travisia forbesi; Bidenkap 1907, Travisia forbesii; Storm 1881, Støp-Bowitz 1946a.
Found in the outer part of the main fjord, not common (Bidenkap 1907),
abundant on the shallow flats between Tautra and Frosta.
Distribution: Arctic, north and south Pacific, north Atlantic, South Africa, North Sea, western Baltic.

**FLABELLIGERIMORPHA**

**FLABELLIGERIDAE**

*Flabelligera affinis* Sars, 1829


*Pherusa plumosa* (Müller, 1776)


*Diplocirrus glaucus* (Malmgren, 1867)


**Diplocirrus longisetosus** (Marenzeller, 1880)

*Diplocirrus longisetosus*; Holthe 1974.
One specimen found in the middle part of the main fjord at 200 m, October 1972.
Distribution: Arctic, northern Norway.

**Brada villosa** (Rathke, 1843)

Occuring in small numbers in all parts of the fjord.
Distribution: Antarctic, Subantarctic, Arctic, north Pacific, north Atlantic, Mediterranean, North Sea, Skagerrak, Danish waters, western Baltic.

**Brada inhabilis** (Rathke, 1843)

Found in the main fjord and in the outer basin of Borgenfjorden.
Distribution: Arctic, north Pacific, north Atlantic, northern North Sea, Skagerrak, Kattegat.

**Owenimorpha**

**Oweniidae**

*Owenia fusiformis* Delle Chiaje, 1841

Occuring in all parts of the fjord, not uncommon.
Distribution: Cosmopolitic, North Sea, Skagerrak, Kattegat, the Sound.

*Myriochele* sp.

A species of *Myriochele* is one of the commonest and most abundant polychaetes of Trondheimsfjorden.

**TEREBELLOMORPHA**

**PECTINARIIDAE**

*Pectinaria auricoma* (Müller, 1776)

Common in most parts of the fjord. This species shows a deeper bathymetrical distribution than *P. koreni* (v.i.), but the two species frequently occur in the same sample. Only one specimen has been found in Borgenfjorden.
Distribution: Arctic, north Pacific, eastern north Atlantic, Gulf of Guinea, Mediterranean, North Sea, Skagerrak, Danish waters, western Baltic.

*Pectinaria belgica* (Pallas, 1766) sensu Malmgren 1965

*Pectinaria belgica*; Holthe 1974.
Occuring in the deeper parts of the main fjord and Stjörnafjorden.
Not common.
Distribution: North Pacific, eastern north Atlantic, Mediterranean, Black Sea, North Sea, Skagerrak, Kattegat, the Sound, western Baltic.
**Pectinaria koreni** (Malmgren, 1865)

Common in shallow water in all parts of the fjord, very abundant in some localities. Along with *Nephtys ciliata* it is the most abundant polychaete in Borgenfjorden.
Distribution: Eastern Atlantic, from the Barents Sea to South Africa, Mediterranean, Black Sea, North Sea, Skagerrak, Kattegat, the Sound, western Baltic.

**Petta pusilla** Malmgren, 1865

One specimen found in May 1965 at the entrance to Stjørnfjorden.
Distribution: Arctic, eastern north Atlantic to Congo, Mediterranean, northern North Sea, Skagerrak, Kattegat, northern part of the Sound.

**AMPHARETIDAE**

**Ampharete baltica** Eliason, 1955

*(Ampharete grubei var. baltica* Eliason 1955)*

Occuring in small numbers in Borgenfjorden.
Distribution: Jan Mayen, Trondheimsfjorden, the Sound, western Baltic.

**Ampharete finmarinhica** (Sars, 1864)

Occuring in small numbers in the main fjord and Borgenfjorden.
Distribution: Arctic, north Pacific, north Atlantic, North Sea, Skagerrak, Kattegat, the Sound.
Sabellides borealis Sars, 1856

Sabellides borealis; Holthe 1974.
Five individuals found in one sample at 50 m depth in the inner part of the main fjord, October 1972.
Distribution: Arctic, Bering Sea, north Atlantic, Skagerrak.

Sabellides octocirrata (Sars, 1835)

Sabellides octocirrata; Holthe 1974.
A few specimens found near Trondheim and in Åsenfjorden.
Distribution: Arctic, north Atlantic, South Africa, Mediterranean, northern North Sea, Skagerrak.

Anobothrus gracilis (Malmgren, 1865)

Sosane sulcata var. nidrosiensis; Bidenkap 1907, Ampharete gracilis; Wollebøk 1912, Anobothrus gracilis; Holthe 1973, 1974.
Occuring in small numbers in the main fjord and Borgenfjorden.
Distribution: Arctic, north Pacific, north Atlantic, Mediterranean, North Sea, Skagerrak, Danish waters.

Amphiodes gunneri (Sars, 1835)

Occuring in small numbers in most parts of the fjord, common in the area outside Borgenfjorden.
Distribution: All over the northern hemisphere, South Africa, Antarctic, North Sea, Skagerrak, Kattegat, the Sound, western Baltic.
Eclysippe vanelli (Fauvel, 1936)

Eclysippe vanelli; Holthe 1974.
Occurring in the middle parts of the main fjord and in Beitstadfjorden, rare.
Distribution: Trondheimsfjorden, Skagerrak, Morocco, Guinea.

Glyphanostomus pallescens (Theel, 1878)

Glyphanostomus pallescens; Holthe 1974.
One specimen found in the inner part of the main fjord at 50 m, October 1972.
Distribution: Arctic, north Atlantic.

Samytha sexcirrata (Sars, 1856)

Samytha sexcirrata; Bidenkap 1907, Wollebak 1912, Holthe 1974.
Found in the outer parts of the main fjord (Bidenkap 1907), two specimens found in Beitstadfjorden, October 1972 (Holthe 1974).
Distribution: Arctic, north Pacific, North Sea, Skagerrak, Kattegat.

Amage auricula Malmgren, 1865

Amage auricula; Holthe 1974.
Found near Tautra (July 1973) and in Beitstadfjorden (October 1972).
Distribution: Arctic, north Pacific, north Atlantic, North Sea, Skagerrak.

Melinna cristata (Sars, 1851)

Common in all parts of the fjord, abundant in many localities.
Distribution: Arctic-boreal and Antarctic-boreal, North Sea, Skagerrak, Kattegat.

**TRICHOBRANCHIDAE**

*Trichobranchus roseus* (Malm, 1874)

Not uncommon in most parts of the fjord. Not found in Borgenfjorden.
Distribution: Uncertain due to confusion with *T. glacialis* Malmgren, 1865.

*Terebellides stroemi* Sars, 1835

Common in all parts of the fjord.
Distribution: Cosmopolitan, North Sea, Skagerrak, Danish waters, Baltic to Finland.

**TEREBELLIDAE**

*Artacama proboscidea* Malmgren, 1865

A few specimens found in Buvika, the main fjord, and Åsenfjorden.
Common in Borgenfjorden.
Distribution: Antarctic, subantarctic islands, South Africa, Arctic, north Pacific, north Atlantic, North Sea, Danish waters, western Baltic.
Amphitrite cippata Müller, 1771

Occuring in small numbers in all parts of the fjord, common in the outer part of Borgenfjorden.
Distribution: Arctic, north Atlantic, Mediterranean, North Sea, Skagerrak, Kattegat, the Sound, western Baltic.

Neoamphitrite affinis (Malmgren, 1865)

Found in the main fjord, Stjørnfjorden, Stjørdalsfjorden, and Verrafjorden. Rare.
Distribution: Arctic, north Atlantic to Skagerrak.

Neoamphitrite figulus (Dalyell, 1853)

Found only in Borgenfjorden and in the area immediately outside this fjord.
Distribution: Arctic, north Atlantic, Mediterranean, North Sea, Skagerrak, Danish waters, western Baltic.

Neoamphitrite grayi (Malmgren, 1865)

Neoamphitrite grayi; Holthe 1974.
Found in the main fjord, Buvika, and Beitstadfjorden. Not common.
Distribution: Arctic, north Pacific, north Atlantic, North Sea, Skagerrak.
Polymnia nebulosa (Montagu, 1818)

Found in Buvika, the area outside Borgenfjorden, and Skarnsundet, rare.
Distribution: Worldwide distribution excepting the Arctic and Antarctic, North Sea, Skagerrak, Kattegat.

Polymnia neasidensis (Delle Chiaje, 1828)

Found only in the area outside Borgenfjorden. Not common.
Distribution: Arctic, eastern north Atlantic to Senegal, Mediterranean, North Sea, Skagerrak, Kattegat, the Sound.

Nicolea venustula (Montagu, 1818)

Found once in the outermost part of the main fjord (May 1965).

Nicolea zostericola (Oersted, 1844)

Nicolea zostericola; Bidenkap 1907, Wollebæk 1912.
According to Bidenkap (1907) found near the mouth of the main fjord.
Distribution: Arctic, north Pacific, north Atlantic, North Sea, Skagerrak, Danish waters, western and middle Baltic.

Lanice conchilega (Pallas, 1766)

Lanice conchilega; Storm 1879, Bidenkap 1907, Terebella artifex; Sars 1863, Storm 1879, Bidenkap 1907.
Found in the main fjord and Beitstadfjorden, not common.
Distribution: Entire northern hemisphere, North Sea, Skagerrak, Kattegat, the Sound, New Zealand (?), subantarctic islands (?).

**Pista cristata** (Müller, 1776)


Found in the main fjord, Stjørnfjorden, Buvika, Stjørdalsfjorden, Beitstadfjorden, and Verrafjorden. Not common.

Distribution: Arctic, north Pacific, north Atlantic, Mediterranean, South America, South Africa, North Sea, Skagerrak, Kattegat, the Sound, Antarctic.

**Lanassa nordenskiöldi** Malmgren, 1865


Found in the main fjord, Stjørdalsfjorden, and Borgenfjorden.

Common in the area immediately outside Borgenfjorden, rare elsewhere.

Distribution: Arctic, Iceland, Norway.

**Lanassa venusta** (Malm, 1874)


Found in the main fjord, Buvika, Stjørdalsfjorden, Borgenfjorden, and Beitstadfjorden. Not uncommon in and near Borgenfjorden, rare elsewhere.

Distribution: Arctic, north Pacific, north Atlantic, Skagerrak, Kattegat, the Sound.

**Laphania boecki** Malmgren, 1865


Found near Trondheim and in Borgenfjorden, not common.

Distribution: Arctic, north Atlantic.
Proclea graffi (Langerhans, 1884)

Two specimens found in the area immediately outside Borgenfjorden (October 1969 and July 1970).
Distribution: Arctic, north Pacific, north Atlantic, Mediterranean, Black Sea, North Sea, Skagerrak, Mauritius (?).

Thelepus cincinnatus (Fabricius, 1780)

Thelepodopsis flava; Bidenkap 1907, Thelepus cincinnatus; Wollebæk 1912, Holthe 1973, 1974, Thelepus cincinnatus var. flava; Augener 1925.
Probably occurring in all parts of the fjord, nowhere abundant.
Distribution: Cosmopolitan, North Sea, Skagerrak, Danish waters.

Streblosoma bairdi (Malmgren, 1865)

Occurring in all parts of the fjord, not uncommon.
Distribution: Arctic, north Pacific, north Atlantic to the Gulf of Guinea, Mediterranean, North Sea, Skagerrak, Kattegat, South America (?).

Streblosoma intestinalis Sars, 1872

Streblosoma intestinalis; Holthe 1974.
Abundant on one locality in the inner part of the main fjord, also found in Beitstadfjorden.
Distribution: North Atlantic, North Sea, Skagerrak.
**Polycirrus medusa** Grube, 1850

Found in the main fjord and Borgenfjorden, rare. There exists, however, some unidentifiable material of *Polycirrus* from various parts of Trondheimsfjorden.
Distribution: Arctic, north Pacific, north Atlantic to the Mediterranean, North Sea, Skagerrak, Danish waters, western Baltic.

**Lysilla loveni** Malmgren, 1865

Found in Buvika, Stjørdalsfjorden, Borgenfjorden, and in the area outside this fjord. Not common.
Distribution: Arctic, Bering Sea, north Atlantic, Antarctic (?), North Sea, Danish waters.

**Hauchiella tribullata** (McIntosh, 1869)

*Hauchiella tribullata*; Holthe 1974.
Only two specimens found; in the outer part of the main fjord (May 1965) and in Buvika (June 1973).
Distribution: Antarctic, subantarctic islands, North Sea, Kattegat.
SERPULIMORPHA

SABELLIDAE

Sabella penicillus Linnaeus, 1767

Sabella pavonina; Storm 1879, 1901, Bidenkap 1907, Augener 1925,
Probably occurring in all parts of the fjord.
Distribution: Antarctic, South Africa, Arctic, eastern north Atlantic
to the Gulf of Guinea, Indochina (?), Mediterranean, North Sea,
Skagerrak, Danish waters.

Sabella crassicornis Sars, 1851

Sabella fabricii; Bidenkap 1907.
Found in the outer part of the main fjord.
Distribution: Arctic, north Pacific, north Atlantic to the Mediterranean,
North Sea.

Laonome krøyeri Malmgren, 1865

Found twice (July 1968 and July 1971) in the area outside Borgen-
fjorden (13 and 19 m).
Distribution: Arctic, north Pacific, eastern north Atlantic, North Sea,
Skagerrak, Kattegat, the Sound, western Baltic.

Branchiomma bombyx (Dalyell, 1853)

Dasychone dalyelli; Storm 1879, Bidenkap 1907 p.p.
Found at Röberg.
Distribution: Eastern north Atlantic to the Gulf of Guinea, Mediterranean, North Sea, Skagerrak, Kattegat, the Sound.

*Branchiomma inconspicua* (Sars, 1872)


Found at Gjeitneset and in Skarnsundet.

Distribution: Trondheimsfjorden - Oslofjorden, Skagerrak.

*Branchiomma infarcata* (Krøyer, 1856)

*Dasychone decora*; Storm 1879, *Dasychone infarcata*; Bidenkap 1907.

According to Storm (1879) found at Råberg.

Distribution: Arctic, Iceland, northern Norway.

*Myxicola infundibulum* (Renier, 1804)


Found near Tautra, in the inner part of the main fjord, Borgenfjorden, and Skarnsundet, not common.

Distribution: Arctic, north Atlantic to Mauretania, Southwest and South Africa, Mediterranean, North Sea, Skagerrak, Danish waters.

*Chone dumeri* Malmgren, 1867

*Chone dumeri*; Bidenkap 1907, Holthe 1973.

Found in Borgenfjorden and in the area immediately outside this fjord, may occur in the main fjord, but Bidenkap (1907) considered this species and *C. infundibuliformis* to be synonymous.
Distribution: Arctic, north Pacific, north Atlantic to the Mediterranean, North Sea, Skagerrak, Kattegat, the Sound.

Chone infundibuliformis Kröyer, 1856

Chone infundibuliformis; Holthe 1973.
One specimen found in the area outside Borgenfjorden (July 1968).
Distribution: Arctic, north Pacific, north Atlantic, North Sea, Skagerrak, Kattegat, the Sound.

Euchone analis (Kröyer, 1856)

Euchone analis; Augener 1925.
According to Augener (1925) found in Skarnsundet.
Distribution: Arctic, Antarctic, north Pacific, eastern north Atlantic, Skagerrak, Kattegat.

Euchone papillosa (Sars, 1851)

Occuring in small numbers in the inner part of the main fjord and Beitstadjorden, very common in Borgenfjorden.
Distribution: Arctic, north Pacific, north Atlantic, North Sea, Skagerrak, Danish waters, western Baltic.

Euchone rubrocinata (Sars, 1861)

Found in the main fjord and Verrafjorden, not common.
Distribution: Arctic, northeastern Atlantic, Mediterranean, North Sea, Skagerrak.
SERPULIDAE

*Serpula vermicularis* Linnaeus, 1767


Not uncommon in the main fjord.

Distribution: Worldwide distribution excepting the Arctic and Antarctic. North Sea, Skagerrak, Danish waters.

*Hydroides norvegica* Gunnerus, 1768


Probably common in all parts of the fjord.

Distribution: Arctic, north Pacific, Hawaii, north Atlantic to the Caribbean and the Gulf of Guinea, Persian Gulf, North Sea, Skagerrak, Danish waters.

*Pomatoceros triqueter* (Linnaeus, 1758)


Common in all parts of the fjord.

Distribution: Arctic, eastern Atlantic to Angola, Mediterranean, Black Sea, North Sea, Skagerrak, Danish waters, western Baltic.

*Placostegus tridentatus* (Fabricius, 1779)


Probably occurring in most parts of the fjord, not common.
Distribution: Arctic, northern and middle Atlantic to the Mediterranean, North Sea, Skagerrak, Kattegat, the Belts.

*Salmacina dysteri* (Huxley, 1855)

*Salmacina dysteri*; Augener 1925.
According to Augener (1925) found in Skarnsundet.
Distribution: Worldwide distribution excepting the Arctic and Antarctic. North Sea.

*Chitinopoma fabricii* Levinsen, 1883

*Chitinopoma fabricii*; Wesenberg-Lund 1953.
Found once at Leksvik (Wesenberg-Lund 1953).
Distribution: Arctic, north Pacific, north Atlantic.

*Ditrupa arientina* (Müller, 1776)

*Ditrupa arientina*; Wesenberg-Lund 1953.
Found in the middle part of the main fjord. Not common.
Distribution: Worldwide distribution in Tropical to temperate waters. North Sea, Skagerrak, Kattegat, the Sound, the Norwegian coast to Finnmark.

*Apomatus globifer* Theel, 1879

Found in the main fjord (Wesenberg-Lund 1953) and Skarnsundet (Bidenkap 1907), rare.
Distribution: Arctic, north Atlantic, Mediterranean.
Filograna implexa Berkeley, 1827

Filograna implexa; Storm 1901, Bidenkap 1907, Wollebæk 1912, Wesenberg-Lund 1953.
Found in the main fjord and Beitstadfjorden.
Distribution: Arctic, north Atlantic to the Mexican Gulf, Mediterranean, Red Sea, New Caledonia, New Zealand, South Africa, North Sea, Skagerrak, Kattegat, the Sound.

Spirorbis granulatus (Linnaeus, 1767)

Spirorbis granulatus; Wesenberg-Lund 1953.
Common in the main fjord, to Levanger (Wesenberg-Lund 1953).
Distribution: Arctic, north Pacific, north Atlantic, Skagerrak, Danish waters, western Baltic.

Spirorbis spirillum (Linnaeus, 1785)

Spirorbis spirillum; Wesenberg-Lund 1953.
Common in the outer part of the main fjord (Wesenberg-Lund 1953).
Distribution: Arctic, north Pacific, north Atlantic to the English Channel, North Sea, Skagerrak, Kattegat, the Sound, western Baltic.

Spirorbis spirorbis (Linnaeus, 1758)

Spirorbis spirorbis; Wesenberg-Lund 1953.
According to Wesenberg Lund (1953) this species is common along the Norwegian coast. The material present in the collections of the Royal Norwegian Society of Sciences and Letters, the Museum, comprises specimens from the main fjord, Beitstadfjorden, and Verrafjorden.
Distribution: Arctic, north Pacific, north Atlantic to the Cape Verde Islands, Mediterranean, North Sea, Skagerrak, Kattegat, the Sound western and middle Baltic, southern Chile, subantarctic islands.
Spirorbis vitreus (Fabricius, 1780)

Spirorbis vitreus; Wesenberg-Lund 1953.
Trondheimsfjorden to Levanger (Wesenberg-Lund 1953).
Distribution: Arctic, north Pacific, north Atlantic to the English Channel and Skagerrak.
Fig. 2. A comparison of the distributional patterns of the polychaete faunas of German and southern Scandinavian waters (A) (after Hartmann-Schröder 1971), Trondheimsfjorden (B), and Borgen-fjorden (C). The area below the broken line in (A) represents the species which also occur in Trondheimsfjorden. The area below the broken line in (B) represents the species whose existence in the fjord is confirmed by the author.
ZOOGEOGRAPHICAL REMARKS

To get a picture of the zoogeographical evidence of the polychaetes from Trondheimsfjorden, I have tried to group the species according to their distributional types (Fig. 2). In order to compare the fauna of Trondheimsfjorden with that of German and Southern Scandinavian waters I have adopted the system used by Hartmann-Schröder (1971). As shown in Fig. 2, a majority of the species from Trondheimsfjorden belong to the fauna treated by Hartmann-Schröder, the rest I have tried to group in a similar way deciding from my knowledge of their distribution. Before discussing the distributional patterns, two points should be remembered: 1) Polychaete species seem generally to be more widely distributed than most marine invertebrate groups, 2) The distributions of many polychaetes are poorly known.

This indicates that with increasing knowledge of polychaete distribution, the number of species with restricted distributions will decrease. Kirkegaard (1969) holds a similar point of view, viz. that the number of "endemic" boreal species will decrease as the distributions of some of these becomes better known.

Hartmann-Schröder's distributional patterns (Fig. 2A) covers the polychaete fauna of the area limited to the west by the meridian through the Strait of Calais, to the north by the 59 parallel (about), and including the Skagerrak and the Kattegat and the eastern Baltic. Comparable patterns can be shown for Trondheimsfjorden (Fig. 2B) and for Borgenfjorden (Fig. 2C).

The distributional patterns of the polychaete faunas of Hartmann-Schröder's work and of Trondheimsfjorden are obviously different. By adding the distribution types "cosmopolitan", "bipolar", and the "arctic-" ones, we find that these constitute 46% of the species listed in Fig. 2A, 74% of the species in Fig. 2B, and 89% of the species in Fig. 2C. The difference between A and B may be explained by the latitudinal position of Trondheimsfjorden, whereas the difference between B and C must be caused by the local hydrographic conditions.

Skjøveland (1972) has pointed out that low winter or high summer temperatures may restrict the distributions of certain echinoderms in Borgenfjorden. The temperature tolerances of polychaetes are not well known, but the presence of a high fraction of widely distributed (and
probably eurythermal) species may be explained by the high temperature amplitude in this shallow, land-locked fjord.
LITERATURE


