

GEOMAR Helmholtz-Zentrum für Ozeanforschung Kiel: Cruise report

GEOMAR
Helmholtz-Zentrum für Ozeanforschung Kiel

Date: 14.07.2017

Cruise Report

Compiled by: Mario Finkel, mfinkel@geomar.de

F.K. Littorina

Cruise No.: L17-12

Date of cruise: 10.07. – 14.07.2017

Areas of research: Public relations and Aquarium West Shore

Port Calls: Osterby / Læsø DK (11.07.-12.07.2017) & Grenå DK (12.07.-13.07.2017)

Institute: GEOMAR

Chief scientist: Heidi Gonschior

Number of scientists: 4

Projects:

Acquisition of living marine organisms for the public relations division (GEOMAR), the institute's own aquarium and the Multimar Wattforum (Tönning) in the northern Kattegat.

Cruise Report

This cruise report consists of 7 pages including cover:

1. Scientific crew
2. Research programme
3. Narrative of cruise with technical details
4. Scientific report and first results
5. Moorings, scientific equipment and instruments
6. Additional remarks
7. Appendix
 - a. Map with cruise track
 - b. Dredge position list
 - c. Station list

1. Scientific crew

Name	Function	Institute	Leg
Heidi Gonschior	Chief scientist	GEOMAR	Complete
Gregor Steffen	Scientist	GEOMAR	Complete
Mario Finkel	Scientist	GEOMAR	Complete
Inga Ivers	Aquarium	GEOMAR	Complete
Total	4		

Chief scientist: Heidi Gonschior, Dorfstraße 251, 24222 Schwentinental/Klausdorf, Germany, 0049-431-6004514, 0049-431-6001515, hgonschior@geomar.de

2. Research programme

The aim of this cruise of the research vessel „Littorina“ from July 10th to July 14th 2017 was the sampling of living marine organisms for the public relations division (GEOMAR) and the institute's own aquarium.

Marine invertebrates and vertebrates were collected with dredges at different stations and depths in the northern Kattegat for use during “F.K. Littorina Open Ship Ostufer” and to complete scientific collections in the Kiel aquarium. Furthermore, a Mini-ROV “Video Ray” was used to collect video material of the sampled habitats.

Additional depth water sampling was maintained for rearing the organisms.

3. Narrative of cruise with technical details

10.07.2017	09:00	Departure of RV “Littorina” from Kiel harbour
11.07.2017	08:15 until 08:45	Arrival at first station in the south-east of Læsø / DK & sampling of depth water from 30m. Salinity was 29,1 and temperature 14,0°C.
	09:00	First dredge at 18m. (Dive point: 57°00,131’N, 011°34,996’E)
	14:00	Finished first station after 19 dredge tows. Start of the Mini-ROV to collect video material of the habitat at the first station.
	15:00	Heading towards port of Osterby / Læsø DK.
	20:00	Mooring at Osterby / Læsø DK.
12.07.2017	07:00	Departing port of Osterby / Læsø DK.
	14:24	Arrival at second station in the south of Anholt. First dredge at 24m. (Dive point: 56°24,852’N, 011°21,370’E)
	16:30	Finished second station after 10 dredge tows. Start of the Mini-ROV to collect video material of the habitat at the second station.
	17:15	Heading towards port of Grenå DK.
	19:00	Mooring at port of Grenå DK.
13.07.2017	07:30	Departing port of Grenå DK.
	08:30	Arrival at third station east of Grenå. First dredge at 17m. (Dive point: 56°23,317’N, 011°04,597’E)
	14:30	Finished third station after 17 dredge tows.
	15:15	Sampling of depth water from 30m. Salinity was 26,8 and temperature 12,0°C.
	15:45	Heading towards Kiel harbour.
14.07.2017	07:30	Arrival of RV “Littorina” at Kiel harbour

4. Scientific report and first results

During our fieldwork the sampling results contained a wide range of marine organisms with a focus on a high salinity environment within the Baltic Sea in an area called the Kattegat. Because this area is located close to the North Sea it is characterized by a high salinity and also by a high abundance of North Sea species, which is important and very interesting for sampling cruises. An effect of the low salinity environment like existing in most parts of the Baltic Sea is that the organisms, which are mainly emigrated from the North Sea, have to cope with salinity stress. To deal with that energy demanding stress the organisms have to relocate their focus from growth processes to e.g. ion exchange processes resulting in smaller sizes compared to their species members in the salty North Sea environment. One proper way to show the public the differences in species abundance and the size to stress relationship is the public presentation of living organisms. This public relations work is done during the F.K. Littorina Open Ship day at the Ostufer in Kiel and in the Kiel Aquarium.

To gain as many different species as possible we also dredged in various depths between 15 to 26m where the factor “light intensity” plays also a big role in benthic community composition.

5. Moorings, scientific equipment and instruments

- **Dredge**
- **Depthwater pump**
- **Salinity probe**
- **Mini-ROV “Video Ray”**

6. Acknowledgements

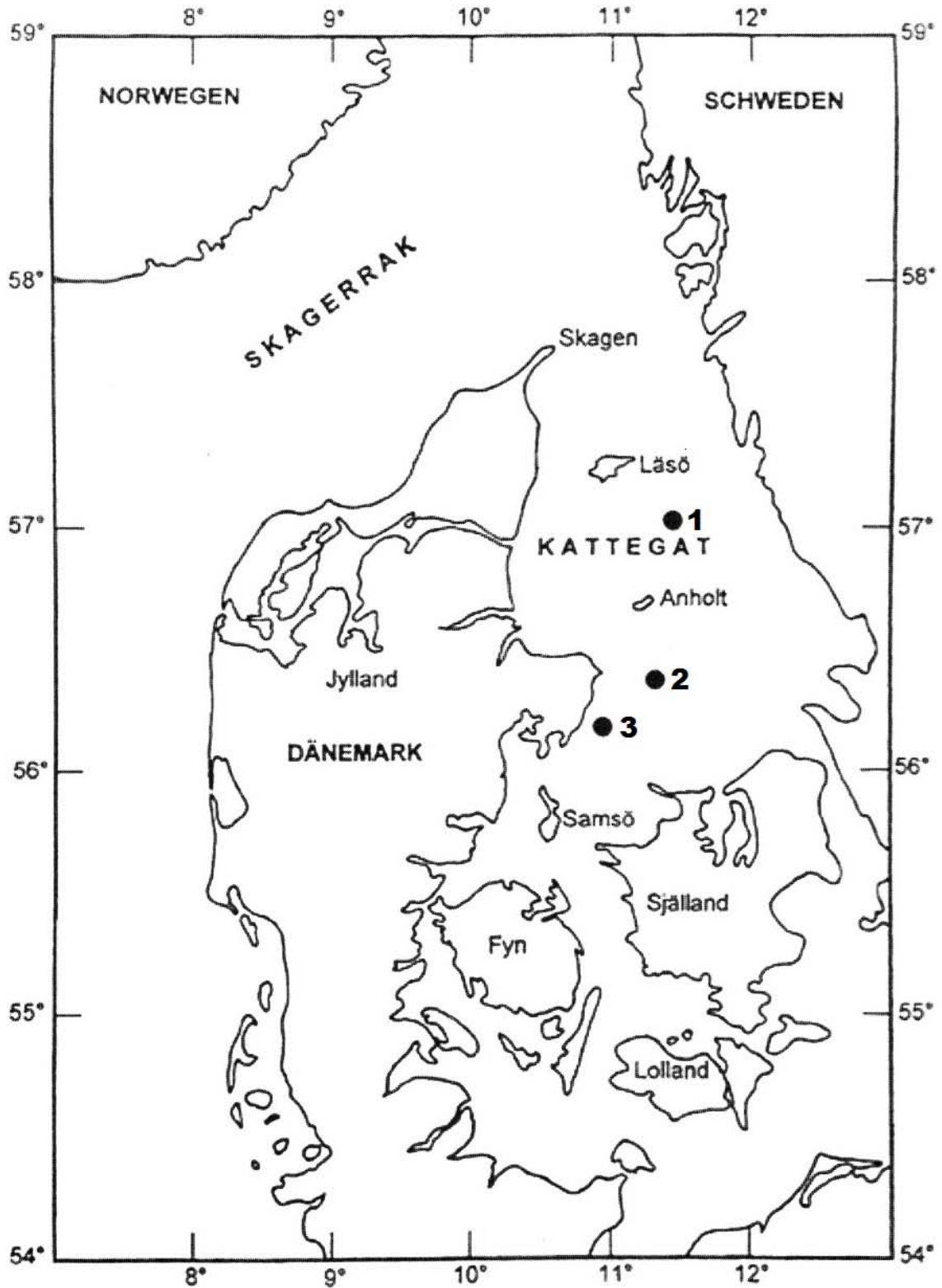
Thanks to the captain and the whole Littorina crew for the big support during the trip.

7. Appendix

- a. Map
- b. Dredge position list
- c. Station list

Map

Map:



Dredge position list:

Station 1 (11.07.2017):

Dredge#	Time	Start coordinates		Depth (m)
1	09:00	57°00,131'N	011°34,996'E	18
2	09:15	57°00,509'N	011°34,994'E	19
3	09:34	57°00,730'N	011°34,820'E	21
4	09:42	57°00,951'N	011°34,632'E	25
5	09:50	57°01,208'N	011°34,654'E	26
6	10:06	57°01,295'N	011°35,332'E	24
7	10:12	57°01,298'N	011°35,789'E	21
8	10:30	57°01,154'N	011°36,076'E	26
9	10:40	57°01,158'N	011°35,494'E	20
10	11:00	57°01,157'N	011°34,558'E	23
11	11:12	57°00,918'N	011°34,751'E	21
12	12:18	57°00,805'N	011°34,955'E	17
13	12:33	57°00,494'N	011°34,836'E	20
14	12:41	57°00,104'N	011°34,921'E	16
15	12:57	57°00,670'N	011°34,762'E	21
16	13:10	57°01,088'N	011°34,802'E	25
17	13:20	57°01,301'N	011°34,584'E	25
18	13:30	57°00,925'N	011°34,846'E	15
19	13:54	57°00,237'N	011°34,968'E	16

Station 2 (12.07.2017):

Dredge#	Time	Start coordinates		Depth (m)
1	14:24	56°24,852'N	011°21,370'E	24
2	14:36	56°24,428'N	011°21,388'E	21
3	14:45	56°24,292'N	011°21,197'E	21
4	15:00	56°24,197'N	011°20,839'E	21
5	15:12	56°24,119'N	011°20,433'E	20
6	15:24	56°24,031'N	011°19,883'E	21
7	15:33	56°24,058'N	011°19,692'E	20
8	15:45	56°24,250'N	011°20,233'E	21
9	16:01	56°24,378'N	011°21,064'E	20
10	16:20	56°24,353'N	011°21,382'E	22

Station 3 (13.07.2017):

Dredge#	Time	Start coordinates		Depth (m)
1	08:30	56°23,317'N	011°04,597'E	17
2	08:45	56°23,173'N	011°03,498'E	18
3	09:00	56°23,106'N	011°03,964'E	17
4	09:30	56°20,454'N	011°04,579'E	21
5	09:36	56°20,277'N	011°03,924'E	20
6	10:00	56°20,103'N	011°03,001'E	20
7	10:12	56°19,901'N	011°02,232'E	21
8	10:24	56°19,541'N	011°02,029'E	19
9	10:42	56°19,191'N	011°02,354'E	21

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10	12:05	56°16,463'N	010°58,844'E	20
11	12:15	56°16,644'N	010°58,581'E	20
12	12:45	56°14,930'N	010°57,795'E	19
13	13:12	56°13,157'N	010°55,670'E	20
14	13:30	56°12,672'N	010°55,314'E	21
15	13:45	56°13,252'N	010°55,714'E	20
16	14:00	56°12,925'N	010°55,479'E	20
17	14:20	56°13,227'N	010°55,647'E	20

Station list:

Station 1	57°00,131'N, 011°34,996'E
Station 2	56°24,852'N, 011°21,370'E
Station 3	56°23,317'N, 011°04,597'E