

GEOMAR Helmholtz-Zentrum für Ozeanforschung Kiel: Cruise report

GEOMAR
Helmholtz-Zentrum für Ozeanforschung Kiel

Date: 19.06.2020

Cruise Report

Compiled by: Mario Finkel, mario-finkel@mail.de

Korrektur: Cruise

F.K. Littorina

No.:L20-11

Date of cruise: 15.06. - 19.06.2020

(Cruise No.: L11-20)

Areas of research: Public relations and Aquarium West Shore

Port Calls: Grenå DK (15.06. - 18.06.2020, 3 nights)

Institute: GEOMAR

Chief scientist: Heidi Gonschior

Number of scientists: 3

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
Total	3		

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 June 15th to June 19th 2020 was the sampling of living marine organisms for the public relations division (GEOMAR), the institute's own aquarium and the Multimar Wattforum in Tönning.

Marine invertebrates and vertebrates were collected with dredges at different stations and depths in the northern Kattegat to complete scientific collections in the Kiel aquarium and in the Multimar Wattforum in Tönning.

Additional depth water sampling was maintained for rearing the organisms.

3. Narrative of cruise with technical details

15.06.2020	08:45 22:45	Departure of RV “Littorina” from Kiel harbour Mooring at Grenå DK.
16.06.2020	07:15 09:00 09:25 09:55 15:50 17:00	Departing port of Grenå DK. Arrival at location for sampling of depth water from 34m. Salinity was 28,9 and temperature 9,5°C. Heading towards first station. Arrival at first station east of Grenå DK. First dredge at dive point: 56°24,39'N, 011°21,36'E Finished first station after 17 dredge towings. Heading towards port of Grenå DK. Mooring at Grenå DK.
17.06.2020	08:00 09:45 15:10 15:45 18:40	Departing port of Grenå DK. Arrival at first station east of Grenå DK. First dredge at dive point: 56°24,44'N, 011°22,83'E Finished first station after 20 dredge towings. Sampling of depth water from 30m. Salinity was 29,1 and temperature 9,0°C. Heading towards port of Grenå DK. Mooring at port of Grenå DK.
18.06.2020	08:00 09:30 11:30 12:30 15:10 15:20 16:00	Departing port of Grenå DK. Arrival at second station (Hjelm Bank) southeast of Grenå. First dredge at dive point: 56°13,17'N, 010°57,49'E Finished second station after 11 dredge towings. Heading towards third station (Sjællands Rev). First dredge at dive point: 56°09,31'N, 011°08,31'E Finished third station after 11 dredge towings. Sampling of depth water from 28m. Salinity was 28,3 and temperature 8,2°C. Heading towards Kiel harbour.
19.06.2020	07:00	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 in the Kiel Aquarium.

To gain as many different species as possible we also dredged in various depths between 12 to 35m 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**

6. Acknowledgements

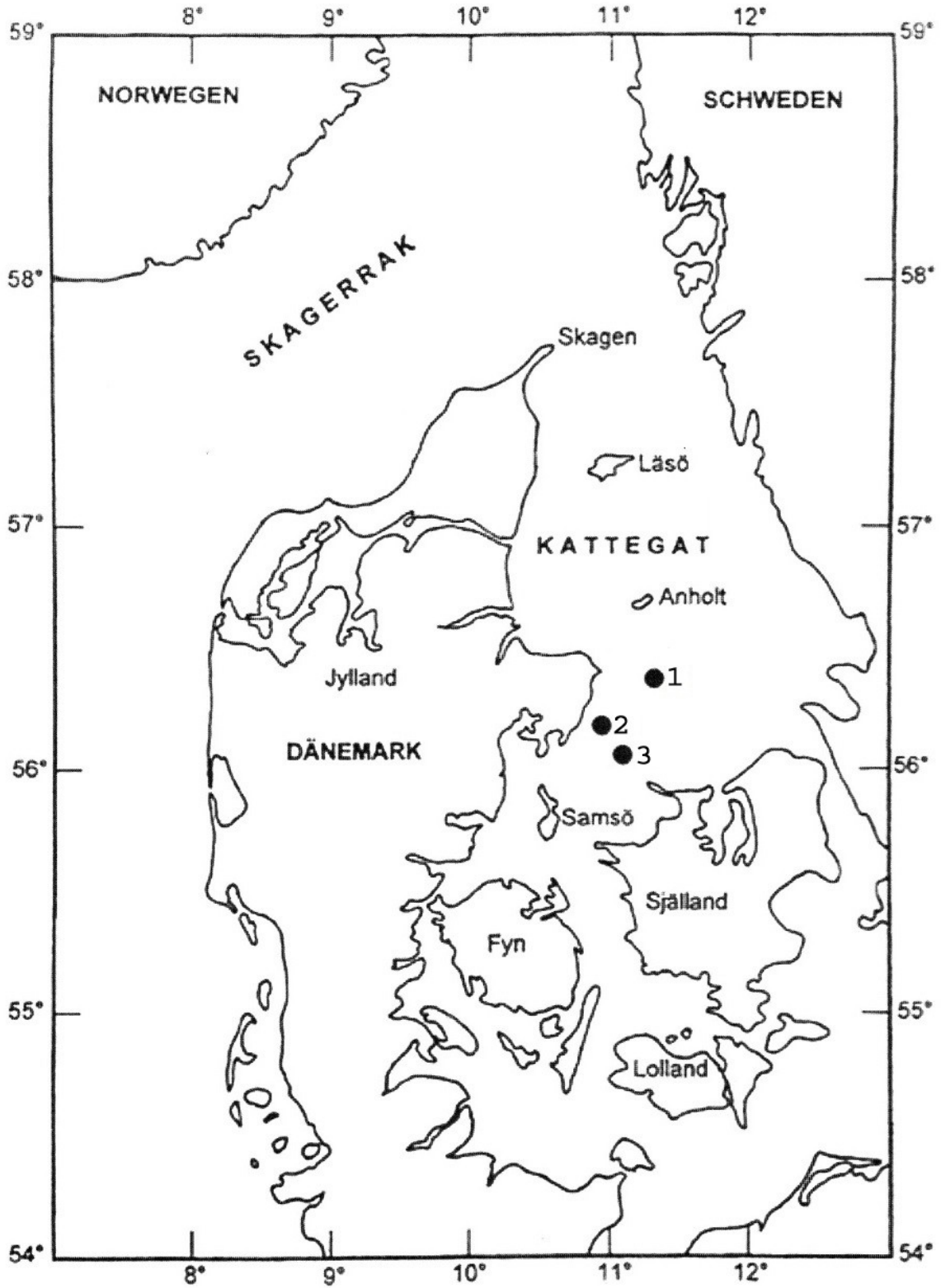
Thanks to the captain and the whole Littorina crew for the big support during the trip.

7. Appendix

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

Map

Map:



Dredge position list:

Station 1 (16.06.2020):

Dredge#	Time	Start coordinates	
1	09:50	56°24,39'N	011°21,36'E
2	10:10	56°24,19'N	011°20,62'E
3	10:20	56°24,06'N	011°19,94'E
4	10:40	56°23,98'N	011°19,33'E
5	10:58	56°24,19'N	011°19,82'E
6	11:12	56°24,23'N	011°20,27'E
7	12:25	56°24,39'N	011°21,18'E
8	12:40	56°24,29'N	011°20,71'E
9	12:55	56°24,21'N	011°20,36'E
10	13:05	56°24,16'N	011°19,92'E
11	13:20	56°24,31'N	011°20,42'E
12	13:35	56°24,26'N	011°20,88'E
13	13:50	56°24,44'N	011°21,41'E
14	14:05	56°24,35'N	011°21,02'E
15	14:30	56°24,38'N	011°21,22'E
16	14:43	56°24,42'N	011°21,47'E
17	14:57	56°24,38'N	011°21,11'E

Station 1 (17.06.2020):

Dredge#	Time	Start coordinates	
1	09:42	56°24,44'N	011°22,83'E
2	09:55	56°24,34'N	011°23,43'E
3	10:10	56°24,23'N	011°24,12'E
4	10:25	56°24,72'N	011°24,73'E
5	10:40	56°24,06'N	011°25,53'E
6	10:52	56°24,16'N	011°24,91'E
7	11:05	56°24,21'N	011°24,25'E
8	11:18	56°24,28'N	011°23,73'E
9	12:05	56°24,47'N	011°22,91'E
10	12:17	56°24,38'N	011°24,38'E
11	12:30	56°24,31'N	011°24,08'E
12	12:44	56°24,26'N	011°24,68'E
13	12:55	56°24,20'N	011°25,17'E
14	13:13	56°24,15'N	011°25,68'E
15	13:28	56°24,29'N	011°24,96'E
16	13:42	56°24,43'N	011°24,26'E
17	14:00	56°24,69'N	011°23,22'E
18	14:15	56°24,65'N	011°23,93'E
19	14:37	56°24,61'N	011°24,89'E
20	14:52	56°24,61'N	011°24,26'E

Station 2 (Hjelm Bank, 18.06.2020):

Dredge#	Time	Start coordinates	
1	09:35	56°13,17'N	010°57,49'E

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2	09:47	56°13,17'N	010°56,79'E
3	10:00	56°13,17'N	010°56,13'E
4	10:15	56°13,19'N	010°55,22'E
5	10:26	56°13,22'N	010°54,75'E
6	10:36	56°13,23'N	010°55,34'E
7	10:44	56°13,25'N	010°55,74'E
8	10:52	56°13,28'N	010°56,21'E
9	11:00	56°13,28'N	010°56,53'E
10	11:10	56°13,14'N	010°56,25'E
11	11:18	56°12,99'N	010°55,95'E

Station 3 (Sjællands Rev, 18.06.2020):

Dredge#	Time	Start coordinates	
1	12:30	56°09,31'N	011°08,31'E
2	12:42	56°09,18'N	011°08,83'E
3	12:57	56°09,07'N	011°09,37'E
4	13:12	56°08,93'N	011°10,06'E
5	13:26	56°09,25'N	011°10,49'E
6	13:41	56°08,95'N	011°10,07'E
7	13:57	56°08,76'N	011°09,48'E
8	14:06	56°08,56'N	011°09,08'E
9	14:22	56°08,31'N	011°08,80'E
10	14:35	56°08,60'N	011°09,17'E
11	14:47	56°08,42'N	011°08,88'E

Station list:

Station 1	56°24,39'N, 011°21,36'E
Station 2	56°13,17'N, 010°57,49'E
Station 3	56°09,31'N, 011°08,31'E