

Check list of species (algae, invertebrates and vertebrates) found in the vicinity of the island of Helgoland (North Sea, German Bight) – a review of recent records

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ABSTRACT: The species lists presented for benthic macroalgae, invertebrate and vertebrate species presented are extracted from recent publications (from 1977 to date). The lists summarize the species composition of the intertidal and subtidal hard-bottom communities around Helgoland. Additional information is supplied for the species composition of the "Steingrund" and "Tiefe Rinne". The lists do not claim completeness, but have been intended to provide a working platform for further listings and for comparison with data published earlier.

INTRODUCTION

The island of Helgoland is situated some 50 km off the nearest mainland. The marine environment around Helgoland displays an offshore character and is for the major part of the year under the influence of North Sea water bodies (Martens, 1978). Fresh water inflows from the rivers Westerschelde, Maars, Rhine, Weser and Elbe, and the pollutants transport therein reach the area around Helgoland only in diluted form (Korringa, 1968; De Ruijter et al., 1987). Therefore, the area can be considered as relatively unpolluted compared to more inshore localities in the southern North Sea. Nevertheless, the environment around Helgoland is influenced by human activities, which has been proved by regular analyses of nutrients and phytoplankton biomass during the last 30 years on the Helgoland Reede (Radach & Berg, 1986; Radach & Bohle-Carbonell, 1990). The increase in nutrients and phytoplankton biomass results in an overall increase of benthic macrofauna biomass in the German Bight (Rachor, 1990), which is in good agreement with other organically enriched areas in the North Sea (Rachor, 1990 and literature cited therein). Rachor (1990) demonstrated that deep-dwelling and long-living species derive less benefit from these changes than animals which (1) live near the sediment surface; (2) have an adaptive feeding behaviour; and (3) grow and reproduce quickly.

Helgoland is the only natural hard-bottom substrate in the southern part of the North Sea. The rocky area around Helgoland covers about 40 km², which is more or less identical with the area of the nature reserve (5138 ha). In the vicinity of Helgoland, an additional hard-bottom substrate occurs at "Steingrund", a glacial end moraine north-

east of Helgoland. The species settling on these hard-bottom substrates can be considered as isolated. The next natural hard-bottom communities occur along the Norwegian and East English coast line. We know only little about recruitment and population dynamics of the species living in the intertidal and subtidal area around Helgoland. This area is under particular pressure by human activities such as fishery and ship traffic. A few miles south of Helgoland there are major shipping routes to the harbours of Wilhelmshaven, Bremerhaven, Hamburg and to the Baltic Sea. The potential danger of these activities was demonstrated vividly on January 26th, 1993 when the "Hudson Bay", a 299 m cargo ship, was in peril of stranding in the southwest intertidal area of the island of Helgoland.

During the last 15 years, several investigations on community structure in the intertidal and sublittoral area around Helgoland have been performed (see literature cited in Table 1). The species lists presented here summarize data on benthic algae (Table 2), benthic invertebrates (Table 3) and acrania and vertebrates (Table 4) as supplied by these publications. Additional information is supplied by records on planktonic polychaete larvae (Table 5), whose adults are not listed in Table 3. So far, only a list of benthic macroscopic algae settling around Helgoland exists (Kornmann & Sahling, 1977, 1978, 1983; Kornmann, 1986). The algae species recorded in recent publications comprise 2/3 of the species listed in the publications by Kornmann & Sahling (1977, 1983). The frequency of recordings might be a useful first indication of the abundance of each species. As far as possible, rare species and species with highly fluctuating abundance are marked. The relevant publications should be consulted for more detailed information about sampling methods, locations and literature used for species determinations. As far as possible, sampling areas are given in Figure 1 for the intertidal and in Figure 2 for the subtidal area. The species lists were supplemented by observations (from 1980 until the present date) made by members of the Biologische Anstalt Helgoland. Most of these additionally listed species can be considered as rare. The literature used for taxonomic classification is listed in Table 6.

The lists presented are a preliminary attempt to give an overview of the species diversity of the hard-bottom community around Helgoland. The lists do not claim completeness; more detailed investigations with regular sampling programs are needed for both intertidal and subtidal communities. For further completion of these lists in the near future, information on additional species, with reference material if possible, is especially requested from guest researchers and student courses which are held in great number at the Biologische Anstalt Helgoland each year.

The lists of the current species composition around Helgoland will form the basis for comparison with data sets published in earlier years (Dalla Torre, 1889; Heincke, 1894a, b; 1897; Hartlaub, 1894; Kuckuck, 1894, 1897a, b, 1900, 1902; Michaelsen, 1897, 1923; Attems, 1897; Ehrenbaum, 1897; Weltner, 1897; Ascherson, 1900; Heydrich, 1900; Sokolowsky, 1900, 1902, 1925; Schultz, 1902; Longchamps, 1904; Hartmeyer, 1908; Borowsky, 1910; Grimpe, 1925; Hagmeier, 1925, 1930; Zimmermann, 1925; Klie, 1927; Hertling, 1930, 1932; Nienburg, 1930; Schlottke, 1932; Caspers, 1939, 1950, 1952). Additional information on the community structure around Helgoland is given by Stein et al. (1990), who summarized data sets between 1902 to 1912 for the Baltic and North Sea area. The comparison between new and old data sets is time consuming and is not the purpose of this publication. First attempts to quantify changes in species abundance were

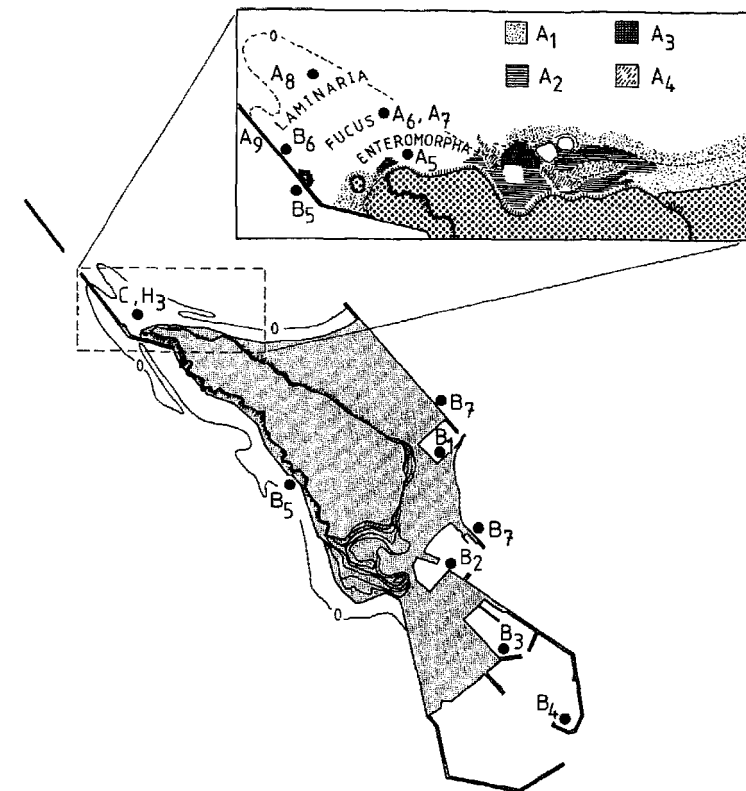


Fig. 1. Sampling area in the rocky intertidal zone of the island of Helgoland. For explanation of station numbers, see Table 1

made by Berberich (1989) for the "Tiefe Rinne", and by Kühne (1992) for the "Steingrund". Berberich (1992) compared her data with earlier recordings made by Caspers (1939). For numerous species, changes in abundance could be recognized. At "Steingrund", almost complete extinctions of macroalgae compared to early investigations (Hagmeier, 1925) were recorded. As shown by Berberich (1989) and Kühne (1992), only dramatic changes in abundance, extinction of species or new records can be detected by direct comparison between new and old data sets. Comparisons can only be a provisional means of assessment for the detection of changes in the species composition. In dealing with changes in species composition, one must take into account that both natural phenomena and human activities are continuously changing the living conditions for wild flora and fauna. Although it has become obvious that human impact is of greatest significance for the often dramatic changes observed in the environment during the last decades (Agger, 1989), it is unrealistic to dream about an unchangeable nature. Nature has been continuously transforming since its very beginning, and will keep on changing long after the last human has turned into a fossil (Reise, 1989).

Detection of long-term trends in species abundance and species composition,

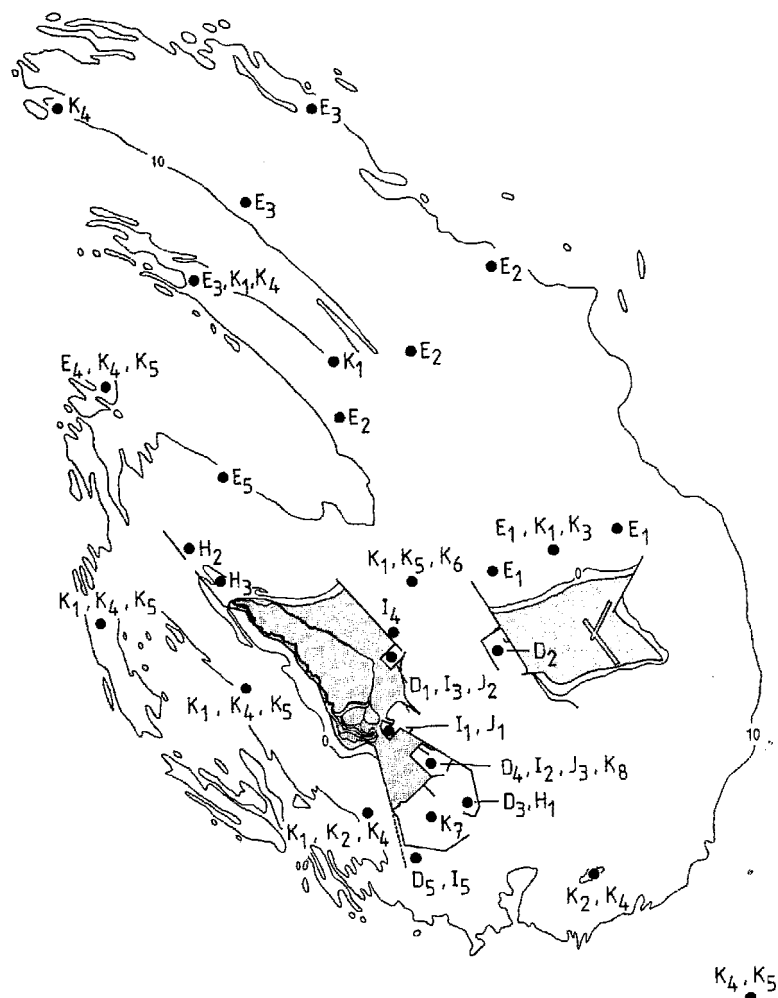


Fig. 2. Sampling area in the sublittoral zone around the island of Helgoland. For explanations of station numbers, see Table 1

together with their causes, needs more detailed investigations. Monitoring requires not only long-term observations, it also has to adopt a wide-scale approach. Spatial uniformity is an exception in nature. Instead, dynamic mosaics prevail in ecosystems (Remmert, 1985). The reason for this spatial and temporal heterogeneity is often unclear. Depending on the history of the disturbance and the type of colonizers, each mosaic element adopts its own shape, speed of change, and course of development. Our lack of understanding of events and processes on the time scale of decades can only be resolved by starting Long-Term Ecological Research Programs (see Magnuson, 1990). Long-term observations

combined with the recording of variables such as climatic effects, changes in sea level, long-term and wide-scale effects of exploitation, nature management, and pollution can clarify the reasons for changes in species composition. Helgoland is an ideal place for such a monitoring project. It fulfills all the requirements needed for a successful monitoring program (Reise, 1989): (1) Historical comparisons and paleological analysis provide interpretations of the present state; (2) an institution exists to guarantee uninterrupted time series studies into the next decades; and (3) the hard-bottom substrate around the island of Helgoland has been designated as nature reserve since 1981.

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Table 1. Literature used for the survey, and explanations of the symbols used in Tables 2-4

Origin of data	A: K. Janke (1985, 1986)
	B: Bock (1992)
	C: Gillandt (1979)
	D: Breiholz (1992)
	E: Hinz (1992)
	F: Krüß (1988)
	G: Schultze (1987); Schultze et al. (1990)
	H: Karez (1991)
	I: Flaß (1992)
	J: Harms & Anger (1983)
	K: Kluijver (1991)
	L: Müller (1990)
	M: Berberich (1989)
	N: Kühne (1992)
	O: Skaumal (1977)
	P: Dahms (1990)
	Q: Nordheim (1984)
	R: Munda & Markham (1982)
	S: Smock (1991)

and personal communications from members of the Biologische Anstalt Helgoland

A, B, C, H ₃ , L ₁ , O, R:	Samples from the eulittoral zone,
D, E, F, G, H ₁₋₂ , I, J, K, L ₂ , Q:	Samples from the subtidal zone,
G ₁ :	Fouling species on <i>Laminaria digitata</i> ,
G ₂ :	Fouling species on <i>Laminaria hyperborea</i>
M:	Species of the "Tiefe Rinne"
N:	Species of the "Steingrund" (gravel fields),
N ₂ :	"Steingrund", additional species on nearby sandy bottoms.

The symbols used correspond to the station descriptions given by the authors as follows: A₁ = sandy bottom; A₂ = gravel fields; A₃ = *Mytilus*-beds; A₄ = *Littorina*-habitat; A₅ = *Enteromorpha*-zone; A₆ = *Fucus*-zone; A₇ = Priel (creek); A₈ = *Laminaria*-zone; A₉ = species on the north west pier; B₁ = station 1, 2, 3; B₂ = station 5, 6, 7, 8, 9; B₃ = station 10, 11, 12, 14; B₄ = station 13, 15; B₅ = station 16, 17, 18, 20; B₆ = station 19; B₇ = station 4, 21; D₁ = station 1, 5; D₂ = station 2; D₃ = station 3; D₄ = station 4; D₅ = station 6; E₁ = station 1, 2, 3; E₂ = station 4, 5, 6; E₃ = station 7, 8, 9; E₄ = station 10; E₅ = station 11; H₁ = south harbour; H₂ = white Priel; H₃ = north-east intertidal; I₁ = station A; I₂ = station B; I₃ = station C; I₄ = station D; I₅ = station E; J₁ = station A; J₂ = station B; J₃ = station C; K₁ = community A; K₂ = community B; K₃ = community C; K₄ = community D; K₅ = community E; K₆ = community F; K₇ = community G; K₈ = community H; N = gravel fields; N₂ = additional species on nearby sandy bottoms.

- *1 rare species (for more detailed information see Kühne, 1992)
- *2 rare species (for more detailed information see Berberich, 1989)
- *3 rare species (for more detailed information see Skaumal, 1977)
- rare species (observations by members of the Biologische Anstalt Helgoland)
- ** rare species considered by Heiber & Rachor (1989)
- *** endangered species (Rote Liste, Deutschland [Blab et al. 1984])
- # high variation in species number from year to year

Table 2. Check list of benthic macroscopic algae settling around Helgoland as listed in recent publications (for a more complete overview see Kornmann & Sahling, 1977, 1983). Due to methodical difficulties (diving) or because individuals were juveniles, individuals were not always determined to species level; therefore, individuals marked as "sp." do not necessarily represent additional species to the already listed members of the same genus. Synonyms used in one of the summarized publications are given in brackets; • The *Ulva*-group is now undergoing a taxonomic revision (Kornmann & Sahling, pers. comm.); ◦ Taxonomic classification uncertain; for more information, see

Table 1

Chlorophyceae

<i>Acrosiphonia arcta</i> (Dillw.) J. Ag.	A ₇ , J ₂ , R
<i>Acrosiphonia centralis</i> (Lyngb.) Kjellm.	E ₁ , G ₁ , G ₂ , R
<i>Acrosiphonia sonderi</i> (Kütz.) Kornm.	E ₁ , G ₂ , R
<i>Acrosiphonia</i> sp.	G ₁ , G ₂
<i>Blidingia minima</i> (Näg. ex Kütz.) Kylin	A ₂ , A ₉ , B ₁ -B ₆ , R
<i>Blidingia marginata</i> (J. Ag.) P. Dang.	B ₁ -B ₄ , B ₆ , R
<i>Blidingia</i> sp.	A ₅
<i>Bryopsis hypnoides</i> Lamour.	B ₁ , D ₃ , D ₄ , H ₁ , K ₇ , K ₈
<i>Bryopsis lyngbyei</i> Hornem.	K ₁ , K ₈
<i>Bryopsis plumosa</i> (Huds.) Ag. ◦	E ₂ , E ₃
<i>Capsosiphon fluvescens</i> (C. Ag.) Setch. et Gardn.	B ₁ , B ₃
<i>Chaetomorpha aerea</i> (Gooden. ex Dillw.) Kütz.	D ₁ , D ₃ -D ₅ , E ₁ , E ₂
<i>Chaetomorpha melagonium</i> (Web. et Mohr) Kütz.	B ₄ , B ₇ , D ₂ , D ₃ , D ₅ , G ₁ , G ₂ , H ₁ -H ₃ , K ₁ -K ₃ , K ₇ , R
<i>Chaetomorpha tortuosa</i> (Dillw.) Kütz.	A ₃ , A ₄ , A ₆ , A ₇ , H ₂ , H ₃ , R
<i>Cladophora albida</i> (Huds.) Kütz.	B ₄ , K ₂
<i>Cladophora rupestris</i> (L.) Kütz.	A ₃ , A ₆ -A ₉ , B ₄ -B ₇ , K ₁ , K ₂ , R
<i>Cladophora sericea</i> (Huds.) Kütz.	A ₃ , A ₄ , A ₆ , A ₇ , A ₉ , B ₂ , B ₇ , G ₁ , K ₄ , R
<i>Cladophora</i> sp.	H ₃
<i>Codium fragile</i> (Sur.) Hariot	R, K ₈
<i>Enteromorpha compressa</i> (L.) Grev.	B ₂ , B ₃ , B ₆ , R
<i>Enteromorpha intestinalis</i> (L.) Link	R
<i>Enteromorpha linza</i> (L.) J. Ag.	K ₁ , K ₂ , K ₈ , R
<i>Enteromorpha prolifera</i> (O. F. Müll.) J. Ag.	K ₁ , K ₂ , R
<i>Enteromorpha</i> sp.	A ₂ , A ₅ , A ₉ , B ₁ -B ₇ , D ₁ , E ₁ , E ₂ , E ₅ , G ₂ , J ₃
<i>Hormiscia neglecta</i> Kornm.	B ₅
<i>Hormiscia penicilliformis</i> Roth (Fries)	R
<i>Monostroma grevillei</i> (Thur.) Wittr.	R
<i>Monostroma undulatum</i> Wittr.	A ₉ , R
<i>Prasiola stipitata</i> Suhr in Jessen	B ₁ -B ₄
<i>Rhizoclonium kochianum</i> Kütz.	G ₂
<i>Rhizoclonium riparium</i> (Roth) Harv.	B ₂ -B ₄ , B ₆
<i>Spongomorpha aeruginosa</i> (L.) Hoek.	B ₂ , R
<i>Ulothrix</i> sp.	A ₉ , E ₁ -E ₃ , H ₃ , R
<i>Ulva lactuca</i> L. •	A ₂ -A ₄ , A ₆ -A ₉ , B ₁ -B ₇ , K ₁ , K ₆ , K ₇ , R
<i>Ulva curvata</i> (Kütz.) De Toni •	A ₉ , B ₄ , J ₂
<i>Ulva</i> sp. •	D ₁ , D ₃ -D ₅ , E ₁ -E ₅ , G ₁ , G ₂ , H ₁ -H ₃ , K ₁ , K ₂

Phaeophyceae

<i>Ascophyllum nodosum</i> (L.) Le Jol.	B ₃ , K ₂ , K ₈
<i>Chorda tomentosa</i> Lyngb.	E ₁ , E ₂
<i>Chorda filum</i> (L.) Stackh.	D ₂ , D ₄
<i>Chordaria flagelliformis</i> (O. F. Müll.) C. Ag. •	R
<i>Cladostephus spongiosus</i> (Huds.) C. Ag.	B ₄
<i>Desmarestia aculeata</i> (L.) Lamour.	D ₅ , E ₁ , E ₂ , G ₁ , G ₂ , K ₁ , K ₂

Table 2 (Continued)

Phaeophyceae	
<i>Desmarestia viridis</i> (O. F. Müll.) Lamour.	D ₁ , D ₃ -D ₅ , E ₁ , G ₁ , G ₂ , K ₁ , K ₂ , K ₈ , R
<i>Ectocarpus fasciculatus</i> Harv.	G ₁ , G ₂ , R
<i>Ectocarpus siliculosus</i> (Dillw.) Lyngb.	R
<i>Ectocarpus</i> sp.	A ₈ , B ₂ , D ₁ , D ₃ , D ₄ , E ₁ , K ₁ , K ₂ , K ₆
<i>Elachista fucicola</i> (Vell.) Aresch.	B ₄ , R
<i>Elachista</i> sp.	K ₁ , K ₂
<i>Fucus serratus</i> L.	A ₂ -A ₄ , A ₆ -A ₉ , B ₂ , B ₄ -B ₆ , R
<i>Fucus spiralis</i> var. <i>platycarpus</i> L.	A ₂ , A ₃ , A ₉ , B ₁ -B ₇ , R
<i>Fucus vesiculosus</i> L.	A ₂ -A ₄ , A ₆ , A ₉ , B ₂ -B ₄ , B ₆ , R
<i>Fucus</i> sp.	A ₉
<i>Halidrys siliquosa</i> (L.) Lyngb.	A ₈
<i>Laminaria digitata</i> (Huds.) Lamour.	A ₆ , A ₇ , B ₄ , D ₁ -D ₃ , D ₅ , E ₁ , G ₁ , G ₂ , R
<i>Laminaria hyperborea</i> (Gunn.) Fosl.	E ₁ -E ₅ , K ₁ , K ₃
<i>Laminaria saccharina</i> (L.) Lamour.	A ₆ , A ₇ , D ₁ , D ₃ -D ₅ , E ₁ , K ₁ , K ₃ , R
<i>Laminaria</i> sp.	E ₁ -E ₄ , H ₃
<i>Laminariocolax tomentosoides</i> (Farl.) Kylin	G ₁ , G ₂
<i>Leptonematella fasciculata</i> (Reinke) Silva	E ₁ -E ₃ , E ₅
<i>Litosiphon filiformis</i> (Reinke) Batt.	G ₁ , G ₂
<i>Petalonia fascia</i> (O. F. Müll.) O. Kuntze	A ₉ , D ₁ -D ₅ , E ₁ -E ₅ , K ₁ , R
<i>Petalonia zosterifolia</i> (Reinke) Kuntze	R
<i>Pilayella littoralis</i> (L.) Kjellm.	R
<i>Punctaria hiemalis</i> Kylin*	J ₂
<i>Punctaria plantaginea</i> (Roth) Grev.	E ₁ , K ₁ , K ₂ , K ₆
<i>Ralfsia verrucosa</i> (Aresch.) J. Ag.	K ₁ , R
<i>Scytosiphon lomentaria</i> (Lyngb.) Link	J ₂ , R
<i>Sargassum muticum</i> (Yendo) Fensholt	M. Janke, Schilling (pers. comm.)
<i>Spongonema tomentosum</i> (Huds.) Kütz.	R
<i>Sphacelaria caespitula</i> Lyngb.	K ₃
<i>Sphacelaria plumosa</i> Lyngb.	E ₁ , K ₁ , K ₂ , K ₇
<i>Sphacelaria radicans</i> (Dillw.) C. Ag.	K ₁
Rhodophyceae	
<i>Ahnfeltia plicata</i> (Hudson) Fries	B ₄ , D ₄ , D ₅ , E ₁ , R
<i>Antithamnion plumula</i> (Ellis) Thur. in Le Jolis	D ₄ , K ₇
<i>Audouinella membranacea</i> (Magnus) Papenfuss	G ₁ , G ₂ , K ₁ , K ₂ , K ₄ , K ₇ , K ₈
<i>Bangia atropurpurea</i> (Roth) C. Ag.	B ₅ , R
<i>Brongniartella byssoides</i> (Good. et Woodw.) Schmitz	D ₃ , E ₃ , E ₄
<i>Callithamnion hookeri</i> (Dillw.) S. F. Gray	B ₄ , B ₇ , D ₃ , D ₄ , K ₁ , K ₃
<i>Ceramium deslongchampsii</i> Chauv. in Duby	D ₅ , E ₁ , K ₁ , K ₂ , K ₇ , K ₈ , R
<i>Ceramium rubrum</i> (Huds.) C. Ag.	A ₆ -A ₉ , B ₁ -B ₄ , B ₇ , D ₃ -D ₅ , E ₁ , E ₂ , G ₁ , G ₂ , H ₁ -H ₃ , J ₂ , J ₃ , K ₁ , K ₂ , K ₇ , R
<i>Chondrus crispus</i> Stackh.	A ₂ -A ₄ , A ₆ -A ₉ , B ₂ , B ₄ , B ₅ , B ₇ , D ₁ , E ₁ , G ₂ , R
<i>Corallina officinalis</i> L.	A ₂ , A ₃ , A ₆ -A ₉ , B ₅ , E ₁ , E ₂ , G ₁ , G ₂ , H ₂ , K ₁ , K ₃ , R
<i>Cystoclonium purpureum</i> (Huds.) Batt.	D ₁ , E ₁ -E ₃ , E ₅ , G ₂ , R
<i>Delesseria sanguinea</i> (Huds.) Lamour.	D ₁ -D ₅ , E ₁ -E ₅ , G ₁ , G ₂ , K ₁ , K ₂
<i>Dumontia incrassata</i> (O. F. Müll.) Lamour.	A ₄ , A ₆ , A ₇ , A ₉ , R
<i>Furcellaria lumbricalis</i> (Huds.) Lamour.	R
<i>Goniotrichum alsidii</i> (Zanard.) Howe	J ₃
<i>Lomentaria clavellosa</i> (Turn.) Gaill.	D ₁ , D ₃ , E ₂ , E ₃ , E ₅ , H ₁ , K ₁ , K ₇
<i>Lomentaria orcadensis</i> (Harv.) Coll. ex Taylor	K ₆

Table 2 (Continued)

Rhodophyceae	
<i>Membranoptera alata</i> (Huds.) Stackh.	B ₇ , D ₁ , D ₂ , D ₅ , E ₁ , E ₂ , G ₁ , G ₂ , H ₂ , K ₁ , R
<i>Phycodrys rubens</i> (L.) Batt. [<i>Phycodrys sinuosa</i> (Good. et Woodw.) Kütz.]	D ₁ -D ₃ , D ₅ , E ₁ , E ₂ , H ₁ , K ₁ , K ₂ , K ₇
<i>Phyllophora pseudoceranooides</i> (S. G. Gmel.) Newr. & A. R. A. Taylor	E ₁ , E ₂ , H ₁ , K ₁ -K ₃ , K ₇
<i>Phyllophora traillii</i> Holm. ex Batt.	E ₂ , K ₂ , K ₄
<i>Phyllophora truncata</i> (Pall.) Zinova	D ₁ -D ₃ , D ₅ , E ₁ -E ₃ , E ₅
<i>Phyllophora</i> sp.	G ₁ , G ₂
<i>Plocamium cartilagineum</i> (L.) Dixon	B ₅ , D ₂ , D ₃ , D ₅ , E ₁ , E ₂ , H ₁ -H ₃ , K ₁ , K ₂
<i>Plumaria elegans</i> (Bonnem.) Schmitz	B ₄ , B ₇ , D ₁ , D ₄ , E ₁ , G ₁ , G ₂ , H ₁ , K ₇
<i>Polyides rotundus</i> (Huds.) Grev.	D ₂ , D ₅ , E ₁ , E ₂ , K ₂
<i>Polysiphonia elongata</i> (Huds.) Spreng.	E ₂ , J ₂
<i>Polysiphonia nigra</i> (Huds.) Batt.*	K ₁ , K ₂
<i>Polysiphonia nigrescens</i> (Huds.) Grev.	E ₁ , E ₂ , H ₁ , H ₃ , J ₃ , K ₂ , R
<i>Polysiphonia urceolata</i> (Lightf. ex Dillw.) Grev.	B ₄ , D ₂ -D ₄ , E ₁ -E ₅ , G ₁ , G ₂ , J ₂ , K ₁ -K ₃ , K ₇ , R
<i>Polysiphonia violacea</i> (Roth) Spreng.	A ₈ , B ₄
<i>Polysiphonia</i> sp.	A ₇ , D ₁ -D ₃ , D ₅ , H ₁ -H ₃
<i>Porphyra leucosticta</i> Thur. in Le Jol.	R
<i>Porphyra linearis</i> Grev.	R
<i>Porphyra purpurea</i> (Roth) C. Ag.	B ₂
<i>Porphyra umbilicalis</i> (L.) J. Ag.	A ₅ , A ₉ , B ₁ -B ₇ , K ₁ , R
<i>Porphyra</i> sp.	D ₁ , D ₄ , H ₁
<i>Rhodochorton floridulum</i> (Dillw.) Näg.	D ₃
<i>Rhodochorton purpureum</i> (Lightf.) Rosenv.	B ₂ , B ₃ , B ₅
<i>Rhodomela confervoides</i> (Huds.) Silva	R
<i>Rhodomela virgata</i> Kjellm.	D ₄
<i>Rhodomela</i> sp.	E ₁ -E ₅ , G ₁ , G ₂
<i>Trailliella intricata</i> Batters	D ₃ , E ₃ , G ₁ , G ₂ , H ₁ -H ₃
Red crust algae	
<i>Dermatolithon pustulatum</i> (Lamour.) Fosl.	G ₁ , G ₂
<i>Hildenbrandia rubra</i> (Sommerf.) Menegh.	E ₁ -E ₃ , G ₁ , G ₂ , K ₁ , K ₄ -K ₇ , R
<i>Melobesia membranacea</i> (Esper) Lamour.	G ₁ , G ₂ , H ₁ -H ₃
<i>Petrocelis hennedyi</i> (Harv.) Batt.	R
<i>Phymatolithon laevigatum</i> (Fosl.) Fosl.	R
<i>Phymatolithon lenormandii</i> (Aresch. in J. Ag.) Adey	R
<i>Phymatolithon polymorphum</i> (L.) Fosl.	R
<i>Phymatolithon</i> sp.	K ₁ , K ₅ -K ₇
<i>Rhodophysema elegans</i> (Crouan frat. ex J. Ag.) Dixon	R
Cyanophyta	
<i>Spirulina</i> sp.	H ₁
<i>Arthospira</i> sp.	H ₁
Diatomeen	
Benthic diatoms	E ₁

Table 3. Check list of benthic protozoa and invertebrates settling around Helgoland as described in recent publications. Due to methodical difficulties (diving) or because individuals were juveniles, individuals were not always determined to species level; therefore, individuals marked as "sp." do not necessarily represent additional species to the already listed members of the same genus. Synonyms used in one of the summarized publications are given in brackets; o: Taxonomic classification uncertain; for more information see Table 1

Rhizopoda, Foraminifera	
Miliolinae sp.	M
Ciliata	
<i>Ascobius fauré-fremiati</i> Fauré-Fremiet, 1932	S
<i>Ascobius simplex</i> (Dons, 1917) Hadzi gen.	S
<i>Eufolliculina uhligi</i> Mulisch & Patterson, 1983	S
<i>Lagotia obstetrica</i> (T. S. Wright, 1862) Hadzi gen.	S
<i>Lagotia spirobis</i> (Dons, 1912) Dons gen.	S
<i>Lagotia viridis</i> T. S. Wright, 1858	S
<i>Lagotia</i> sp.	S
<i>Metafolliculina andrewsi</i> Hadzi, 1938	S
<i>Parafolliculina violacea</i> (Giard, 1888) Dons gen.	S
<i>Zoothamnium</i> sp.	Harms (pers. observ.)
Porifera	
<i>Acervochalina loosanoffi</i> (Hartmann, 1958)	K ₁
<i>Biemna varianta</i> (Bowerbank, 1866)	E ₃ , K ₅
<i>Cliona celata</i> Grant, 1826	E ₁ -E ₄ , K ₄ , K ₅
<i>Cliona lobata</i> Hancock, 1849	N ₂
<i>Cliona</i> sp.	N
<i>Dysidea fragilis</i> (Montagu, 1818)	D ₃
<i>Esperiopsis fucorum</i> (Esper, 1974)	E ₁ -E ₄ , K ₃
[<i>Amphilectus fucorum</i> (Esper, 1794)]	
<i>Halichondria bowerbanki</i> Burton, 1930	D ₁ , D ₄ , E ₁ , E ₂ , K ₇
[<i>Halichondria coalita</i> (Grant, 1825)]	
<i>Halichondria panicea</i> (Pallas, 1766)	A ₂ , A ₆ -A ₉ , D ₁ -D ₄ , E ₁ -E ₄ , G ₁ , G ₂ , H ₁ -H ₃ , K ₁ -K ₃ , K ₇ , K ₈
<i>Haliclona oculata</i> (Pallas, 1766)	E ₃ , E ₄ , K ₄
<i>Haliclona rosea</i> (Bowerbank, 1866)	K ₁ , K ₄ , K ₇
<i>Haliclona urceolus</i> (Rathke & Vahl, 1807)	K ₄
<i>Halisarca dujardini</i> Johnston, 1842	A ₇ -A ₉ , D ₃ , D ₅ , E ₂ , G ₁ , G ₂ , H ₁ -H ₃
<i>Leucandra fistulosa</i> (Johnston, 1842)* ¹	N ₂
<i>Leucandra johnstoni</i> (Carter, 1871)	K ₈
[<i>Leuconia johnstoni</i> (Carter, 1871)]	
<i>Leucosolenia botryoides</i> (Ellis & Solander, 1786)	A ₆ -A ₉ , B ₁ , B ₃ -B ₅ , H ₁ -H ₃
<i>Leucosolenia complicata</i> (Montagu, 1812)	A ₂ , G ₂
<i>Leucosolenia variabilis</i> (Haeckel, 1870)	D ₁ -D ₅ , E ₁ -E ₄ , I ₁ -I ₅ , K ₂ , K ₄ , K ₇ , K ₈
<i>Mycale macilentata</i> Topsent, 1924	K ₄
<i>Myxilla incrustans</i> (Johnston, 1842)	E ₂ , K ₂ , K ₄ , K ₅
<i>Oscarella lobularis</i> (Schmidt, 1862)	D ₁ , D ₃ -D ₅ , H ₁ , H ₂ , K ₄
<i>Pleraplysilla minchini</i> Topsent, 1905	K ₄ , K ₅
<i>Polymastia mammillaris</i> (O. F. Müller, 1806)	K ₄
<i>Scypha ciliata</i> (Fabricius, 1780)	A ₇ , D ₁ -D ₅ , E ₁ -E ₃ , G ₂ , H ₁ -H ₃ , I ₁ -I ₄ , J ₁ -J ₃ , K ₁ , K ₄ , K ₇ , K ₈
[<i>Sycon ciliatum</i> (Fabricius, 1780)]	
<i>Scypha coronata</i> (Ellis & Solander, 1786)	A ₈ , B ₄ , G ₂
[<i>Sycon coronatum</i> (Ellis & Solander, 1786)]	
<i>Suberites ficus</i> J. E. Gray, 1806	E ₁ , K ₈

Table 3 (Continued)

Hydrozoa, Athecata

<i>Bougainvillia</i> sp.	I ₁
<i>Clava multicornis</i> (Forskål, 1775)	A ₂ , A ₃ , A ₆ -A ₉ , B ₁ , B ₂ , B ₄ , B ₅ , B ₇ , H ₃ , I ₁ , J ₁
<i>Corymorpha</i> sp. o	N ₂
<i>Coryne pusilla</i> Gärtner, 1774	A ₂ , A ₆ -A ₉ , B ₁ , B ₂ , B ₄ -B ₇ , G ₁ , G ₂ , H ₁ -H ₃
<i>Coryne sarsii</i> (Lovén, 1835)	K ₈
<i>Eudendrium rameum</i> (Pallas, 1766)	A ₈ , H ₁ -H ₃
<i>Eudendrium</i> sp.	I ₁ , I ₂ , K ₁ , K ₄ , K ₅ , K ₆ , N
<i>Hydractinia echinata</i> (Fleming, 1828)	N ₂
<i>Perigonimus repens</i> (Wright, 1858) o	J ₁
<i>Perigonimus</i> sp.	I ₁
<i>Sarsia tubulosa</i> (M. Sars, 1835)	Jarms (pers. comm.)
<i>Sarsia</i> sp.	I ₁
<i>Tubularia indivisa</i> Linnaeus, 1758	E ₂ , E ₃ , K ₄ , K ₅
<i>Tubularia larynx</i> Ellis & Solander, 1786	D ₅ , E ₁ -E ₄ , H ₂ , I ₁ -I ₅ , J ₁ -J ₃ , K ₂ , K ₄ , K ₅
<i>Tubularia</i> sp.	N

Hydrozoa, Thecata

<i>Abietinaria abietina</i> (Linnaeus, 1758)	K ₅ , N
<i>Calycella syringa</i> (Linnaeus, 1767)	H ₁ , K ₁ , K ₂ , K ₄ , K ₅ , N
<i>Calycella</i> sp.	I ₄
<i>Campanularia</i> sp.	I ₁ , I ₂ , M
<i>Campanulina hincksii</i> Hartlaub, 1897	H ₁ , H ₂
<i>Clytia hemisphaerica</i> (Linnaeus, 1767)	H ₁ -H ₃ , I ₁ , I ₄ , J ₁ , J ₂ , K ₁ , K ₄ , K ₅ , K ₈ , N
[<i>Campanularia johnstoni</i> (Alder, 1856), <i>Laomedea pelagica</i> (Van Breemen, 1905)]	
<i>Diphasia rosacea</i> (Linnaeus, 1758)	E ₁ -E ₄ , K ₁ , K ₂ , K ₄ , K ₅ , N
[<i>Nigellastrum rosaceum</i> (Oken, 1815)]	
<i>Dynamena pumila</i> (Linnaeus, 1758)	A ₂ , A ₃ , A ₅ -A ₉ , B ₁ -B ₇ , G ₁ , G ₂ , H ₁ -H ₃ , K ₁ , K ₂ , K ₇
<i>Gonothyrea loveni</i> Allman, 1864	Jarms (pers. comm.)
<i>Hartlaubella gelatinosa</i> (Pallas, 1766)	A ₆ , A ₈ , G ₁ , G ₂ , J ₃
[<i>Laomedea gelatinosa</i> (Pallas, 1766), <i>Obelia gelatinosa</i> (Pallas, 1766)]	
<i>Halecium halecium</i> (Linnaeus, 1758)	K ₄ , N
<i>Hydrallmania falcata</i> (Linnaeus, 1758)	A ₆ , A ₇ , B ₅ , E ₁ -E ₃ , E ₅ , G ₂ , H ₂ , H ₃ , K ₁ , K ₂ , K ₄ , N
<i>Kirchenpaueria pinnata</i> (Linnaeus, 1758)	D ₁ , E ₁ , H ₃ , K ₄ , K ₅
<i>Lafoea dumosa</i> (Fleming, 1820)	H ₁ , H ₂
[<i>Lafoea fruticosa</i> (Sars, 1850)]	
<i>Laomedea calceolifera</i> Hincks, 1871	N
[<i>Laomedea conferta</i> (Hartlaub, 1897)]	
<i>Laomedea flexuosa</i> Alder, 1857	A ₂ -A ₉ , B ₁ -B ₇ , D ₁ -D ₃ , E ₁ , E ₃ , G ₁ , G ₂ , H ₁ , H ₃ , I ₁ -I ₃ , J ₁ -J ₃ , K ₁ , K ₃
<i>Laomedea neglecta</i> Alder, 1856	N
<i>Laomedea</i> sp.	D ₃ , N
<i>Obelia dichotoma</i> (Linnaeus, 1758)	B ₂ , B ₃ , B ₇ , D ₃ , D ₄ , G ₁ , G ₂ , H ₁ , H ₂ , J ₂ , J ₃ , K ₁ , K ₄ -K ₈ , N
[<i>Laomedea dichotoma</i> (Linnaeus, 1758), <i>Laomedea longissima</i> (Pallas, 1766), <i>Obelia longissima</i> (Pallas, 1766)]	
<i>Obelia geniculata</i> (Linnaeus, 1758)	A ₅ -A ₇ , B ₄ , B ₅ , D ₁ , D ₃ , D ₄ , E ₁ -E ₅ , G ₁ , G ₂ , H ₁ -H ₃ , I ₁ , I ₃ , I ₄ , J ₁ -J ₃ , K ₁ , K ₃ , K ₄ , N
[<i>Laomedea geniculata</i> (Linnaeus, 1758)]	
<i>Opercularella lacerata</i> (Johnston, 1847)	K ₄

Table 3 (Continued)

Hydrozoa, Thecata	
<i>Plumularia setacea</i> (Linnaeus, 1758)	D ₁ , E ₁ -E ₃ , E ₅ , G ₁ , G ₂ , H ₂ , H ₃ , K ₁ -K ₄ , N
[<i>Polyplumularia setacea</i> (Linnaeus, 1758)]	
<i>Sertularella polyzonias</i> (Linnaeus, 1758)	K ₂ , K ₄ , K ₅
<i>Sertularella rugosa</i> (Linnaeus, 1758)	E ₁ , G ₂ , H ₁ , H ₂ , K ₂ , K ₄ , K ₆ , N
<i>Sertularia cupressina</i> (Linnaeus, 1758)	A ₃ , A ₆ -A ₉ , B ₅ , D ₅ , E ₁ -E ₃ , H ₁ -H ₃ , K ₁ , K ₂ , K ₄ , N
<i>Sertularia tenera</i> G. O. Sars, 1874	N
<i>Sertularia</i> sp.	I ₁ , M
Scyphozoa	
<i>Aurelia aurita</i> (Linnaeus, 1746)	A ₆ , A ₈ , D ₃ , G ₂ , H ₁ , I ₁ , J ₁ , J ₂
<i>Craterolophus tethys</i> (Clark, 1863)	A ₆ -A ₈
Anthozoa	
<i>Actinia equina</i> (Linnaeus, 1758)	A ₂ -A ₄ , A ₆ -A ₉ , B ₅ , G ₂ , I ₃ , I ₅
<i>Actinothoe sphyrodeta</i> (Gosse, 1853)	E ₂
<i>Alcyonium digitatum</i> Linnaeus, 1758	E ₃ , E ₄ , K ₂ , K ₄ , K ₅ , K ₇ , M, N
<i>Cerianthus lloydii</i> Gosse, 1859	K ₆ , M, N
<i>Diadumene cincta</i> Stephenson, 1925	E ₁ -E ₄ , K ₂ , K ₄ -K ₆
<i>Edwardsia</i> sp.	M, N
<i>Haliplanella lineata</i> (Verrill, 1869)* ¹	N
<i>Metridium senile</i> (Linnaeus, 1761)	A ₂ , A ₃ , A ₆ -A ₉ , B ₄ , B ₅ , B ₇ , D ₁ -D ₃ , D ₅ , E ₁ -E ₄ , G ₁ , G ₂ , H ₁ -H ₃ , I ₄ , I ₅ , K ₄ -K ₆ , N
<i>Metridium senile</i> var. <i>pallidus</i> (Rawlinson, 1934)	Goemann (pers. comm.)
<i>Sagartia elegans</i> (Dalyell, 1848)	A ₂ , A ₇ , A ₈ , D ₁ -D ₅ , E ₁ -E ₅ , I ₁ , I ₃ , I ₄ , K ₁ -K ₄ , K ₆
<i>Sagartia troglodytes</i> (Price, 1847)	A ₆ , E ₁ , K ₁ -K ₄ , K ₆ , N
<i>Sagartiogeton laceratus</i> (Dalyell, 1848)	A ₇
<i>Sagartiogeton undatus</i> (O. F. Müller, 1788)	A ₃ , A ₆ -A ₉ , D ₁ , D ₃ -D ₅ , E ₁ -E ₃ , I ₁ , I ₄ , K ₈
<i>Urticina felina</i> (Linnaeus, 1761)	A ₂ -A ₄ , A ₆ -A ₉ , D ₅ , E ₁ -E ₅ , K ₁ , K ₂ , K ₄ , K ₇ , N
[<i>Tealia felina</i> Stephenson, 1935]	
Kamptozoa	
<i>Barentsia</i> sp.	I ₁
<i>Pedicellina cernua</i> (Pallas, 1774)	A ₇ -A ₉ , H ₁ -H ₃ , I ₁ , I ₃
<i>Pedicellina nutans</i> Dalyell, 1848	D ₁
Nemathelminthes, Nematoda	
<i>Oncholaimus</i> sp.	N
Plathelminthes, Turbellaria	
<i>Cryptocelis alba</i> Lang, 1884	N
<i>Stylochoplana agilis</i> Lang, 1884	H ₂ , H ₃
<i>Turbellaria</i> sp.	I ₁ , I ₄ , I ₅
Nemertini	
<i>Amphiporus bioculatus</i> McIntosh, 1873-74	G ₁ , G ₂
<i>Amphiporus lactifloreus</i> (Johnston, 1827-28)	A ₇
<i>Cephalothrix rufifrons</i> (Johnston, 1837)	A ₆ , A ₈
<i>Emplectonema gracile</i> (Johnston, 1837)	A ₈
<i>Lineus bilineatus</i> (Renier, 1804)	A ₃ , A ₆ -A ₈
<i>Lineus longissimus</i> (Gunnerus, 1770)	I ₂
<i>Lineus ruber</i> (Müller, 1771)	A ₂ , A ₃ , A ₆ -A ₈ , G ₁ , G ₂ , H ₃ , I ₄
<i>Lineus sanguineus</i> McIntosh, 1873	Sundberg (pers. comm.)
<i>Lineus viridis</i> (Müller, 1774)	A ₈
<i>Micura fasciolata</i> Ehrenberg, 1831	A ₇ , G ₂

Table 3 (Continued)

Nemertini	
<i>Oerstedtia dorsalis</i> (Abildgaard, 1806)	A ₂ , A ₃ , A ₆ -A ₉ , G ₁ , G ₂ , H ₁ -H ₃
<i>Oerstedtia striata</i> Sundberg, 1988	Sundberg (pers. comm.)
<i>Procephalothrix filiformis</i> (Johnston, 1828-29)	A ₈ , G ₂
<i>Tetrastemma candidum</i> (Müller, 1774)	A ₂ , A ₃ , A ₇ , A ₈ , H ₃
<i>Tetrastemma helvolum</i> Bürger, 1895	H ₃
<i>Tetrastemma vermiculus</i> (Quatrefages, 1846)	A ₃ , A ₇ , A ₈ , G ₂ , H ₁ -H ₃
Mollusca, Polyplacophora	
<i>Lepidochitona cinerea</i> (Linnaeus, 1767)	A ₂ -A ₄ , A ₆ -A ₈ , H ₃ , K ₁ , K ₆
<i>Leptochiton asellus</i> (Gmelin, 1791)	A ₂ , A ₃ , A ₆ -A ₈ , M
Mollusca, Gastropoda, Prosobranchia	
<i>Acmaea virginea</i> (Müller, 1776)*	A ₈
<i>Aporrhais pespelecani</i> (Linnaeus, 1758)*	M
<i>Buccinum undatum</i> Linnaeus, 1758	A ₃ , A ₆ -A ₈ , M, N
<i>Calliostoma zizyphinum</i> (Linnaeus, 1758)*	A ₈
[<i>Calliostoma conuloide</i> (Lamarck, 1822)]	
<i>Chrysalida obtusa</i> (Brown, 1827)	H ₂
<i>Chrysalida pellucida</i> (Dillwyn, 1817)	H ₂
[<i>Partulida spiralis</i> (Montagu, 1803)]	
<i>Crepidula fornicata</i> (Linnaeus, 1758)*	Harms (pers. observ.)
<i>Epitonium clathrus</i> (Linnaeus, 1758)*	M
[<i>Clathrus clathrus</i> (Linnaeus, 1758)]	
<i>Gibbula cineraria</i> (Linnaeus, 1758)	A ₂ -A ₈ , B ₁ , G ₁ , G ₂ , H ₁ -H ₃ , K ₁ -K ₇ , N
<i>Gibbula tumida</i> (Montagu, 1803)	M
<i>Helcion pellucidum</i> (Linnaeus, 1758)*	K. Janke (unpubl.)
[<i>Patina pellucida</i> (Linnaeus, 1758)]	
<i>Hydrobia ulvae</i> (Pennant, 1777)	A ₃ , A ₆ -A ₉ , G ₁ , G ₂ , M, N
<i>Lacuna pallidula</i> (da Costa, 1778)	A ₂ , A ₃ , A ₆ -A ₉ , G ₁ , G ₂
<i>Lacuna vincta</i> (Montagu, 1803)	A ₂ , A ₃ , A ₆ -A ₉ , B ₁ , B ₂ , B ₅ , B ₇ , G ₁ , G ₂ , H ₁ -H ₃
[<i>Lacuna divaricata</i> (Fabricius, 1780) non Linné]	
<i>Lamellaria latens</i> (Müller, 1776)	K. Janke (unpubl.)
<i>Lamellaria perspicua</i> (Linnaeus, 1758)	K. Janke (unpubl.)
<i>Littorina littorea</i> (Linnaeus, 1758)	A ₁ -A ₉ , B ₁ -B ₇ , H ₃
<i>Littorina mariae</i> Sacchi & Rastelli, 1966	A ₉ , B ₂ -B ₇ , H ₁ , H ₃
<i>Littorina neritoides</i> (Linnaeus, 1758)*	K. Janke (unpubl.)
<i>Littorina obtusata</i> (Linnaeus, 1758)	A ₂ -A ₉ , H ₃
<i>Littorina saxatilis</i> (Olivier, 1792)	A ₂ -A ₅ , A ₉ , B ₁ , B ₂ , B ₄ -B ₇
<i>Littorina saxatilis</i> var. <i>rudis</i> (Maton, 1797)	K. Janke (unpubl.)
<i>Lunatia alderi</i> (Forbes, 1838)	M
[<i>Natica alderi</i> Forbes, 1838]	
<i>Lunatia nitida</i> (Donovan, 1800)	N
<i>Lunatia catena</i> (da Costa, 1778)	N
<i>Nassarius (Hima) incrassatus</i> (Ström, 1768)	N
<i>Nucella lapillus</i> (Linnaeus, 1758)*	A ₆ , A ₉
<i>Omalogyra atomus</i> (Philippi, 1841)	K. Janke (unpubl.)
<i>Onoba aculeus</i> (Gould, 1841)	B ₅ , G ₁ , G ₂ , H ₂ , H ₃
<i>Onoba semicostata</i> (Montagu, 1803)	A ₆ -A ₈
[<i>Cingula striata</i> (Montagu, 1803)]	
<i>Patella vulgata</i> Linnaeus, 1758*	K. Janke (unpubl.)
<i>Pusillina inconspicua</i> (Alder, 1844)	A ₈ , J ₂ , J ₃
[<i>Rissoa inconspicua</i> Alder, 1844]	

Table 3 (Continued)

Mollusca, Gastropoda, Prosobranchia	
<i>Pusillina parva</i> (da Costa, 1778)	A ₆ , A ₈ , B ₁ -B ₇ , E ₁ , G ₁ , G ₂ , H ₁ -H ₃ , I ₁ , I ₄ , I ₅ , M ₁
[<i>Rissoa parva</i> (da Costa, 1778)]	K ₁ -K ₇
<i>Raphitoma linearis</i> (Montagu, 1803)	H ₁
<i>Skeneopsis planorbis</i> (Fabricius, 1780)	A ₃ , A ₆ , A ₇ , A ₉ , B ₁ , B ₄ -B ₇
<i>Turritella communis</i> Risso, 1826*	Anger (pers. comm.)
Mollusca, Gastropoda, Opisthobranchia	
<i>Acanthodoris pilosa</i> (Müller, 1789)	A ₇ , A ₉ , K ₁ , K ₄ , K ₆ , K ₇ , N
<i>Acteon tornatilis</i> (Linnaeus, 1758)	M
<i>Aeolidia papillosa</i> (Linnaeus, 1761)	A ₇ , A ₈ , N
<i>Antiopella cristata</i> (Chije, 1841)	K ₄
[<i>Janolus cristatus</i> (Chiaje, 1841)]	
<i>Antiopella</i> sp.	N
<i>Aplysia punctata</i> Cuvier, 1803 #	Schilling (pers. comm.)
<i>Archidoris pseudoargus</i> (Rapp, 1827)	A ₆ -A ₈ , K ₁ -K ₈
<i>Coryphella gracilis</i> (Alder & Hancock, 1944)	G ₂
<i>Coryphella pedata</i> (Montagu, 1815)	A ₈
<i>Corphella pellucida</i> (Alder & Hancock, 1843)	K ₄
<i>Coryphella verrucosa rufibranchialis</i> (Johnston, 1832)	A ₇ , A ₈
<i>Coryphella</i> sp.	N
<i>Cuthona concinna</i> (Alder & Hancock, 1843)	G ₂ , N
<i>Cuthona foliata</i> (Forbes & Goodsir, 1839)	H ₃ , I ₁ , I ₃
<i>Cuthona gymnota</i> (Couthouy, 1838)	N
<i>Cylindrina cylindracea</i> (Pennant, 1777)	M
<i>Dendronotus frondosus</i> (Ascanius, 1774)	A ₈ , K ₄ , N
<i>Doris</i> sp.	N
<i>Doto coronata</i> (Gmelin, 1791)	A ₈ , N
<i>Eubranchus exiguus</i> (Alder & Hancock, 1848)	H ₁ , H ₃ , I ₁ , I ₂ , N ₂
<i>Eubranchus tricolor</i> Forbes, 1838	K. Janke (unpubl.)
<i>Eubranchus</i> sp.	N
<i>Facelina auriculata</i> (Müller, 1776)	A ₈
<i>Facelina auriculata coronata</i> (Forbes & Goodsir, 1839)	I ₁
<i>Facelina</i> sp.	J ₂ , J ₃
<i>Hermaea dendritica</i> (Alder & Hancock, 1843)	K. Janke (unpubl.)
<i>Jorunna tomentosa</i> (Cuvier, 1804)	K. Janke (unpubl.)
<i>Limacia clavigera</i> (Müller, 1776)	N
<i>Limapontia depressa</i> Alder & Hancock, 1862	K. Janke (unpubl.)
<i>Limapontia senestra</i> (Quatrefages, 1844)	K. Janke (unpubl.)
<i>Onchidoris bilamellata</i> (Linnaeus, 1767)	G ₂ , I ₁
<i>Onchidoris muricata</i> (Müller, 1776)	A ₇ , A ₈ , G ₁ , G ₂
<i>Palio dubia</i> (M. Sars, 1829)	I ₁
<i>Philine punctata</i> (Adams, 1800)	H ₂
<i>Polycera quadrilineata</i> (Müller, 1776)	A ₇ , A ₈ , H ₂ , K ₂ , K ₄ , N
<i>Retusa obtusa</i> (Montagu, 1803)	K. Janke (unpubl.)
<i>Retusa truncatula</i> (Bruguière, 1792)	A ₈
<i>Tergipes tergipes</i> (Forskål, 1775)	I ₁ , I ₂
<i>Tritonia plebeia</i> Johnston, 1828	N
<i>Tritonia</i> sp.	N

Table 3 (Continued)

Mollusca, Bivalvia	
<i>Abra alba</i> (W. Wood, 1802)	M, N
<i>Abra nitida</i> (Müller, 1776)	M, N
<i>Acanthocardia echinata echinata</i> (Linnaeus, 1758)	M
<i>Aequipecten opercularis</i> (Linnaeus, 1758)	Anger (pers. comm.)
<i>Anomia ehippium</i> Linnaeus, 1758	A ₈
<i>Arctica islandica</i> (Linnaeus, 1767)	M, N
[<i>Cyprina islandica</i> (Linnaeus, 1767)]	
<i>Arenomya arenaria</i> (Linnaeus, 1758)	B ₅ , N
[<i>Mya arenaria</i> (Linnaeus, 1758)]	
<i>Cerastoderma edule edule</i> (Linnaeus, 1758)	N ₂
[<i>Cardium edule</i> (Linnaeus, 1758)]	
<i>Cerastoderma</i> sp.	G ₂
<i>Chamelea striatula</i> (da Costa, 1778)	M, N
[<i>Venus striatula</i> da Costa, 1778]	
<i>Cochlodesma (Bontaea) praetenuae</i> (Pulteney, 1799)	M, N
<i>Corbula (Varicorbula) gibba</i> (Olivi, 1792)* ²	N
<i>Donax vittatus</i> (da Costa, 1778)	N
<i>Dosinia exoleta</i> (Linnaeus, 1758)	N ₂
<i>Ensis siliqua</i> (Linnaeus, 1758)	N
<i>Ensis</i> sp.	N ₂
<i>Gari fervensis</i> (Gmelin, 1791)	M
<i>Goodallia triangularis</i> (Montagu, 1803)	N ₂
[<i>Astarte triangularis</i> (Montagu, 1803)]	
<i>Hiatella arctica</i> (Linnaeus, 1767)	A ₆ -A ₈ , G ₁ , G ₂ , J ₁ , M
[<i>Saxicava arctica</i> (Linnaeus, 1767)]	
<i>Hiatella rugosa</i> (Linnaeus, 1767)	A ₆ -A ₈ , N
[<i>Saxicava rugosa</i> (Pennant, 1777) o]	
<i>Macra stultorum</i> (Linnaeus, 1758)	N
[<i>Macra corallina</i> (Montagu, 1808)]	
<i>Modiolus aff. barbatus</i> (Linnaeus, 1758)	N
<i>Modiolus modiolus</i> (Linnaeus, 1758)	E ₁ , G ₁ , G ₂ , M, N
<i>Mysella bidentata</i> (Montagu, 1803)	M, N
[<i>Montacuta bidentata</i> (Montagu, 1803)]	
<i>Mya truncata</i> Linnaeus, 1758	G ₁ , G ₂ , M
<i>Mytilus edulis</i> Linnaeus, 1758	A ₁ -A ₉ , B ₁ -B ₇ , D ₂ , G ₁ , G ₂ , H ₁ -H ₃ , I ₁ -I ₅ , J ₁ -J ₃ , K ₁ -K ₄ , M
<i>Nucula nucleus</i> (Linnaeus, 1758)	G ₂ , M
<i>Nucula nitidosa</i> Winckworth, 1930	M, N ₂
[<i>Nucula turgida</i> Leckenby & Marschall, 1875; <i>Nucula nitida</i> Sowerby, 1833 non Brocchi, 1814]	
<i>Petricolaria pholadiformis</i> (Lamarck, 1818)	E ₁ -E ₃
<i>Phaxas pellucidus</i> (Pennant, 1777)* ²	M, N
[<i>Cultellus pellucidus</i> Pennant, 1777]	
<i>Pholas dactylus</i> Linnaeus, 1758	E ₂
<i>Spisula elliptica elliptica</i> (Brown, 1827)	M
<i>Spisula solida</i> (Linnaeus, 1758)	G ₂ , N
<i>Spisula subtruncata</i> (da Costa, 1778)	M, N
<i>Tellimya ferruginosa</i> (Montagu, 1808)	M
[<i>Montacuta ferruginosa</i> (Montagu, 1808)]	

Table 3 (Continued)

Mollusca, Bivalvia	
<i>Tellina (Moerella) donacina</i> (Linnaeus, 1758) [<i>Angulus donacinus</i> (Linnaeus, 1758)]	N ₂
<i>Tellina (Fabulina) fabula</i> Gmelin, 1791 [<i>Tellina fabula</i> Gronovius, 1781]	M, N
<i>Tellina (Angulus) tenuis tenuis</i> da Costa, 1778	N
<i>Teredo navalis</i> Linnaeus, 1758	A ₃
<i>Thracia papyracea papyracea</i> (Poli, 1791) [<i>Thracia phaseolina</i> (Lamarck, 1818)]	M
<i>Thracia villosiuscula</i> (MacGillivray, 1827)	N ₂
<i>Thyasira flexuosa</i> (Montagu, 1803)	M
<i>Timoclea ovata</i> (Pennant, 1777)* ² [<i>Venus ovata</i> Pennant, 1777]	M
<i>Venerupis senegalensis</i> (Gmelin, 1791) [<i>Venerupis pullastra</i> (Montagu, 1803)]	A ₁ , A ₈ , N
<i>Zirfaea crispata</i> (Linnaeus, 1758)	K ₄
Mollusca, Cephalopoda	
<i>Alloteuthis media</i> (Linnaeus, 1758)	M
<i>Loligo</i> sp.	M
<i>Sepia officinalis</i> Linnaeus, 1758	Goemann, M. Janke (pers. comm.)
Sipunculoidea	
<i>Golfingia minuta</i> (Keferstein, 1862)	A ₆ , A ₈
<i>Golfingia</i> sp.	G ₂ , N ₂
Echiuroidea	
<i>Echiurus echiurus</i> (Pallas, 1774) #***	M
Annelida, Polychaeta, Errantia	
<i>Aphrodita aculeata</i> Linnaeus, 1761	M
<i>Autolytus edwardsi</i> Saint-Joseph, 1887	C, G ₁ , G ₂
<i>Autolytus prolifer</i> (O. F. Müller, 1776)	A ₆ -A ₉ , B ₁ -B ₇ , C, G ₁ , G ₂ , H ₁ -H ₃ , I ₁ -I ₄ , J ₁ , J ₃ , N
<i>Brania pusilla</i> (Dujardin, 1839)	C, H ₂
<i>Eteone (Mysta) barbata</i> Malmgren, 1865	N
<i>Eteone flava</i> (Fabricius, 1780)	N ₂
<i>Eteone longa</i> (Fabricius, 1780)	C, M, N
<i>Eteone</i> sp.	N ₂
<i>Eulalia bilineata</i> (Johnston, 1840)	N
<i>Eulalia expusilla</i> Pleijel, 1987 [<i>Eulalia pusilla</i> Ørstedt, 1843]	H ₁
<i>Eulalia viridis</i> (Linnaeus, 1767)	A ₂ , A ₃ , A ₆ -A ₈ , B ₁ , C, G ₁ , G ₂ , H ₂ , I ₁ -I ₅ , J ₁ -J ₃ , N
<i>Eumidia sanguinea</i> Ørsted, 1843]	A ₂ , A ₆ , C, G ₂ , N
<i>Eusyllis blomstrandii</i> Malmgren, 1867	H ₁ -H ₃ , N
<i>Exogone naidina</i> Ørsted, 1845	C
<i>Gattyana cirrosa</i> (Pallas, 1766)	A ₈ , C, M, N
<i>Glycera capitata</i> Ørsted, 1843	M, N
<i>Glycera rouxii</i> Audouin & Milne-Edwards, 1833	N ₂
<i>Glycinde nordmanni</i> (Malmgren, 1865)	M, N
<i>Glycinde</i> sp.	M
<i>Goniada maculata</i> Ørstedt, 1843	M, N
<i>Goniadella bobretzkii</i> (Annenkova, 1929)	N
<i>Harmothoe imbricata</i> (Linnaeus, 1767)	A ₇ , I ₁ , I ₄
<i>Harmothoe impar</i> (Johnston, 1839)	A ₆ -A ₈ , C, J ₁ , M, N

Table 3 (Continued)

Annelida, Polychaeta, Errantia	
<i>Harmothoe lunulata</i> (Delle Chiaje, 1841)	M
<i>Harmothoe</i> sp.	M
<i>Kefersteinia cirrata</i> (Keferstein, 1862)	C
<i>Lepidonotus squamatus</i> (Linnaeus, 1767)	A ₅ , A ₇ , C, K ₄ , N
<i>Microphthalmus szejlikowii</i> Mecznirow, 1865	A ₆ , C
<i>Nephtys caeca</i> (Fabricius, 1780)	M, N
<i>Nephtys cirrosa</i> Ehlers, 1868	N
<i>Nephtys hombergii</i> Savigny, 1818	I ₄ , M, N
<i>Nephtys longosetosa</i> Ørsted, 1843	N ₂
<i>Nereis (Hediste) diversicolor</i> O. F. Müller, 1776	A ₂ , A ₆ , I ₄ , J ₂ , J ₃
<i>Nereis elitoralis</i> Eliason, 1962	M
<i>Nereis longissima</i> Johnston, 1840	M
<i>Nereis pelagica</i> Linnaeus, 1761	A ₃ , A ₆ -A ₈ , B ₁ -B ₄ , C, G ₁ , G ₂ , H ₁ , H ₂ , I ₁ , I ₄ , I ₅ , J ₂ , N
<i>Nereis (Neanthes) succinea</i> Frey & Leuckart, 1847	C
<i>Nereis (Neanthes) virens</i> Sars, 1835	A ₂ , A ₃ , A ₆ , C, M
<i>Ophryotrocha gracilis</i> Huth, 1934	A ₆ , C
<i>Ophryotrocha puerilis siberti</i> (McIntosh, 1885)	H ₂ , J ₁ , J ₂
<i>Pholoe minuta</i> (Fabricius, 1780)	C, M, N
<i>Phyllococe (Anaitides) groenlandica</i> Ørsted, 1843	M, N
<i>Phyllococe (Anaitides) lineata</i> (Claparède, 1870)	M
<i>Phyllococe (Anaitides) maculata</i> (Linnaeus, 1767)	A ₁ , A ₃ , A ₆ -A ₈ , B ₂ , B ₃ , C, G ₁ , G ₂ , H ₂ , I ₁ , I ₃ -I ₅ , M, N
<i>Phyllococe (Anaitides) mucosa</i> Ørsted, 1843	M, N
<i>Phyllococe (Anaitides) rosea</i> (McIntosh, 1877) [<i>Anaitides subulifera</i> Eliason, 1962]	M, N ₂
<i>Phyllococe</i> sp.	J ₁ -J ₃ , M
<i>Pirakia punctifera</i> (Grube, 1860) [<i>Eumidia punctifera</i> (Grube, 1860)]	C
<i>Pisone remota</i> (Southern, 1914)	H ₂ , N
<i>Polynoe (Enipo) kinbergi</i> Malmgren, 1865	M
<i>Proceraea cornuta</i> (Agassiz, 1862)	G ₁ , G ₂
<i>Protodorvillea kefersteini</i> (McIntosh, 1869)	M, N
<i>Sphaerodorum flavum</i> Ørsted, 1843 [<i>Sphaerodorum gracile</i> (Rathke, 1843)]	C, M, N
<i>Spaerosyllis hystrix</i> Claparède, 1863	C, M
<i>Sthenelais boa</i> (Johnston, 1839)	A ₈ , C, G ₁
<i>Sthenelais limicola</i> (Ehlers, 1864)	M, N ₂
<i>Streptosyllis websteri</i> Southern, 1914	G ₁ , G ₂
<i>Syllides articulocirratu</i> Gilland, 1979	A ₈ , C
<i>Syllides longocirrata</i> Ørsted, 1845	N
<i>Syllis gracilis</i> Grube, 1840	C, N ₂
<i>Typosyllis armillaris</i> (O. F. Müller, 1776)	A ₆ , A ₈ , C, G ₂
<i>Typosyllis hyalina</i> (Grube, 1863)	C
Annelida, Polychaeta, Sedentaria	
<i>Ampharete finmarchica</i> (M. Sars, 1864)	M, N
<i>Amphitrite figulus</i> (Dalyell, 1853)	A ₈ , C, G ₁ , G ₂
<i>Anobothrus gracilis</i> (Malmgren, 1865) [<i>Sosane gracilis</i> (Malmgren, 1865)]	M
<i>Aonides paucibranchiata</i> Southern, 1914	M, N

Table 3 (Continued)

Annelida, Polychaeta, Sedentaria	
<i>Arenicola marina</i> (Linnaeus, 1758)	A ₁ -A ₃ , C
<i>Capitella capitata</i> (Fabricius, 1780)	A ₁ -A ₃ , C, J ₁ , J ₂ , N ₂
<i>Capitella giardi</i> (Mesnil, 1897)	A ₂ , A ₃ , C
[<i>Capitomastus giardi</i> (Mesnil, 1897)]	
<i>Capitella minima</i> (Langerhans, 1880)	M
[<i>Capitomastus minimus</i> (Langerhans, 1880)]	
<i>Capitella</i> sp.	G ₂
<i>Caulleriella bioculata parva</i> Gillandt, 1979	C
<i>Caulleriella caput-esocis</i> (Saint-Joseph, 1894)	C, H ₃
<i>Chaetozone setosa</i> Malmgren, 1867	G ₂ , N ₂
<i>Chone dunerii</i> Malmgren, 1867	M
<i>Chone infundibuliformis</i> Krøyer, 1856	M, N
<i>Cirratulidae</i> sp.	M
<i>Cirratulus cirratus</i> (O. F. Müller, 1776)	G ₂
<i>Cirratulus</i> sp.	I ₁
<i>Cossura longocirrata</i> Webster & Benedict, 1887	N
<i>Ctenodrilus serratus</i> (Schmidt, 1857)	M, Janke (pers. comm.)
<i>Diplocirrus glaucus</i> (Malmgren, 1867)	M
<i>Dodecaceria concharum</i> Ørsted, 1843	C
[<i>Zeppelinella monostyla</i> (Zeppelin, 1883), <i>Zeppelinella mediopigmentata</i> Gillandt, 1979]	
<i>Fabricia stellaris</i> (Müller, 1774)	A ₂ -A ₉ , B ₁ -B ₇ , C, G ₁ , G ₂ , H ₁ -H ₃ , I ₁ , J ₁
[<i>Fabricia sabella</i> (Ehrenberg, 1836)]	
<i>Flabelligera affinis</i> M. Sars, 1829	C, N
<i>Hydroides norvegica</i> Gunnerus, 1768	Harms (pers. observ.)
<i>Hypania invalida</i> (Grube, 1860)	M
<i>Janua (Dexiospira) pagenstecheri</i> (Quatrefages, 1865)	A ₂ -A ₄ , A ₆ -A ₉ , B ₂ , B ₅ , B ₆ , C, G ₁ , G ₂ , H ₁ -H ₃ , I ₁ -I ₄
[<i>Spirobis pagenstecheri</i> Quatrefages, 1865]	
<i>Janua</i> sp.	K ₁ , K ₆
<i>Lanice conchilega</i> (Pallas, 1766)	A ₁ -A ₃ , A ₆ -A ₉ , C, E ₁ , E ₂ , G ₁ , G ₂ , J ₁ , J ₂ , K ₁ , K ₄ , K ₆ , M, N
<i>Lanice</i> sp.	M
<i>Lysilla loveni</i> Malmgren, 1865	M
<i>Magelona alleni</i> Wilson, 1958	M, N
<i>Magelona papillicornis</i> F. Müller, 1858	N
<i>Malacoceros fuliginosus</i> (Claparède, 1868)	A ₁ , A ₂ , A ₆ , A ₇ , C, H ₃ , M
<i>Malacoceros vulgaris</i> (Johnston, 1827)	C, M
<i>Myriochele oculata</i> Zaks, 1923	M
<i>Nicolea venustula</i> (Montagu, 1818)	J ₃
<i>Nicolea zostericola</i> (Ørsted, 1844)	B ₁ , C, G ₁ , G ₂ , H ₁ -H ₃ , I ₁ -I ₅ , J ₃ , M, N
<i>Notomastus latericeus</i> Sars, 1851	M
<i>Ophelia limacina</i> (Rathke, 1843)	M, N
<i>Ophelina acuminata</i> Ørsted, 1843	M, N
<i>Orbinia sertulata</i> Savigny, 1820	N ₂
<i>Owenia fusiformis</i> Delle Chiaje, 1841	M, N
<i>Pectinaria koreni</i> Malmgren, 1865	M, N
<i>Pherusa flabellata</i> (Sars, 1872)	C
<i>Pherusa plumosa</i> (O. F. Müller, 1776)	C, M
<i>Poecilochaetus serpens</i> Allen, 1904	M
<i>Polycirrus aurantiacus</i> Grube, 1860	M
<i>Polycirrus medusa</i> Grube, 1850	M, N

Table 3 (Continued)

Annelida, Polychaeta, Sedentaria	
<i>Polycirrus</i> sp.	M, N
<i>Polydora antennata</i> Claparède, 1868	N
<i>Polydora caeca</i> (Ørsted, 1843)	N
<i>Polydora ciliata</i> (Johnston, 1838)	A ₂ -A ₄ , A ₆ -A ₉ , B ₁ , B ₂ -B ₅ , C, E ₁ -E ₃ , G ₁ , G ₂ , H ₁ , H ₃ , I ₁ , I ₃ , J ₁ -J ₃
<i>Polydora ligni</i> Webster, 1879	C, J ₁ , J ₂
<i>Polydora pulchra</i> Carazzi, 1895	M, N ₂
<i>Polydora quadrilobata</i> Jacobi, 1883	G ₂
<i>Pomatoceros triquetter</i> (Linnaeus, 1758)	A ₆ -A ₈ , B ₁ -B ₄ , C, D ₁ -D ₅ , E ₁ -E ₃ , E ₅ , G ₁ , G ₂ , H ₁ , H ₂ , I ₁ , I ₃ -I ₅ , J ₁ -J ₃ , K ₅ , K ₆ , M, N
<i>Pygospio elegans</i> Claparède, 1863	C
<i>Sabellaria alveolata</i> (Linnaeus, 1767)	G ₂
<i>Sabellaria spinulosa</i> Leuckart, 1849	A ₈ , C, N
<i>Scalibregma inflatum</i> Rathke, 1843	M, N
<i>Scolecopsis bonnierii</i> (Mesnil, 1896)	M, N
<i>Scolecopsis squamata</i> (Müller, 1789)	A ₁ -A ₃ , A ₅ , C
<i>Scoloplos armiger</i> (O. F. Müller, 1776)	M, N
<i>Spio armata</i> (Thulin, 1957)	N
<i>Spio filicornis</i> (O. F. Müller, 1766)	M, N
<i>Spio gonioccephala</i> Thulin, 1957	N
<i>Spiophanes bombyx</i> (Claparède, 1870)	M, N
<i>Spirorbis spirillum</i> (Linnaeus, 1758)	A ₂ , A ₆ -A ₉ , B ₅ , G ₁ , G ₂ , H ₁ -H ₃
[<i>Circeis spirillum</i> (Linnaeus, 1758)]	
<i>Spirobis spirobis</i> (Linnaeus, 1758)	A ₂ , A ₆ -A ₉ , B ₁ , B ₅ , B ₆ , C, G ₁ , G ₂ , H ₁ -H ₃
<i>Spirobis tridentatus</i> (Levinsen, 1883)	A ₂ , A ₃ , A ₅ -A ₉ , B ₂ , B ₅ , C, G ₁ , G ₂ , H ₁ -H ₃ , I ₁ -I ₅
<i>Spirobis</i> sp.	D ₁ , D ₅ , K ₁ , K ₇
<i>Terebellides stroemi</i> M. Sars, 1835	M
<i>Tharyx marioni</i> (Saint-Joseph, 1894)	M
<i>Tharyx multibranchiis</i> (Grube, 1863)	A ₇ , A ₈ , C
<i>Thelepus cincinnatus</i> (Fabricius, 1780)	N
<i>Travisia forbesi</i> Johnston, 1840	N ₂
Annelida, Interstitial Polychaeta	
<i>Dinophilus gyrotilatus</i> O. Schmidt, 1857	J ₁
<i>Diurodrilus minimus</i> Remane, 1925	Q
<i>Nerilla antennata</i> O. Schmidt, 1848	Q
<i>Nerillidium gracile</i> Remane, 1925	Q
<i>Nerillidium troglochaetoides</i> Remane, 1925	Q
<i>Polygordius appendiculatus</i> Fraipont, 1887	Q
<i>Polygordius lacteus</i> (Schneider, 1868)	Q
<i>Polygordius</i> sp.	N
<i>Protodriloides chaetifer</i> (Remane, 1926)	Q
<i>Protodriloides symbioticus</i> (Giard, 1904)	Q
<i>Protodrilus adhaerens</i> Jägersten, 1952	R
<i>Protodrilus ciliatus</i> Jägersten, 1952	Q
<i>Protodrilus gracilis</i> von Nordheim, 1989	Nordheim (1989)
<i>Protodrilus helgolandicus</i> von Nordheim, 1983	Nordheim (1983)
<i>Protodrilus oculifer</i> Pierantoni, 1908	Q
<i>Protodrilus purpureus</i> (Schneider, 1868)	Q
<i>Trilobodrilus axi</i> Westheide, 1967	O
<i>Trilobodrilus heideri</i> Remane, 1925	Q

Table 3 (Continued)

Annelida, Oligochaeta	
<i>Paranais litoralis</i> (Müller, 1788)	A ₂ -A ₄ , A ₆
Annelida, Hirudinea	
<i>Callobdella nodulifera</i> Malm, 1863	N ₂
Arachnida Acari	
Acari sp.	I ₂ , I ₄
Pantopoda	
<i>Achelia echinata</i> Hodge, 1864	H ₂ , H ₃ , N
<i>Achelia hispida</i> Hodge, 1864	A ₆ , A ₈ , G ₁ , G ₂
<i>Anoplodactylus angulatus</i> (Dohrn, 1881)	A ₂ , A ₈ , G ₁ , G ₂
<i>Anoplodactylus petiolatus</i> (Krøyer, 1884)	G ₁ , G ₂
<i>Anoplodactylus pygmaeus</i> (Hodge, 1864)	B ₁ -B ₇ , H ₁ -H ₃
<i>Nymphon gracile</i> Leach, 1814	I ₁ , I ₂ , I ₄ , I ₅
<i>Nymphon rubrum</i> Hodge, 1865	A ₈ , A ₉ , G ₁ , G ₂ , H ₂ , H ₃ , K ₁ , K ₂ , K ₄ -K ₇ , N
<i>Phoxichilidium femoratum</i> (Rathke, 1799)	A ₃ , A ₅ , A ₈ , A ₉ , H ₂
<i>Phoxichilidium tubulariae</i> Lebour, 1947	K. Janke (unpubl.)
<i>Pycnogonum littorale</i> (Ström, 1762)	A ₃ , A ₇ , A ₈ , K ₄
Crustacea, Ostracoda	
<i>Cyteromorpha</i> aff. <i>fuscata</i> (Brady, 1869)	O
<i>Eloisonella concinna</i> (Jones, 1857) ^{*3}	O
<i>Eucytheridea punctillata</i> (Brady, 1865) ^{*3}	O
<i>Hemicythere villosa</i> (G. O. Sars, 1866)	O
<i>Hemicytherura cellulosa</i> (Norman, 1865)	O
<i>Heterocythereis albomaculata</i> (Baird, 1838)	O
<i>Hirschmannia viridis</i> (O. F. Müller, 1785)	O
<i>Paradoxostoma variabile</i> (Baird, 1835)	O
<i>Semicytherura nigrescens</i> (Baird, 1838)	O
<i>Semicytherura sella</i> (G. O. Sars, 1866) ^{*3}	O
Crustacea, Copepoda, Harpacticoida	
<i>Alteutha interrupta</i> (Goodsir, 1845)	P
<i>Alteutha oblonga</i> (Goodsir, 1845)	P
<i>Ameiropsis</i> aff. <i>nobilis</i> Sars, 1911	P
<i>Amphiascoides nanus</i> (Sars, 1906)	P
<i>Amphiascoides debilis</i> (Giesbrecht, 1881)	P
<i>Amphiascus minutus</i> (Claus, 1863)	P
<i>Amphiascus parvus</i> Sars, 1906	P
<i>Amphiascus propinquus</i> Sars, 1906	P
<i>Canuella perplexa</i> T. & A. Scott, 1893	P
<i>Diarthrodes nobilis</i> (Baird, 1845)	P
<i>Ectinosoma melaniceps</i> Boeck, 1864	P
<i>Ectinosoma obtusum</i> Sars, 1920	P
<i>Longipedia minor</i> T. & A. Scott, 1893	P
<i>Halectinosoma gothiciceps</i> (Giesbrecht, 1881)	P
<i>Harpacticus uniremis</i> Krøyer, 1842	P
<i>Paraleptastacus brevicaudatus</i> Wilson, 1932	P
<i>Paramphiascella fulvofasciata</i>	P
Rosenfeld & Coull, 1974	
<i>Paramphiascella vararensis</i> (T. Scott, 1903)	P
<i>Paramphiascopsis longirostris</i> (Claus, 1863)	P

Table 3 (Continued)

Crustacea, Copepoda, Harpacticoida	
<i>Parategastes sphaericus</i> (Claus, 1863)	P
<i>Parathalestris harpactoides</i> (Claus, 1863)	P
<i>Rhizothrix minuta</i> (Wilson, 1932)	P
<i>Scutellidium hippolytes</i> (Krøyer, 1863)	P
<i>Thalestris longimana</i> Claus, 1863	P
<i>Tisbe furcata</i> (Baird, 1837)	G. Sahling (pers. comm.)
<i>Tisbe gracilis</i> (T. Scott, 1895)	G. Sahling (pers. comm.)
<i>Zaus spinatus</i> Goodsir, 1845	P
Crustacea, Cirripedia	
<i>Balanus balanus</i> (Linnaeus, 1758)	A ₈ , A ₉ , D ₃ , I ₁ , J ₁ , J ₂
<i>Balanus crenatus</i> Bruguière, 1789	A ₂ , A ₃ , A ₆ -A ₉ , B ₁ -B ₄ , B ₇ , D ₁ -D ₅ , E ₁ , E ₂ , G ₁ , G ₂ , H ₁ , I ₁ -I ₄ , J ₁ -J ₃
<i>Balanus improvisus</i> Darwin, 1854	D ₁ , D ₂ , D ₄ , D ₅ , I ₁ -I ₄ , J ₁ -J ₃
<i>Elminius modestus</i> Darwin, 1854	A ₂ -A ₇ , A ₉ , B ₁ -B ₇ , D ₁ , D ₃ -D ₅ , E ₁ , E ₂ , H ₁ , I ₁ -I ₅ , J ₁ -J ₃
<i>Sacculina carcini</i> Thompson, 1836	M. Janke (pers. comm.)
<i>Semibalanus balanoides</i> (Linnaeus, 1767)	A ₂ -A ₇ , A ₉ , B ₁ -B ₇ , D ₁ , D ₂ , D ₅ , N ₂
[<i>Balanus balanoides</i> (Linnaeus, 1767)]	
<i>Peltogaster paguri</i> Rathke, 1842	Scharte (pers. comm.)
<i>Verruca stroemia</i> (O. F. Müller, 1776)	A ₆ -A ₈ , B ₁ , B ₄ , D ₁ , D ₂ , D ₄ , D ₅ , E ₁ , E ₂ , G ₁ , G ₂ , H ₁ , H ₂ , I ₁ -I ₅ , J ₁ , J ₂ , K ₁ , K ₄ , K ₅ , N
Crustacea, Mysidacea	
<i>Gastrosaccus spinifer</i> (Goes., 1864)	M
<i>Mysis relicta</i> Lovén, 1862	G ₂
<i>Praunus inermis</i> (Rathke, 1843)	M
<i>Schistomysis kervillei</i> (G. O. Sars, 1885)	M
[<i>Paramysis kervillei</i> (G. O. Sars, 1885)]	
<i>Schistomysis spiritus</i> (Norman, 1860)	M
[<i>Paramysis spiritus</i> (Norman, 1860)]	
Crustacea, Amphipoda	
<i>Ampelisca brevicornis</i> (Costa, 1853)	M, N
<i>Ampelisca diadema</i> (Costa, 1853)	M, N
<i>Ampelisca spinipes</i> Boeck, 1861	N
<i>Ampelisca tenuicornis</i> Liljeborg, 1856	G ₂ , N
<i>Ampelisca</i> sp.	N
<i>Amphilocheus manudens</i> Bate, 1862	M
<i>Amphilocheus neapolitanus</i> Della Valle, 1893	M
<i>Amphilocheus</i> sp.	N
<i>Amphithoe rubricata</i> (Montagu, 1808)	N
<i>Amphitoe</i> sp.	I ₅
<i>Aora typica</i> Krøyer, 1845	B ₃ , B ₅ , H ₁ -H ₃ , N
<i>Apherusa bispinosa</i> (Bate, 1857)	A ₇ , A ₈ , B ₃ , G ₁ , G ₂ , H ₁ -H ₃ , I ₁ -I ₄
<i>Apherusa jurinei</i> (Milne Edwards, 1830)	A ₈ , B ₁ , B ₄ , B ₆ , B ₇ , G ₁ , G ₂ , H ₁ -H ₃
<i>Apherusa ovalipes</i> Norman & Scott, 1906	G ₂
<i>Argissa hamatipes</i> (Norman, 1869)	N
<i>Atylus falcatus</i> Metzger, 1871	N
<i>Atylus swammerdami</i> (Milne Edwards, 1830)	H ₂ , I ₂ , I ₄ , I ₅ , M, N

Table 3 (Continued)

Crustacea, Amphipoda

<i>Autonoe longipes</i> (Liljeborg, 1852) [<i>Lembos longipes</i> (Liljeborg, 1852)]	I ₁ , I ₄ , I ₅ , M
<i>Bathyporeia elegans</i> Watkin, 1938	N ₂
<i>Bathyporeia guilliamsoniana</i> (Bate, 1856)	N ₂
<i>Bathyporeia gracilis</i> Sars, 1891	N ₂
<i>Bathyporeia pelagica</i> (Bate, 1856)	N ₂
<i>Calliopius laeviusculus</i> (Krøyer, 1838)	A ₃ , A ₆ -A ₉ , B ₂ , G ₁ , G ₂ , H ₂ , H ₃ , I ₃
<i>Caprella linearis</i> (Linnaeus, 1767)	A ₇ , A ₈ , G ₁ , G ₂ , H ₂ , I ₄ , N
<i>Caprella</i> sp.	K ₁ -K ₆
<i>Cheirocratus sundevallii</i> (Rathke, 1843)	A ₈ , H ₃ , I ₄ , M
<i>Corophium crassicorne</i> Bruzelius, 1859	N
<i>Corophium insidiosum</i> Crawford, 1937	A ₃ , A ₆ -A ₉ , B ₁ -B ₆ , G ₁ , G ₂ , H ₁ -H ₃ , I ₁ -I ₅ , J ₁ , J ₃
<i>Corophium sextoni</i> Crawford, 1937	N
<i>Corophium</i> sp.	M
<i>Dexamine spinosa</i> (Montagu, 1813)	A ₆ -A ₈ , B ₁ , B ₂ , G ₁ , G ₂ , H ₁ -H ₃
<i>Dexamine thea</i> Boeck, 1861	A ₃ , A ₆ -A ₈ , B ₁ , B ₃ -B ₅ , G ₁ , G ₂ , H ₁ , H ₂ , I ₁ -I ₃
<i>Dyopodos porrectus</i> Bate, 1857	M
<i>Echinogammarus marinus</i> (Leach, 1815) [<i>Chaetogammarus marinus</i> Leach, 1815; <i>Gammarus marinus</i> Leach, 1815]	A ₂ , A ₃ , A ₅ -A ₇ , A ₉ , B ₅ , H ₁ , H ₃
<i>Elasmopus rapax</i> Costa, 1853	B ₁ , B ₇
<i>Gammarella fucicola</i> (Leach, 1814)	H ₃
<i>Gammarellus angulosus</i> (Rathke, 1843)	G ₂
<i>Gammarellus homari</i> (Fabricius, 1779)	A ₈ , G ₁ , G ₂ , H ₁
<i>Gammaropsis maculata</i> (Johnston, 1828)	M, N ₂
<i>Gammaropsis nitida</i> (Stimpson, 1853)	N
<i>Gammarus locusta</i> (Linnaeus, 1758)	H ₃
<i>Gammarus salinus</i> Spooner, 1947	K. Janke (unpubl.)
<i>Hippomedon denticulatus</i> (Bate, 1857)	N
<i>Hyale prevostii</i> (Milne Edwards, 1830) [<i>Hyale nilssonii</i> Rathke, 1843]	A ₂ , A ₃ , A ₅ , A ₉ , B ₁ -B ₇ , H ₁
<i>Jassa falcata</i> (Montagu, 1808)	A ₂ , A ₃ , A ₆ -A ₉ , B ₁ -B ₅ , B ₇ , G ₁ , G ₂ , H ₁ -H ₃ , I ₁ -I ₅ , J ₁ -J ₃ , N
<i>Jassa marmorata</i> Holmes, 1905	B ₁ -B ₅ , B ₇ , G ₁ , G ₂ , H ₁ -H ₃
<i>Lembos websteri</i> Bate, 1857	N ₂
<i>Megaluropus agilis</i> Hoek, 1889	M, N
<i>Melita palmata</i> (Montagu, 1804)	A ₃ , A ₆ -A ₈ , H ₃
<i>Metopa alderi</i> (Bate, 1857)	N
<i>Microprotopus maculatus</i> Norman, 1867	H ₁ , N ₂
<i>Orchomene nanus</i> (Krøyer, 1846)	G ₁ , G ₂ , H ₁ , N ₂
<i>Parapleustes bicuspis</i> (Krøyer, 1838)	N
<i>Pariambus typicus</i> (Krøyer, 1845)	M
<i>Perioculodes longimanus</i> (Bate & Westwood, 1868)	N
<i>Photis longicaudata</i> (Bate & Westwood, 1863)	M, N ₂
<i>Photis reinhardi</i> Krøyer, 1842	N
<i>Phoxocephalus holbolli</i> (Krøyer, 1842)	M, N
<i>Pontocrates arenarius</i> (Bate, 1858)	N
<i>Stenothoe marina</i> (Bate, 1857)	H ₁ , H ₂ , M
<i>Stenothoe monoculoides</i> (Montagu, 1813)	B ₁ , B ₃ , B ₇ , H ₁ , H ₂
<i>Stenula rubrovittata</i> (Sars, 1883)	N ₂
<i>Synchelidium haplocheles</i> (Grube, 1864)	M

Table 3 (Continued)

Crustacea, Amphipoda

<i>Synchelidium tenuimanum</i> Norman, 1895 [<i>Synchelidium haplocheles</i> (Sars, 1895)]	N ₂
<i>Unciola planipes</i> Norman, 1867	M
<i>Urothoe poseidonis</i> Reibisch, 1905	N
Crustacea, Cumacea	
<i>Bodotria scorpioides</i> (Montagu, 1804)	A ₇ , A ₈ , H ₂ , N
<i>Diastylis bradyi</i> Norman, 1879	M, N
<i>Diastylis cornuta</i> (Boeck, 1864)	N
<i>Diastylis laevis</i> Norman, 1869	M
<i>Diastylis rathkei</i> (Krøyer, 1841)	M
<i>Diastylis rugosa</i> Sars, 1865	M
<i>Diastylodes biplicata</i> (Sars, 1865)	N
<i>Eudorella truncatula</i> (Bate, 1856)	M
<i>Iphinoe trispinosa</i> (Goodsir, 1843)	M, N
<i>Lamprops fasciata</i> Sars, 1863	N
<i>Pseudocuma similis</i> Sars, 1900	M, N ₂
Crustacea, Tanaidacea	
<i>Tanais dulongii</i> (Audouin, 1826)	B ₅
Crustacea, Isopoda	
<i>Idotea baltica</i> (Pallas, 1772)	L ₂
<i>Idotea chelipes</i> (Pallas, 1766)	L ₂
<i>Idotea emarginata</i> (Fabricius, 1793)	L ₂
<i>Idotea granulosa</i> Rathke, 1843	A ₂ , A ₃ , A ₅ -A ₉ , B ₁ -B ₇ , G ₁ , G ₂ , H ₁ -H ₃ , L ₁ , L ₂
<i>Idotea linearis</i> (Linnaeus, 1767)	L ₂
<i>Idotea neglecta</i> Sars, 1899	L ₂
<i>Idotea pelagica</i> Leach, 1815	L ₁ , L ₂
<i>Idotea</i> sp.	I ₃ -I ₅
<i>Jaera albifrons</i> Leach, 1814	A ₂ , A ₃ , A ₅ -A ₉ , B ₃ , B ₅ -B ₇ , H ₃
<i>Janira maculosa</i> Leach, 1814	G ₁ , G ₂ , H ₁ , M, N
<i>Janiridae</i> sp.	N
<i>Ligia oceanica</i> (Linnaeus, 1767)	A ₉ , B ₁ -B ₆
<i>Limnoria lignorum</i> (Rathke, 1799)	A ₃ , I ₁ , J ₁
Crustacea, Decapoda, Natantia	
<i>Athanas nitescens</i> (Leach, 1814)	A ₇
<i>Crangon allmanni</i> Kinahan, 1857	A ₁ , A ₇ , M, N
<i>Crangon crangon</i> (Linnaeus, 1758)	G ₂ , J ₁ , M, N
<i>Eualus occultus</i> (Lebour, 1936)	A ₇
<i>Eualus pusiolus</i> (Krøyer, 1844)	N
<i>Pandalina brevirostris</i> (Rathke, 1843)	A ₇ , N
<i>Pandalus montagui</i> Leach, 1814 #	N
<i>Pandalus</i> sp.	I ₁ , I ₃ -I ₅
<i>Thorulus cranchii</i> (Leach, 1817)	M, N
Crustacea, Decapoda, Reptantia	
<i>Homarus gammarus</i> (Linnaeus, 1758), 1837*, ***	K ₁ , K ₄
Crustacea, Decapoda, Anomura	
<i>Callianassa</i> aff. <i>subterranea</i> Montagu, 1808***	M
<i>Galathea intermedia</i> Lilljeborg, 1851***	M, N

Table 3 (Continued)

Crustacea, Decapoda, Anomura

<i>Galathea squamifera</i> Leach, 1814	A ₆ -A ₈ , G ₁ , G ₂ , I ₁ , I ₃ , I ₄
<i>Galathea strigosa</i> (Linnaeus, 1767)**	G ₂ , N
<i>Pagurus bernhardus</i> (Linnaeus, 1758)	A ₃ , A ₆ -A ₈ , H ₂ , H ₃ , K ₄ -K ₆ , M, N
<i>Pagurus pubescens</i> (Krøyer, 1838)*, **	Scharte (pers. comm.)
<i>Pisidia longicornis</i> (Pennant, 1777)**	A ₈ , I ₂ , N
<i>Porcellana platycheles</i> Pennant, 1777	I ₄ , I ₅

Crustacea, Decapoda, Brachyura

<i>Cancer pagurus</i> Linnaeus, 1758	A ₆ -A ₉ , I ₁ , I ₄ , K ₁ , K ₃ -K ₇ , M, N
<i>Carcinus maenas</i> (Linnaeus, 1758)	A ₁ -A ₉ , B ₁ -B ₇ , G ₂ , H ₁ -H ₃ , I ₁ -I ₄ , J ₁ -J ₃ , K ₁ , K ₇ , K ₈ , M
<i>Corystes cassivelaunus</i> (Pennant, 1777)	N ₂
<i>Hyas araneus</i> (Linnaeus, 1758)	A ₆ -A ₈ , H ₂ , J ₁ , K ₁ , K ₄ -K ₆ , M, N
<i>Liocarcinus holsatus</i> (Fabricius, 1798)	A ₇ , A ₈ , M, N
[<i>Macropipus holsatus</i> (Fabricius, 1798)]	
<i>Liocarcinus pusillus</i> (Leach, 1815)***	N
<i>Liocarcinus</i> sp.	M
<i>Macropodia rostrata</i> (Linnaeus, 1761)	N, K ₁ , K ₂ , K ₅
<i>Macropodia</i> sp.	M
<i>Maja squinado</i> (Herbst, 1788)*	N
<i>Necora puber</i> (Linnaeus, 1767)*	Goemann (pers. comm.)
<i>Pilumnus hirtellus</i> (Linnaeus, 1761)	A ₆ -A ₈ , G ₁ , G ₂ , H ₁ , H ₂ , I ₁ , I ₃ -I ₅ , N
<i>Pinnotheres pisum</i> (Linnaeus, 1767)	N
<i>Thia scutellata</i> (Fabricius, 1793)***	M, N

Insecta

<i>Anurida maritima</i> (Guérin, 1836)	A ₅ , A ₉ , B ₂ , B ₅ , B ₆
<i>Clunio marinus</i> (Haliday, 1855)	A ₂ , A ₅ , A ₈ , A ₉ , B ₁ -B ₇ , H ₁ , H ₃ , I ₃
<i>Petrobius brevistylis</i> Carpenter, 1913	A ₅

Phoronidea

<i>Phoronis mülleri</i> Selys-Longchamps, 1903	Herrmann (1980)
<i>Phoronis</i> sp.	M, N

Bryozoa, Ctenostomata

<i>Alcyonidium diaphanum</i> (Hudson, 1762)	K ₂ , K ₄
<i>Alcyonidium gelatinosum</i> (Linnaeus, 1761)	A ₂ , A ₆ -A ₈ , G ₁ , G ₂ , N
[<i>Alcyonidium polyoum</i> (Hassal, 1841)]	
<i>Alcyonidium mamillatum</i> Alder, 1857	K ₄ , K ₅
<i>Alcyonidium mytili</i> Dalyell, 1848	H ₁ , H ₂ , K ₂ , K ₄ , K ₆
<i>Bowerbankia gracilis</i> Leidy, 1855	A ₈ , B ₁ -B ₇ , H ₁ , H ₃
<i>Bowerbankia imbricata</i> (Adams, 1798)	A ₆ -A ₉ , J ₁ -J ₃
<i>Bowerbankia pustulosa</i> (Ellis & Solander, 1786)	A ₆ -A ₉
<i>Bowerbankia</i> sp.	G ₁ , G ₂ , I ₁ -I ₄ , K ₅ , K ₈
<i>Flustrellidra hispida</i> (Fabricius, 1780)	A ₆ -A ₉ , B ₅ , G ₁ , H ₂
<i>Nolella</i> sp.	K ₄
<i>Walkeria uva</i> (Linnaeus, 1758)	A ₂ , A ₆ -A ₉ , J ₁ -J ₃

Bryozoa, Cyclostomata

<i>Crisia aculeata</i> Hassal, 1841	K ₄
<i>Crisia denticulata</i> (Lamarck, 1816)	K ₂ , K ₄
<i>Crisia eburnea</i> (Linnaeus, 1758)	B ₅ , D ₃ , D ₅ , E ₁ -E ₃ , G ₁ , G ₂ , H ₂ , H ₃ , K ₂ , K ₄ , N
<i>Crisidia cornuta</i> (Linnaeus, 1758)	H ₂
<i>Disporella hispida</i> (Fleming, 1828)	E ₁ , E ₂ , H ₂ , K ₄ -K ₆

Table 3 (Continued)

Bryozoa, Cyclostomata

<i>Plagioecia sarniensis</i> (Norman, 1864)	E ₂ , E ₅
<i>Tubulipora liliacea</i> (Pallas, 1766)	K ₄ -K ₆
<i>Tubulipora</i> sp.	G ₁ , G ₂ , I ₁ , I ₄ , I ₅

Bryozoa, Cheilostomata, Ascophora

<i>Cellepora pumicosa</i> (Pallas, 1766)	K ₄
<i>Celleporella hyalina</i> (Linnaeus, 1767)	A ₈ , B ₄ , B ₅ , B ₇ , E ₁ , G ₁ , G ₂ , H ₁ -H ₃ , I ₁ , I ₄ , I ₅ , K ₁ -K ₆
<i>Chorizopora brongniartii</i> (Audouin, 1826)	K ₁ , K ₆
<i>Cribrilina punctata</i> (Hassall, 1841)	A ₈ , K ₁ , K ₄ -K ₆
<i>Cryptosula pallasiana</i> (Moll, 1803)	A ₂ , A ₆ -A ₉ , B ₁ -B ₅ , D ₁ -D ₅ , E ₁ , G ₁ , G ₂ , H ₁ , H ₃ , I ₁ -I ₅ , K ₁ -K ₆ , K ₈
<i>Escharella immersa</i> (Fleming, 1828)	A ₆ , H ₁ , K ₄ -K ₆
<i>Escharella variolosa</i> (Johnston, 1838)	A ₆ , G ₁ , G ₂ , K ₄ , K ₅
<i>Escharella</i> sp.	I ₄
<i>Microporella ciliata</i> (Pallas, 1766)	K ₁ , K ₅ , K ₆
<i>Schizomavella linearis</i> (Hassall, 1841)	K ₁ , K ₄
<i>Schizoporella errata</i> (Waters, 1878)	A ₈
<i>Smittina landsborovii</i> (Johnston, 1847)	K ₅

Bryozoa, Cheilostomata, Anascan

<i>Aetea truncata</i> (Landsborough, 1852)	H ₁
<i>Bicellariella ciliata</i> (Linnaeus, 1758)	K ₄
<i>Bugula flabellata</i> (Thompson in Gray, 1848)	K ₄ , N
<i>Bugula plumosa</i> (Pallas, 1766)	E ₂ , H ₁ , K ₄ , K ₇
<i>Bugula stolonifera</i> Ryland, 1960	G ₂
<i>Bugula turbinata</i> Alder, 1857	D ₂
<i>Callopora aurita</i> (Hincks, 1877)	G ₁ , G ₂ , H ₁
<i>Callopora dumerilii</i> (Audouin, 1826)	H ₁
<i>Callopora lineata</i> (Linnaeus, 1767)	A ₆ -A ₈ , B ₁ , B ₅ , E ₁ -E ₅ , G ₁ , G ₂ , H ₁ , H ₂ , I ₁ , I ₃ -I ₅ , K ₁ , K ₄ -K ₇
<i>Conopeum reticulum</i> (Linnaeus, 1767)	A ₂ , A ₇ , A ₈ , K ₃ -K ₇ , N ₂
<i>Elektra pilosa</i> (Linnaeus, 1767)	A ₂ , A ₆ -A ₈ , B ₁ -B ₅ , B ₇ , D ₁ , D ₃ , D ₄ , E ₁ -E ₃ , E ₅ , G ₁ , G ₂ , H ₁ -H ₃ , I ₁ -I ₅ , J ₁ -J ₃ , K ₁ -K ₅ , N
<i>Elektra monostachys</i> (Busk, 1854)	K ₄ , K ₆
<i>Flustra foliacea</i> (Linnaeus, 1758)	D ₅ , E ₂ -E ₄ , G ₂ , K ₂ , K ₄ , K ₅ , N
<i>Membranipora membranacea</i> (Linnaeus, 1767)	A ₇ , A ₈ , D ₁ , D ₂ , D ₅ , G ₁ , G ₂ , K ₁ , K ₃
<i>Membraniporella nitida</i> (Johnston, 1838)	G ₁ , G ₂ , H ₁ , K ₄ , K ₅
<i>Scruparia chelata</i> (Linnaeus, 1758)	H ₁
<i>Scrupocellaria reptans</i> (Linnaeus, 1767)	B ₅ , H ₁ -H ₃ , I ₅
<i>Scrupocellaria scruposa</i> (Linnaeus, 1758)	B ₅ , D ₃ , G ₁ , G ₂ , H ₁ -H ₃ , K ₄ , K ₇

Echinodermata, Asteroidea

<i>Asterias rubens</i> Linnaeus, 1758	A ₂ , A ₃ , A ₆ -A ₉ , G ₁ , G ₂ , I ₄ , K ₁ -K ₇ , M, N
<i>Astropecten irregularis</i> (Pennant, 1777)**	Goemann (pers. comm.)
<i>Solaster papposus</i> (Linnaeus, 1768)*, ***	K ₆
[<i>Crossaster papposus</i> (Linnaeus, 1768)]	

Echinodermata, Ophiuroidea

<i>Acrocrida brachiata</i> (Montagu, 1804)***, ***	M, N ₂
<i>Amphipholis squamata</i>	A ₂ , A ₃ , A ₆ -A ₈ , H ₂ , H ₃ , K ₁ , K ₄ , K ₆ , M, N
(<i>Delle Chiaje</i> , 1829)***, ***	
<i>Amphiura filiformis</i> (O. F. Müller, 1776)* ²	M, N ₂
Amphiuridae sp.	M

Table 3 (Continued)

Echinodermata, Ophiuroidea	
<i>Ophiothrix fragilis</i> (Abildgaard, 1789)	I ₄ , K ₁ , K ₄ , N
<i>Ophiura albida</i> (Forbes, 1841)	M, N
<i>Ophiura ophiura</i> (Linnaeus, 1758)	N
[<i>Ophiura textura</i> (Linnaeus 1758)]	
Echinodermata, Echinoidea	
<i>Echinocardium cordatum</i> (Pennant, 1777)	M, N
<i>Echinocyamus pusillus</i> (O. F. Müller, 1776)**	M, N ₂
<i>Echinus esculentus</i> Linnaeus, 1758**, ***	M, N, K ₁ , K ₄ -K ₇
<i>Brissopsis, lyrifera</i> (Forbes, 1841)	M
<i>Psammechinus miliaris</i> (Gmelin, 1778)**	A ₈ -A ₈ , H ₂ , J ₂ , J ₃ , M, N
<i>Spatangus purpureus</i> (O. F. Müller, 1776)*, ***	Goemann (pers. comm.)
Echinodermata, Holothuroidea	
Holothuroidea sp.	M
Tunicata	
<i>Ascidia aspersa</i> (Müller, 1776)	D ₂ , D ₄ , G ₁ , G ₂ , I ₁ -I ₃ , J ₁ -J ₃ , K ₈
<i>Ascidia scraba</i> (Müller, 1776)	H ₁ , K ₄
<i>Botrylloides leachi</i> (Savigny, 1816)	A ₆ -A ₈ , D ₁ , D ₃ , D ₄ , E ₁ -E ₅ , G ₂ , H ₂ , I ₁ , I ₄ , J ₂ , K ₁ -K ₄ , K ₇
<i>Botryllus schlosseri</i> (Pallas, 1766)	A ₂ , A ₆ -A ₉ , B ₁ , B ₃ , D ₁ -D ₄ , G ₁ , G ₂ , H ₁ -H ₃ , I ₁ -I ₅ , J ₁ -J ₃ , K ₇ , K ₈
<i>Ciona intestinalis</i> (Linnaeus, 1767) #	B ₃ , D ₁ -D ₅ , H ₁ , I ₁ -I ₅ , J ₁ -J ₃ , K ₈
<i>Clavelina lepadiformis</i> (Müller, 1776)	A ₇ -A ₉ , B ₅ , D ₁ -D ₅ , G ₁ , G ₂ , H ₁ , I ₁ , I ₃ , K ₇
<i>Dendrodoa grossularia</i> (van Beneden, 1846)	G ₂ , H ₁ , K ₄ , K ₆
<i>Didemnum candidum</i> Savigny, 1816	D ₁ -D ₅ , E ₁ -E ₃ , G ₁ , G ₂ , H ₁ -H ₃ , I ₁ -I ₅ , K ₁ , K ₄ , K ₇
[<i>Didemnum maculosum</i> Berril, 1950]	
possibly <i>D. helgolandicum</i> Michaelsen, 1921, only the larvae can be distinguished	
<i>Didemnum</i> sp.	A ₆ -A ₉
<i>Diplosoma listerianum</i> (Milne-Edwards, 1841)	D ₄ , H ₁
<i>Diplosoma migrans</i> (Menker & Ax, 1970)	H ₁ , H ₂ , I ₂ -I ₄
<i>Molgula citrina</i> Alder & Hancock, 1848	A ₆ -A ₈ , D ₁ , D ₂ , D ₅ , G ₂ , H ₁ , H ₃ , I ₁ , I ₃ -I ₅ , J ₁ -J ₃ , K ₂
<i>Molgula complanata</i> Alder & Hancock, 1870	H ₁ -H ₃
<i>Polyclinum aurantium</i> Milne-Edwards, 1841	D ₁ , D ₅ , K ₂
<i>Sidnyum turbinatum</i> Savigny, 1816	A ₂ , A ₆ -A ₉ , D ₁ -D ₃ , D ₅ , E ₁ -E ₄ , G ₁ , G ₂ , H ₁ -H ₃ , K ₁ , K ₂ , K ₇
<i>Styela coriacea</i> (Alder & Hancock, 1848)	H ₂
<i>Styela partita</i> (Stimpson, 1852)	B ₁ , H ₃

Table 4. Check list of Chordata found around the island of Helgoland as described in recent publications, for more detailed information see Table 1

Acrania	
<i>Branchiostoma lanceolatum</i> Pallas, 1774	M, N
Chondrichthyes	
<i>Scyliorhinus canicula</i> (Linnaeus, 1758)*	Goemann (pers. comm.)
<i>Galeorhinus galeus</i> (Linnaeus, 1758)	Goemann, M. Janke (pers. comm.)
<i>Lamna nasus</i> (Bonnaterre, 1788)*	M. Janke (pers. comm.)
<i>Mustelus mustelus</i> (Linnaeus, 1758)*	Goemann (pers. comm.)
Osteichthyes Clupeiformes	
<i>Alosa alosa</i> (Linnaeus, 1758)***	Goemann, M. Janke (pers. comm.)
<i>Clupea harengus</i> Linnaeus, 1758	M
<i>Sprattus sprattus</i> (Linnaeus, 1758)	F, M
<i>Salmo salar</i> Linnaeus, 1758*, ***	M. Janke (pers. comm.)
Anguilliformes	
<i>Anguilla anguilla</i> (Linnaeus, 1758)	F
Beloniformes	
<i>Belone belone</i> (Linnaeus, 1761)	Goemann, M. Janke (pers. comm.)
Syngnathiformes	
<i>Entelurus aequoreus</i> (Linnaeus, 1758)	F
<i>Syngnathus acus</i> Linnaeus, 1758	N ₂
<i>Syngnathus rostellatus</i> Nilson, 1855	M. Janke (pers. comm.)
<i>Syngnathus typhle</i> Linnaeus, 1758	M. Janke (pers. comm.)
Gadiformes	
<i>Ciliata mustela</i> (Linnaeus, 1758)	F
<i>Ciliata septentrionalis</i> (Collett, 1875)	F
<i>Gadus morhua</i> Linnaeus, 1758	F, K ₄ , M, N ₂
<i>Melanogrammus aeglefinus</i> (Linnaeus, 1758)	M
[<i>Gadus aeglefinus</i> Linnaeus, 1758]	
<i>Merlangius merlangus</i> (Linnaeus, 1758)	F, M, N ₂
[<i>Gadus merlangus</i> Linnaeus, 1758]	
<i>Molva molva</i> (Linnaeus, 1758)	M. Janke (pers. comm.)
<i>Pollachius pollachius</i> (Linnaeus, 1758)	Goemann, M. Janke (pers. comm.)
<i>Pollachius virens</i> (Linnaeus, 1758)	F
<i>Raniceps raninus</i> (Linnaeus, 1758)	F
<i>Rhinonemus cimbricus</i> (Linnaeus, 1766)*	F
<i>Trisopterus luscus</i> (Linnaeus, 1758)	F, M
<i>Trisopterus minutus</i> (Linnaeus, 1758)	F, M
[<i>Gadus capelanus</i> Lacepède, 1800]	
Perciformes, Percoidei	
<i>Ammodytes marinus</i> Raitt, 1934	F
<i>Ammodytes tobianus</i> Linnaeus, 1758	F, N ₂
<i>Ctenolabrus rupestris</i> (Linnaeus, 1758)	F, K ₁ -K ₈ , N
<i>Echiichthys vipera</i> (Cuvier, 1829)	F
[<i>Trachinus vipera</i> Cuvier, 1829]	
<i>Hyperoplus lanceolatus</i> (Le Sauvage, 1824)	F, N ₂
<i>Labrus bergylta</i> Ascanius, 1767*	F
<i>Mullus surmuletus</i> Linnaeus, 1758	Goemann, M. Janke (pers. comm.)
<i>Trachurus trachurus</i> (Linnaeus, 1758)	F, N ₂

Table 4 (Continued)

Perciformes, Scombroidei	
<i>Scomber scombrus</i> Linnaeus, 1758	M
Perciformes, Gobioidaei	
<i>Gobiusculus flavescens</i> (Fabricius, 1779)	F
<i>Pomatoschistus microps</i> (Krøyer, 1838)	F
<i>Pomatoschistus minutus</i> (Pallas, 1770)	F, M
<i>Pomatoschistus pictus</i> (Malm, 1865)	F
Perciformes, Callionymoidei	
<i>Callionymus lyra</i> Linnaeus, 1758	F
<i>Callionymus reticulatus</i> Valenciennes, 1837	N
<i>Callionymus</i> sp.	M
Perciformes, Blennioidei	
<i>Pholis gunnellus</i> (Linnaeus, 1758)	F, K ₁ , K ₂ , K ₄ , K ₆ , N
<i>Zoarces viviparus</i> (Linnaeus, 1758)	F, K ₆
Perciformes, Mugiloidaei	
<i>Chelon labrosus</i> (Risso, 1826)	Goemann (pers. comm.)
Scorpaeniformes	
<i>Agonus cataphractus</i> (Linnaeus, 1758)	F, M, N ₂
<i>Cyclopterus lumpus</i> Linnaeus, 1758	F, G ₂
<i>Eutrigla gurnardus</i> (Linnaeus, 1758)	M
[<i>Trigla gurnardus</i> Linnaeus, 1758]	
<i>Liparis montagui</i> (Donovan, 1804)	F
<i>Liparis liparis</i> (Linnaeus, 1766)	G ₂ , N
<i>Myoxocephalus scorpius</i> (Linnaeus, 1758)	F, K ₁ , K ₃ -K ₇ , M, N
<i>Taurulus bubalis</i> (Euphrasen, 1786)	F, K ₁ , K ₄ -K ₆
<i>Trigla lucerna</i> Linnaeus, 1758	M
Gasterosteiformes	
<i>Gasterosteus aculeatus</i> Linnaeus, 1758***	Goemann (pers. comm.)
<i>Spinachia spinachia</i> (Linnaeus, 1758)	F
Pleuronectiformes	
<i>Arnoglossus laterna</i> (Walbaum, 1792)	F, N ₂
<i>Buglossidium luteum</i> (Risso, 1810)	F, N
<i>Hippoglossoides platessoides</i> (Bloch, 1787)	M. Janke (pers. comm.)
<i>Limanda limanda</i> (Linnaeus, 1758)	M, N ₂
<i>Microstomus kitt</i> (Walbaum, 1792)	M, N
<i>Phrynorhombus norvegicus</i> (Günther, 1862)	F, N
<i>Platichthys flesus</i> (Linnaeus, 1758)	N ₂
<i>Pleuronectes platessa</i> Linnaeus, 1758	K ₅ , M, N ₂
<i>Psetta maxima</i> (Linnaeus, 1758)	F
<i>Scophthalmus rhombus</i> (Linnaeus, 1758)*	F
<i>Solea vulgaris</i> Quensel, 1806	F, M, N ₂
[? <i>Pleuronectes solea</i> Linnaeus, 1758, Common synonym: <i>Solea solea</i>]	
Mammalia, Cetacea	
<i>Phocoena phocoena</i> (Linnaeus, 1758)*, ***	Goemann (pers. comm.)
Mammalia, Pinnipedia	
<i>Phoca vitulina</i> Linnaeus, 1758***	Goemann (pers. comm.)
<i>Halichoerus grypus</i> (Fabricius, 1791)*	Goemann (pers. comm.)

Table 5. Polychaete larvae, whose adults are not listed in Table 3, found in plankton samples from the Helgoland Reede by Husemann (1992) and Plate (1992), S: Husemann; T: Plate; * species which live normally on rocky surfaces, shell grounds or coarse sands

<i>Chaetopterus variopedatus</i> (Renier, 1804)*	T
<i>Harmothoe longisetis</i> (Grube, 1863)	S
<i>Heteromastus filiformis</i> (Claparède, 1864)	T
<i>Laonice cirrata</i> (M. Sars, 1851)	T
<i>Magelona filiformis</i> Wilson, 1959	T
<i>Ophiodromus flexuosus</i> (Delle Chiaje, 1822)	S
<i>Pectinaria (Amphictene) auricoma</i> (O. F. Müller, 1776)	S
<i>Polydora flava</i> Claparède, 1870*	T
<i>Polydora hermaphroditica</i> Hannerz, 1956	T
<i>Prionospio cirrifera</i> Wirén, 1883*	T
<i>Pseudomystides limbata</i> (Saint-Joseph, 1888)*	S
<i>Sige fusigera</i> Malmgren, 1865*	S
<i>Spio martinensis</i> Mesnil, 1896	T

Table 6. Literature used for taxonomic classification. Additional advice for special taxonomic groups given by the authors mentioned in the list

Algae	Kornmann & Sahling (1977, 1983); Kornmann & Sahling (pers. comm.)
Ciliata	Hadzi (1951)
Porifera	Arndt (1934); A. Dzwillo (pers. comm.); D. Barthel (pers. comm.)
Hydrozoa	Vervoort (1946); G. Jarms (pers. comm.)
Scyphozoa	Krumbach (1928)
Anthozoa	Manuel (1988)
Kamptozoa	Nielsen (1989)
Nematoda	Platt & Warwick (1983)
Turbellaria	Prudhoe (1982)
Nemertini	Gibson (1982); P. Sundberg (pers. comm.)
Polyplacophora	Jones & Baxter (1987)
Prosobranchia	Graham (1988); Nordsieck (1982); R. Janssen (pers. comm.)
Ophistobranchia	Thompson & Brown (1976); R. Janssen (pers. comm.)
Bivalvia	Nordsieck (1969); R. Janssen (pers. comm.)
Cephalopoda	Jaekel (1926); C. Warneke-Cremer (pers. comm.)
Sipunculoidea	Gibbs (1977)
Echiuroidea	Ten Broeke (1929)
Polychaeta	Hartmann-Schröder (1971); George & Hartmann-Schröder (1985); Westheide (1990); Pleijel & Dales (1991); G. Hartmann-Schröder (pers. comm.)
Oligochaeta	Ude (1929)
Hirudinea	Johansson (1929)
Pantopoda	King (1974)
Ostracoda	Athersuch et al. (1989)
Harpacticoida	Pesta (1932)
Cirripedia	Newmann & Ross (1976)
Mysidacea	Gordan (1957); U. Mühlenhardt-Siegel (pers. comm.)
Amphipoda	Schellenberg (1942); Lincoln (1979); Barnard & Barnard (1983); Barnard & Karaman (1991); H.-G. Andres (pers. comm.)
Cumacea	Jones (1976)
Tanaidacea	Nierstrasz & Schuurmans Stekhoven (1930)
Isopoda	Naylor (1972)
Decapoda	Schellenberg (1928); Smaldon (1979); Ingle (1983) Burukovskii (1986)
Insecta	Cheng (1976)
Phoronida	Emig (1979)
Bryozoa	Ryland & Hayward (1977); Hayward & Ryland (1979); Hayward (1985); Hayward & Ryland (1985)
Echinodermata	Ludwig (1900); Lieberkind (1928); I. Bartsch (pers. comm.)
Tunicata	Millar (1970); Menker & Ax (1970)
Pisces	Hureau & Monod (1973); Whitehead et al. (1984); E. Wahl (pers. comm.)
Cetacea	Freud (1933a)
Pinnipedia	Freud (1933b)