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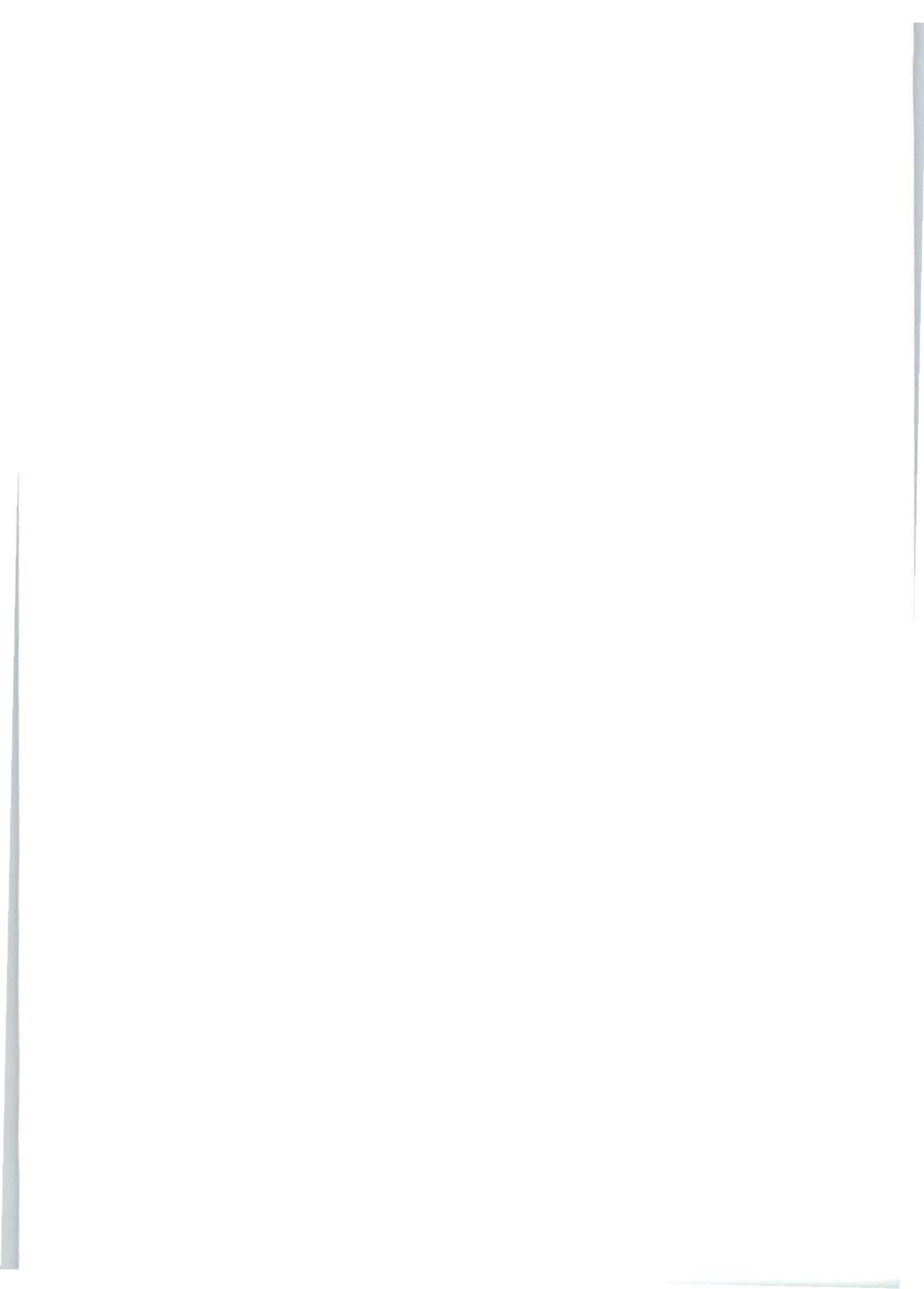
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Torleif Holthe

THE POLYCHAETOUS ANNELIDS OF
TRONDHEIMSFJORDEN, NORWAY

TRONDHEIM 1977



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NORWAY

by

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ABSTRACT

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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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1) Zoological series 7.



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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

The species list is combined from the following sources: Rathke 1843, Danielssen 1859, Sars 1863, Storm 1879, 1880, 1881 and 1901, Arwidson 1906, Bidenkap 1907, Nordgaard 1923, Augener 1925, Støp-Bowitz 1941, 1946a, 1946b and 1948, Wesenberg-Lund 1953, Fauchald 1963, Lande and Gulliksen 1973, Strömgren et al. 1972, unpublished records at the Royal Norwegian Society of Sciences and Letters, the Museum, the collections of this museum, the grab surveys of 1967 to 1973 (in Borgenfjorden) (Holthe 1973) and 1972 to 1974 (Holthe 1974).

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.

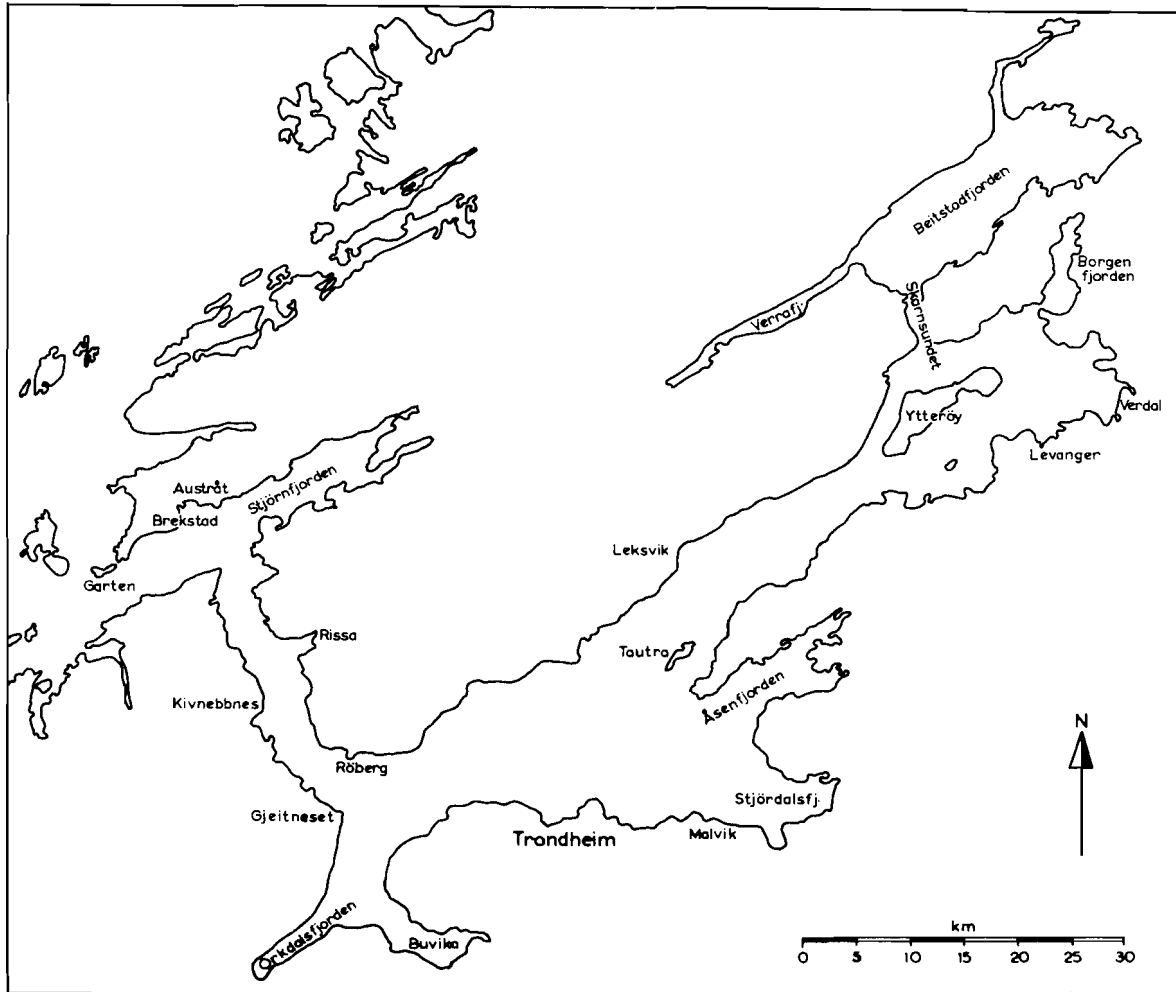


Fig. 1. Map of Trondheimsfjorden with localities mentioned in the text.

AMPHINOMORPHA

AMPHINOMIDAE

Paramphinome jeffreysi (McIntosh, 1886)

Paramphinome jeffreysi; Holthe 1973, 1974.

Not uncommon in the main fjord and Beitstadfjorden.

Distribution: Northern Atlantic, North Sea, Skagerrak.

EUPHROSINIDAE

Euphrosine borealis Örsted, 1843

Euphrosyne borealis; Storm 1879, Bidekap 1906.

Found by Storm at Röberg 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.

PHYLLODOCEMORPHA

APHRODITIDAE

Aphrodita aculeata Linnaeus, 1758

Aphrodite aculeata; Storm 1901, Bidekap 1907, *Aphrodita aculeata*;
Holthe 1973, 1974.

Occuring 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)

Lævilia alba; Storm 1880, *Harmothoe alba*; Bidekap 1907.
According to Bidekap 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*; Bidekap 1907.
One specimen found by Storm at Röberg (10-60 m).
Distribution: Norway (?).

Harmothoe imbricata (Linnaeus, 1767)

Harmothoe imbricata; Storm 1878, 1880, Bidekap 1907, Nordgaard
1923, Holthe 1973.
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)

Evadne impar; Storm 1879, 1880, *Harmothoe impar*; Bidekap 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)

Lenilla mollis; Storm 1879, *Harmothoe mollis*; Bidekap 1907.
According to Bidekap (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)

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

Harmothoe paradoxa (Bidekap, 1895)

Polynoe paradoxa; Storm 1901, *Eupolynoe paradoxa*; Bidekap 1907.
According to Bidekap (1907) found by Storm at Röberg.
Distribution: Norway.

Harmothoe violacea (Storm, 1879)

Lenilla violacea; Storm 1879, *Harmothoe violacea*; Storm 1901,
Bidekap 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*)

Harmothoe sarsi; Bidekap 1907, *Antinoella sarsi*; Holthe 1973, 1974.
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, Bidekap 1907.

According to Bidekap (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) oerstedii (Malmgren, 1865)

Eunoe ørstedii; Storm 1879, 1880.

According to Storm (1879) found at Röberg.

Distribution: Arctic, north Atlantic.

Harmothoe (Eueranta) villosa Malmgren, 1865

Eueranta villosa; Storm 1881, *Harmothoe villosa*; Bidekap 1907.

According to Bidekap (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, Bidekap 1907.

Found by Storm at Röberg.

Distribution: Eastern Atlantic from the Faeroes to West Africa, North Sea, Skagerrak.

Leucia nivea Sars, 1863

Leucia nivea; Sars 1863, Storm 1879, Bidekap 1907, Holthe 1973.

Occurs in the main fjord and in the narrow inlet to Borgenfjorden.

Distribution: Norway, Skagerrak.

Acanthicolepis asperrima (Sars, 1861)

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

Found at Austråt by Sars and at Røberg by Storm.

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

Lagisca propinqua Malmgren, 1867

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

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

Distribution: Arctic, Scandinavia, Japan, New Caledonia.

Lagisca rarispina (Sars, 1861)

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

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

Distribution: Arctic, Canadian Pacific coast, Norway.

Heteropolynoe nordgaardi Bidekap, 1907

Heteropolynoe nordgaardi; Bidekap 1907.

According to Bidekap (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, Bidekap 1907, Holthe 1974.
Occuring 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, Bidekap 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.

Pholoe minuta (Fabricius, 1780)

Pholoe minuta; Bidekap 1907, Holthe 1973, 1974.

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 (Ørsted, 1843)

Anaitides groenlandica; Nordgaard 1923, Holthe 1973, 1974.

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; Bidekap 1907, Holthe 1974.

occurring 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, Bidekap 1907.

Found at Kivnebbnes, Røberg, Ytterøya, Skarnsundet, and Verrafjorden, rare.

Distribution: North Pacific, north Atlantic, Mediterranean, North Sea, Skagerrak, Danish waters.

Eulalia viridis (Linnaeus, 1767)

Eulalia viridis; Bidekap 1907, Holthe 1973.

According to Bidekap (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 (Ørsted, 1843)

Eumida sanguinea; Augener 1925, Holthe 1973.

Found by Augener in Skarnsundet, and during the investigations in Borgenfjorden, 1967-1970.

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)

Eteone longa; Holthe 1973, Strömngren et al. 1973.

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)

Kefersteinia cirrata; Holthe 1973.

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 flexosus (Delle Chiaje, 1822)

Ophiodromus vittatus; Storm 1873, Bidekap 1907, *Ophiodromus flexosus*; Holthe 1973, 1974.

Common in all parts of the fjord.

Distribution: North Atlantic, Mediterranean, North Sea, Skagerrak, Kattegat to the Sound.

Nereimyra punctata (Müller, 1788)

Castalia punctata; Bidekap 1907, *Nereimyra punctata*; Holthe 1973, 1974.

Occuring 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 Bidekap, 1907

Syllis nidrosiensis; Bidekap 1907.

According to Bidekap (1907) found north of Garten.

Distribution: Norway.

Typosyllis armillaris (Müller, 1776)

Syllis armillaris; Bidekap 1907, Nordgaard 1923, Augener 1925,

Typosyllis armillaris; Holthe 1973.

Found by Bidekap at Brekstad, by Augener in Skarnsundet, by Nordgaard in Borgenfjorden, and during the investigations in Borgenfjorden, 1967-1970.

Distribution: Cosmopolitic, North Sea, Skagerrak, Danish waters.

Typosyllis cornuta (Rathke, 1843)

Typosyllis cornuta; Holthe 1973, 1974.

Not uncommon in Borgenfjorden, found in Beitstadfjorden and may well occur in other parts of the fjord.

Distribution: Cosmopolitic, Atlantic to the British Channel and Skagerrak.

Typosyllis hyalina (Grube, 1863)

Syllis borealis; Bidekap 1907.

According to Bidekap (1907) one specimen was found by Nordgaard in Verrafjorden. Bidekap, 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.

Autolytus sp.; Holthe 1973.

Found in the narrow inlet to Borgenfjorden.

NEREIDAE

Nereis diversicolor Müller, 1776

Nereis diversicolor; Malmgren 1867, Bidekap 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

Nereis pelagica; Storm 1901, Bidekap 1907, Nordgaard 1923, Augener 1925, Holthe 1973.

Probably occurring in all parts of the fjord.

Distribution: Cosmopolitan, North Sea, Skagerrak, Danish waters, western Baltic.

Nereis virens Sars, 1835

Nereis virens; Holthe 1973, 1974.

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)

Nephtys caeca; Storm 1879, *Nephtys caeca*; Bidekap 1907, Fauchald 1963, Holthe 1974.

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)

Nephtys ciliata; Bidekap 1907, Nordgaard 1923, Fauchald 1963, Holthe 1973, 1974.

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.

Nephtys hombergi Savigny, 1818

Nephtys hombergi; Bidekap 1907, Fauchald 1963, Holthe 1974.

Not uncommon in the main fjord, Orkdalsfjorden, Buvika, Åsenfjorden, and Beistadfjorden, according to Bidekap also Verrafjorden.

Distribution: East Atlantic from the Barents Sea to South Africa, Mediterranean to the Black Sea, North Sea, Skagerrak, Danish waters, western Baltic.

Nephtys incisa Malmgren, 1865

Nephtys incisa; Bidekap 1907, Augener 1925, Fauchald 1963, Holthe 1974.

Not uncommon in most parts of the fjord, from Stjörnfjorden to Verrafjorden. Not found in Borgenfjorden.

Distribution: North Atlantic, Mediterranean to Bosphorus, North Sea, Skagerrak, Kattegat, the Sound, Bay of Kiel.

Nephtys paradoxa Malm, 1874

Nephtys paradoxa; Bidekap 1907, Fauchald 1963, Holthe 1973, 1974.

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, Bidekap 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)

Sphaerodorum philippi; Holthe 1973.

Found several times in the outer part of Borgenfjorden, and once in the area outside the entrance to Borgenfjorden.

Distribution: Arctic (Kara Sea), Norway, Skagerrak, Kattegat, the Sound.

GLYCERIDAE

Glyceria alba (Müller, 1776)

Glyceria alba; Bidekap 1907, Støp-Bowitz 1941, Holthe 1973, 1974.

Common in most parts of the fjord.

Distribution: Pacific, Indian Ocean, Red Sea, Atlantic, Mediterranean, Black Sea, North Sea, Skagerrak, Danish waters, Bay of Kiel.

Glyceria capitata Ørsted, 1843

Glyceria capitata; Bidekap 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.

Glyceria lapidum Quatrefages, 1865

Glyceria lapidum; Støp-Bowitz 1941, Holthe 1973, 1974.

Occuring in small numbers in all parts of the fjord.

Distribution: North Atlantic to the Azores, Mediterranean, North Sea, the Sound.

Glyceria rouxii Audoin & Milne Edwards, 1834

Glyceria rouxii; Støp-Bowitz 1941, Holthe 1973, 1974.

Common in most parts of the fjord, Beitstadfjorden, but not found in Borgenfjorden.

Distribution: Pacific, Indian Ocean, north Atlantic, Mediterranean, Black Sea, North Sea, Skagerrak, Kattegat, the Sound.

GONIADIDAE

Goniada maculata Ørsted, 1843

Goniada maculata; Bidekap 1907, Støp-Bowitz 1941, Holthe 1973, 1974.

Common in all parts of the fjord.

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

Goniada norvegica Ørsted, 1845

Goniada norvegica; Støp-Bowitz 1941, Holthe 1974.

Found mainly in the outer parts of the fjord (to Ytterøya), rare.

Distribution: Arctic, north Atlantic, Mediterranean, North Sea, Skagerrak.

Glycinde nordmanni (Malmgren, 1865)

Glycinde nordmanni; Støp-Bowitz 1941.

According to Støp-Bowitz (1941) found at Røberg.

Distribution: North Pacific, north Atlantic to the Mediterranean, North Sea, Skagerrak to Kattegat.

EUNICEMORPHA

ONUPHIDAE

Onuphis quadricuspis Sars, 1872

Onuphis quadricuspis; Bidekap 1907, Holthe 1974.

Found in the main fjord, Stjørnfjorden, and Beitstadfjorden, rare.
Distribution: North Pacific, northern to middle Atlantic, North Sea, Skagerrak.

Nothria conchylega (Sars, 1835)

Onuphis conchylega; Bidekap 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)

Leodice norvegica; Storm 1879, Bidekap 1907, *Leodice gunneri*; Storm 1881, 1901, Bidekap 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.

Distribution: Arctic, Antarctic, Mediterranean, North Sea, Skagerrak, Kattegat, the Sound.

LUMBRINERIDAE

Lumbrineris fragilis (Müller, 1766)

Unciniseta swenanderi; Bidekap 1907, *Lumbrinereis fragilis*; Bidekap 1907, Nordgaard 1923, *Lumbrineris fragilis*; Holthe 1973, 1974.

Common and abundant in all parts of the fjord.

Distribution: Arctic, north Pacific, Atlantic to the Mediterranean, North Sea, Skagerrak, Danish waters.

Lumbrineris ater Bidekap, 1907

Lumbrinereis (?) *ater*; Bidekap 1907.

Found by Bidekap (1907) at Røberg 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

Dorvillea rubrovittata (Grube, 1855)

Staurocephalus erucaeformis; Storm 1879, Bidekap 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 Stjörnfjorden, May 1965, 40-15 m.

Distribution: Eastern north Atlantic to the Mediterranean, North
Sea, Skagerrak, Kattegat, the Sound, Bay of Kiel

Phylo kupfferi (Ehlers, 1875)

One specimen found at Ytteröya, 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, Bidekap 1907, *Phylo norvegica*; Holthe
1974.

Found in the main fjord, Stjörnfjorden 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)

Aricia armigera; Bidekap 1907, *Scoloplos armiger*; Strömngren et al. 1973, Holthe 1973, 1974.

Common and abundant in all parts of the fjord, most abundant in shallow depths.

Distribution: Cosmopolitic, North Sea, Skagerrak, Danish waters, Baltic.

Naineris quadricuspida (Fabricius, 1780)

Naineris quadricuspida; Holthe 1973, *Naineris* sp.; Lande & Gulliksen 1973.

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)

Paraonis gracilis; Holthe 1973, 1974.

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)

Spio filicornis; Holthe 1973, 1974.

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)

Microspio armata; Holthe 1973.

Found three times in the area outside the entrance to Borgenfjorden (15 m).

Distribution: Trondheimsfjorden, Kattegat, the Sound.

Laonice cirrata (Sars, 1851)

Spio cirratus; Bidekap 1907, *Laonice cirrata*; Holthe 1973, 1974.

Common in all parts of the fjord.

Distribution: Arctic, Atlantic to the Mediterranean, North Sea, Skagerrak, Kattegat, Antarctic, Indian Ocean.

Pygospio elegans Claparede, 1863

Pygospio elegans; Strömngren et al. 1973, Holthe 1973, 1974.

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 Ytteröya, rare.

Distribution: Arctic, north Pacific, Indian Ocean, north Atlantic, Mediterranean, Black Sea, South Africa, North Sea, Skagerrak.

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

Polydora giardi; Holthe 1973.

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

Polydora quadrilobata; Holthe 1973.

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

Spiophanes krøyeri; Holthe 1973, 1974.

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

Aonides paucibranchiata; Holthe 1973.

One specimen found in the area outside the entrance to Borgenfjorden.

Distribution: Eastern north Atlantic, Black Sea, Skagerrak.

Scolelepis foliosa (Audoin & Milne Edwards, 1834)

Nerine foliosa; Storm 1879, *Spio foliosus*; Bidekap 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 multisetosa (Ørsted, 1843)

Trochochaeta multisetosa; Holthe 1973, 1974.

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 sarsi; Storm 1881, Bidekap 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 Stjørnfjorden, 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)

Cirratulus cirratus; Bidekap 1907, Nordgaard 1923, Strömngren et al. 1973, Holthe 1973, 1974.

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 Ytteröya (20 and 100 m).

Distribution: North Atlantic, Mediterranean, South Africa, southwestern North Sea.

Chaetozone setosa Malmgren, 1867

Chaetozone setosa; Holthe 1973, 1974.

Common in all parts of the fjord.

Distribution: Cosmopolitan, North Sea, Skagerrak, Danish waters, western Baltic.

CAPITELLIDAE

Capitella capitata (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)

Capitellidae sp. indet.; Holthe 1973, *Heteromastus filiformis*; Holthe 1974.

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 latericeus Sars, 1851

Notomastus latericeus; Bidekap 1907, Holthe 1973, 1974.

Found in the main fjord, Stjörn fjorden, and Beitstad fjorden, not uncommon.

Distribution: Cosmopolitan, North Sea, Skagerrak, Danish waters.

Dasybranchus caducus (Grube, 1846)

Dasybranchus caducus; Holthe 1974.

Found in the main fjord, Stjørnfjorden, and Beitstadfjorden.

Distribution: Worldwide distribution in temperate and warm waters, Skagerrak.

ARENICOLIDAE

Arenicola marina (Linnaeus, 1758)

Arenicola marina; Nordgaard 1923, Strömngren et al. 1973, Holthe 1973.

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.

Arenicolides ecaudata Johnston, 1865

Arenicola boeckii; Rathke 1843, *Arenicola ecaudata*; Storm 1881, Bidekap 1907.

According to Bidekap (1907) found by Rathke at Trondheim and by Storm in Trondheimsfjorden.

Distribution: Eastern north Atlantic, North Sea, Skagerrak.

MALDANIDAE

Maldane sarsi Malmgren, 1865

Maldane sarsi; Nordgaard 1923, Holthe 1973, 1974.

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)

Asychis biceps; Arwidson 1906, Bidekap 1907, Holthe 1973, 1974.

Common in all parts of the fjord.

Distribution: Arctic, north Pacific, north Atlantic, Mediterranean, Adriatic, North Sea, Baltic.

Lumbriclymene cylindricauda Sars, 1872

Lumbriclymene cylindricauda; Arwidson 1906, Bidekap 1907.

Occuring in the main fjord and Stjördalsfjorden, 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, Bidekap 1907.

Found at Röberg.

Notoproctus oculatus Arwidson, 1906

Notoproctus oculatus; Arwidson 1906, Bidekap 1907.

Found in Stjörnfjorden.

Distribution: Arctic, north Atlantic.

Praxillura longissima Arwidson, 1906

Praxillura longissima; Arwidson 1906, Bidekap 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, Bidekap 1907.

Found at Röberg.

Distribution: North Pacific, western Norway, Swedish west coast.

Microclymene tricirrata Arwidson, 1906

Microclymene tricirrata; Arwidson 1906, Bidekap 1907, Holthe 1974.

Found at Röberg (Arwidson 1906), in the inner part of the main fjord and in Beitstadjorden, rare.

Distribution: North Atlantic.

Euclymene droebachiensis (Sars, 1872)

Euclymene droebachiensis; Arwidson 1906, Bidekap 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, Bidekap 1907.

Found in the outer part of the main fjord, and in Stjörn fjorden.

Distribution: Western and southern Norway.

Heteroclymene robusta Arwidson, 1906

Heteroclymene robusta; Arwidson 1906, Bidekap 1907.

Occuring in the main fjord and in Stjördalsfjorden, not common.

Distribution: Eastern north Atlantic, northern North Sea, Skagerrak.

Leiochone borealis Arwidson, 1906

Leiochone borealis; Arwidson 1906, Bidekap 1907, Augener 1925, Holthe 1974.

Occuring in the main fjord, Skarnsundet, and Beitstadvfjorden, not common.

Distribution: Arctic, north Pacific, north Atlantic, northern North Sea, Skagerrak, Baltic (?).

Praxillella gracilis (Sars, 1861)

Praxillella gracilis; Holthe 1973, 1974.

Occuring in small numbers in the inner part of the main fjord, Stjördalsfjorden, and Beistadvfjorden.

Distribution: Arctic, north Pacific, north Atlantic.

Praxillella praetermissa (Malmgren, 1865)

Praxillella praetermissa; Arwidson 1906, Bidekap 1907, Nordgaard 1923, Holthe 1973, 1974.

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, Bidekap 1907,
Nicomache lumbricalis; Holthe 1973.

Occuring in Stjörnfjorden 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, Bidekap 1907.

According to Arwidson (1906) found at shallow depths in Stjörnfjorden.

Distribution: Arctic, north Pacific, north Atlantic, North Sea,
western Baltic.

Nicomache trispinata Arwidson, 1906

Nicomache trispinata; Arwidson 1906, Bidekap 1907.

According to Arwidson (1906) found at Röberg.

Distribution: Arctic, eastern north Atlantic, Mediterranean (?),
Black Sea (?), North Sea (?), Skagerrak, Kattegat, the Sound

Petaloproctus tenuis (Theel, 1879)

Petaloproctus tenuis var. *borealis*; Arwidson 1906, Bidekap 1907.

Found in the main fjord and Stjörnfjorden.

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, Stjördalsfjorden, Borgenfjorden, and Beitstadfjorden. Very common in Borgenfjorden.

Distribution: Arctic, Bering Sea, north Atlantic, South Africa, Persiah Gulf, Mediterranean, North Sea, Skagerrak, Danish waters, western Baltic.

Rhodine loveni Malmgren, 1865

Rhodine loveni; Arwidson 1906, Bidekap 1907, Holthe 1974.

Occuring 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

Scalibregma inflatum; Storm 1881, Bidekap 1907, Støp-Bowitz 1946b, Holthe 1973, 1974.

Occuring in small numbers in all parts of the fjord.

Distribution: Cosmopolitic, North Sea, Skagerrak, Danish waters, western and middle Baltic.

Polyphysia crassa (Ørsted, 1843)

Eumenia crassa; Bidekap 1907, Nordgaard 1923, *Polyphysia crassa*; Støp-Bowitz 1946b, Holthe 1973, 1974.

Occuring 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)

Ophelia limacina; Storm 1881, Bidekap 1907, Nordgaard 1923, Støp-Bowitz 1946a, Holthe 1973.

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.

Ophelina acuminata Ørsted, 1843

Ammotrypane aulogastra; Storm 1881, *Ammotrypane aulogaster*; Bidekap 1907, Holthe 1973, *Ophelina acuminata*; Støp-Bowitz 1946a, Holthe 1974.

Occuring 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.

Occuring in small numbers in the main fjord, Beitstadfjorden, and Størnfjorden.

Distribution: Norwegian coast to Troms, Skagerrak, Adriatic.

Travisia forbesi Johnston, 1840

Travisia forbesi; Bidekap 1907, *Travisia forbesii*; Storm 1881, Støp-Bowitz 1946a.

Found in the outer part of the main fjord, not common (Bidekap 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

Chloræna pellucidum; Storm 1881, *Flabelligera affinis*; Storm 1881, Bidekap 1907, Nordgaard 1923, Støp-Bowitz 1948, Holthe 1973.

Found in the main fjord and in Borgenfjorden.

Distribution: Cosmopolitic, North Sea, Skagerrak, Danish waters, Bay of Kiel.

Pherusa plumosa (Müller, 1776)

Trophonia plumosa; Storm 1881, 1901, Bidekap 1907, *Stylarioides plumosa*; Nordgaard 1923, *Pherusa plumosa*; Støp-Bowitz 1948, Holthe 1973, 1974.

Occuring in shallow depths in the main fjord, Beitstadfjorden, and Verrafjorden. Common in Borgenfjorden.

Distribution: Arctic, widely distributed on the northern hemisphere, Australia (?), North Sea, Skagerrak, Danish waters, western Baltic.

Diplocirrus glaucus (Malmgren, 1867)

Trophonia glauca; Bidekap 1907, *Diplocirrus glaucus*; Støp-Bowitz 1948, Holthe 1974.

Common in all parts of the fjord.

Distribution: Arctic, eastern north Atlantic to the Mediterranean, North Sea, Skagerrak, Danish waters.

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)

Brada villosa; Holthe 1973, 1974.

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)

Brada inhabilis; Storm 1881, Bidekap 1907, Støp-Bowitz 1948, Holthe 1973. *Brada granulata*; Bidekap 1907, Nordgaard 1923.

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

Ammochares assimilis; Storm 1879, *Owenia assimilis*; Bidekap 1907, Wollebæk 1912, *Owenia fusiformis*; Holthe 1973, 1974.

Occuring in all parts of the fjord, not uncommon.

Distribution: Cosmopolitic, North Sea, Skagerrak, Kattegat, the Sound.

Myriochele sp.

Myriochele sp.; Holthe 1973, 1974.

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

TEREBELLOMORPHA

PECTINARIIDAE

Pectinaria auricoma (Müller, 1776)

Pectinaria auricoma; Bidentkap 1907, Wollebæk 1912, Holthe 1973, 1974.

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 Stjörnfjorden.

Not common.

Distribution: North Pacific, eastern north Atlantic, Mediterranean, Black Sea, North Sea, Skagerrak, Kattegat, the Sound, western Baltic.

Pectinaria koreni (Malmgren, 1865)

Pectinaria koreni; Bidekap 1907, Wollebæk 1912, Nordgaard 1923, Holthe 1973, 1974.

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 Stjörnfjorden.

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)

Ampharete baltica; Holthe 1973.

Occuring in small numbers in Borgenfjorden.

Distribution: Jan Mayen, Trondheimsfjorden, the Sound, western Baltic.

Ampharete finmarchica (Sars, 1864)

Ampharete finmarchica; Holthe 1973, 1974.

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*; Bidekap 1907, *Ampharete gracilis*; Wollebæk 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.

Amphicteis gunneri (Sars, 1835)

Amphicteis gunneri ; Bidekap 1907, Wollebæk 1912, Holthe 1973, 1974.

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.

Occuring 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; Bidekap 1907, Wollebæk 1912, Holthe 1974.

Found in the outer parts of the main fjord (Bidekap 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)

Melinna cristata; Bidekap 1907, Wollebæk 1912, Holthe 1973, 1974.

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)

Trichobranchus roseus; Holthe 1973, 1974.

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

Terebellides Strømi; Storm 1901, *Terebellides stroemi*; Bidenkap 1907, Wollebæk 1912, Nordgaard 1923, Augener 1925, Holthe 1973, 1974.

Common in all parts of the fjord.

Distribution: Cosmopolitic, North Sea, Skagerrak, Danish waters, Baltic to Finland.

TEREBELLIDAE

Artacama proboscidea Malmgren, 1865

Artacama proboscidea; Bidenkap 1907, Wollebæk 1912, Nordgaard 1923, Holthe 1973, 1974.

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 cirrata Müller, 1771

Amphitrite cirrata; Bidekap 1907, Wollebæk 1912, Holthe 1973, 1974.
Occuring in small numbers in all parts of the fjord, common in the
outer part of Borgenfjorden.

Distribution: Arctic, north Atlantic, Mediterranean, North Sea, Skager-
rak, Kattegat, the Sound, western Baltic.

Neoamphitrite affinis (Malmgren, 1865)

Neoamphitrite affinis; Holthe 1973, 1974, *N. edwardsi*; Holthe 1974.
Found in the main fjord, Stjørnfjorden, Stjørdalsfjorden, and Verra-
fjorden. Rare.

Distribution: Arctic, north Atlantic to Skagerrak.

Neoamphitrite figulus (Dalyell, 1853)

Amphitrite johnstoni; Bidekap 1907, Wollebæk 1912, *Neoamphitrite*
figulus; Holthe 1973.

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)

Polymnia nebulosa; Augener 1925, Holthe 1973.

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

Polymnia nesidensis (Delle Chiaje, 1828)

Polymnia nesidensis; Holthe 1973.

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).
Distribution: North Atlantic to the Gulf of Guinea, South Africa,
Mediterranean, Red Sea, North Sea.

Nicolea zostericola (Ørsted, 1844)

Nicolea zostericola; Bidekap 1907, Wollerbæk 1912.

According to Bidekap (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, Bidekap 1907, *Terebella artifex*;
Sars 1863, Storm 1879, Bidekap 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)

Pista cristata; Bidekap 1907, Wollebæk 1912, Holthe 1974.

Found in the main fjord, Stjörnfjorden, Buvika, Stjördalsfjorden, 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

Lanassa nordenskiöldi; Holthe 1973, 1974.

Found in the main fjord, Stjördalsfjorden, and Borgenfjorden.

Common in the area immediately outside Borgenfjorden, rare elsewhere.

Distribution: Arctic, Iceland, Norway.

Lanassa venusta (Malm, 1874)

Lanassa venusta; Holthe 1973, 1974.

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

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

Laphania boeckii Malmgren, 1865

Laphania boeckii; Holthe 1973, 1974.

Found near Trondheim and in Borgenfjorden, not common.

Distribution: Arctic, north Atlantic.

Proclea graffi (Langerhans, 1884)

Proclea graffi; Holthe 1973, 1974.

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; Bidekap 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: Cosmopolitic, North Sea, Skagerrak, Danish waters.

Streblosoma bairdi (Malmgren, 1865)

Streblosoma cochleatum; Bidekap 1907, Wollebæk 1912, *Streblosoma bairdi*; Holthe 1973, 1974.

Occuring 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

Polycirrus medusa; Holthe 1973, 1974.

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

Lysilla loveni; Holthe 1973, 1974.

Found in Buvika, Stjördalsfjorden, 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, Bidekap 1907, Augener 1925,
Sabella penicillus; Holthe 1973.

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; Bidekap 1907.

Found in the outer part of the main fjord.

Distribution: Arctic, north Pacific, north Atlantic to the Mediter-
ranean, North Sea.

Laonome krøyeri Malmgren, 1865

Laonome krøyeri; Holthe 1973.

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, Bidekap 1907 p.p.

Found at Røberg.

Distribution: Eastern north Atlantic to the Gulf of Guinea, Mediterranean, North Sea, Skagerrak, Kattegat, the Sound.

Branchiomma inconspicua (Sars, 1872)

Dasychone inconspicua; Bidekap 1907, *Dasychone dalyelli*; Storm 1879, Bidekap 1907 p.p.

Found at Gjeitneset and in Skarnsundet.

Distribution: Trondheimsfjorden - Oslofjorden, Skagerrak.

Branchiomma infarcata (Krøyer, 1856)

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

According to Storm (1879) found at Röberg.

Distribution: Arctic, Iceland, northern Norway.

Myxicola infundibulum (Renier, 1804)

Leptochone steenstrupii; Bidekap 1907, *Myxicola steenstrupii*; Augener 1925, *Myxicola infundibulum*; Holthe 1973.

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; Bidekap 1907, Holthe 1973.

Found in Borgenfjorden and in the area immediately outside this fjord, may occur in the main fjord, but Bidekap (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)

Euchone papillosa; Nordgaard 1923, Holthe 1973, 1974.

Occuring in small numbers in the inner part of the main fjord and Beitstadfjorden, very common in Borgenfjorden.

Distribution: Arctic, north Pacific, north Atlantic, North Sea, Skagerrak, Danish waters, western Baltic.

Euchone rubrocincta (Sars, 1861)

Euchone rubrocincta; Storm 1879, Bidekap 1907, Holthe 1973, 1974.

Found in the main fjord and Verrafjorden, not common.

Distribution: Arctic, northeastern Atlantic, Mediterranean, North Sea, Skagerrak.

SERPULIDAE

Serpula vermicularis Linnaeus, 1767

Serpula vermicularis; Bidekap 1907, Wollebæk 1912, Wesenberg-Lund 1953.

Not uncommon in the main fjord.

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

Hydroides norvegica Gunnerus, 1768

Hydroides norvegica; Bidekap 1907, Wollebæk 1912, Augener 1925, Holthe 1973, 1974, *Hydroides norvegicus*; Wesenberg-Lund 1953.

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)

Pomatoceros triqueter; Bidekap 1907, Wollebæk 1912, Wesenberg-Lund 1953, Holthe 1973, 1974.

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)

Placostegus tridentatus; Bidekap 1907, Wollebæk 1912, Wesenberg-Lund 1953.

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

Apomatus globifer; Bidekap 1907, Wollebæk 1912, Wesenberg-Lund 1953.

Found in the main fjord (Wesenberg-Lund 1953) and Skarnsundet (Bidekap 1907), rare.

Distribution: Arctic, north Atlantic, Mediterranean.

Filigrana implexa Berkeley, 1827

Filigrana implexa; Storm 1901, Bidekap 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.

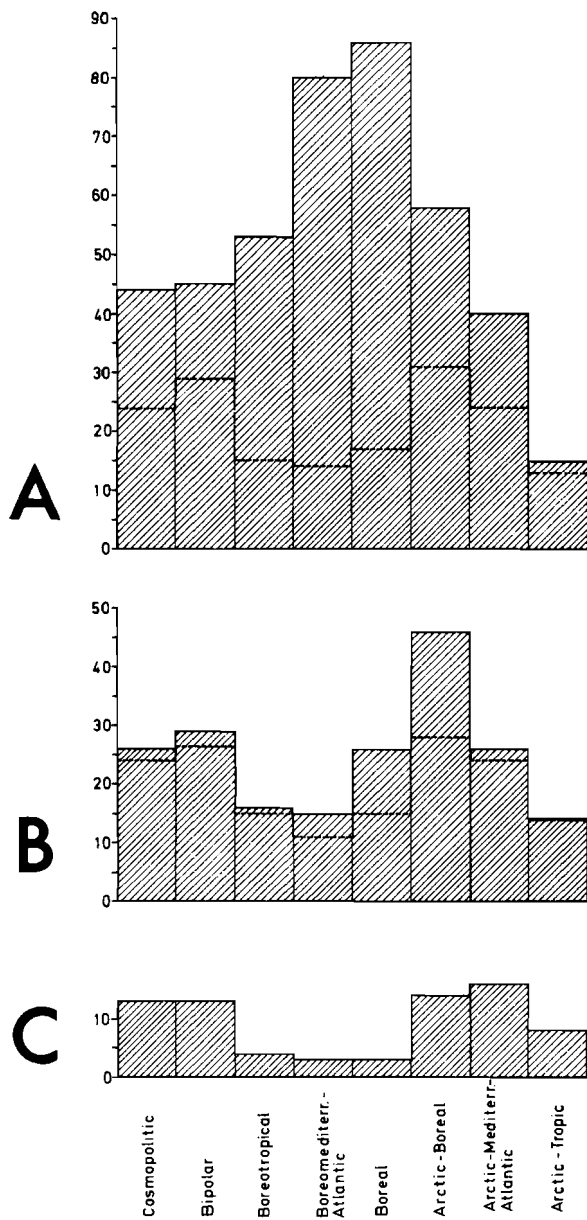


Fig. 2. A comparison of the distributional patterns of the polychaete faunas of German and southern Scandinavian waters (A) (after Hartmann-Schröder 1971), Trondheimsfjorden (B), and Borgenfjorden (C). The area below the broken line in (A) represents the species which also occur in Trondheimsfjorden. 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. Skjæveland (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.

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