

**GEOMAR**  
**Helmholtz-Zentrum für Ozeanforschung Kiel**

**Date: 21.06.2019**

## **Cruise Report**

**Compiled by:** Mario Finkel, [mario-finkel@mail.de](mailto:mario-finkel@mail.de)

**F.K. Littorina**

**Cruise No.: L19-08**

**Date of cruise:** 17.06. – 21.06.2019

**Areas of research:** Public relations and Aquarium West Shore, Multimar Wattforum Tönning

**Port Calls:** Osterby/Læsø DK (18.06.-19.06.2019) & Grenå DK (19.06.-20.06.2019)

**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**

<b>Name</b>	<b>Function</b>	<b>Institute</b>	<b>Leg</b>
Heidi Gonschior	Chief scientist	GEOMAR	Complete
Linus Milewski	Aquarium	GEOMAR	Complete
Mario Finkel	Scientist	GEOMAR	Complete
Timo Kaminski	Aquarium	Multimar Wattforum	Complete
<b>Total</b>	<b>4</b>		

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

## **2. Research programme**

The aim of this cruise of the research vessel „Littorina“ from June 17<sup>th</sup> to June 21<sup>st</sup> 2019 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 for use during “F.S. Alkor Open Ship Kieler Woche 2019” and to complete scientific collections in the Kiel aquarium and Multimar Wattforum.

Additional depth water sampling was maintained for rearing the organisms.

## **3. Narrative of cruise with technical details**

<b>17.06.2019</b>	<b>09:10</b>	<b>Departure of RV “Littorina” from Kiel harbour</b>
<b>18.06.2019</b>	<b>04:00</b>	<b>Anchoring at depth water station</b>
	<b>08:10 – 08:35</b>	<b>Sampling of depth water from 30m. Salinity was 29,1 and temperature 10,3°C.</b>
	<b>10:00</b>	<b>First dredge at 57°01,34’N, 11°35,73’E.</b>
	<b>15:45</b>	<b>Finished first station after 13 dredge towings. Heading towards port of Osterby/Læsø DK.</b>
	<b>19:00</b>	<b>Mooring at Osterby/Læsø DK.</b>
<b>19.06.2019</b>	<b>07:40</b>	<b>Departing port of Osterby/Læsø DK.</b>
	<b>14:00</b>	<b>Sampling of depth water from 30m. Salinity was 28,0 and temperature 10,0°C.</b>
	<b>14:25</b>	<b>First dredge at 56°25,06’N, 11°25,22’E.</b>
	<b>16:10</b>	<b>Finished second station after 6 dredge towings. Heading towards port of Grena/DK.</b>
	<b>18:00</b>	<b>Mooring at Grena/DK.</b>
<b>20.06.2019</b>	<b>07:30</b>	<b>Departing port of Grena / DK.</b>
	<b>09:00</b>	<b>First dredge at 56°24,15’N, 11°19,53’E.</b>
	<b>17:30</b>	<b>Finished at second station after 27 dredge towings. Heading towards Kiel harbour.</b>
<b>21.06.2019</b>	<b>07:00</b>	<b>Arrival of RV “Littorina” at Kiel harbour</b>

#### **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 R.V. Alkor Open Ship day during the Kiel Week 2019, in the Kiel Aquarium and also in the Multimar Wattforum, which we supported with living organisms from this cruise.

To gain as many different species as possible we also dredged in various depths between 14 to 30m 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**

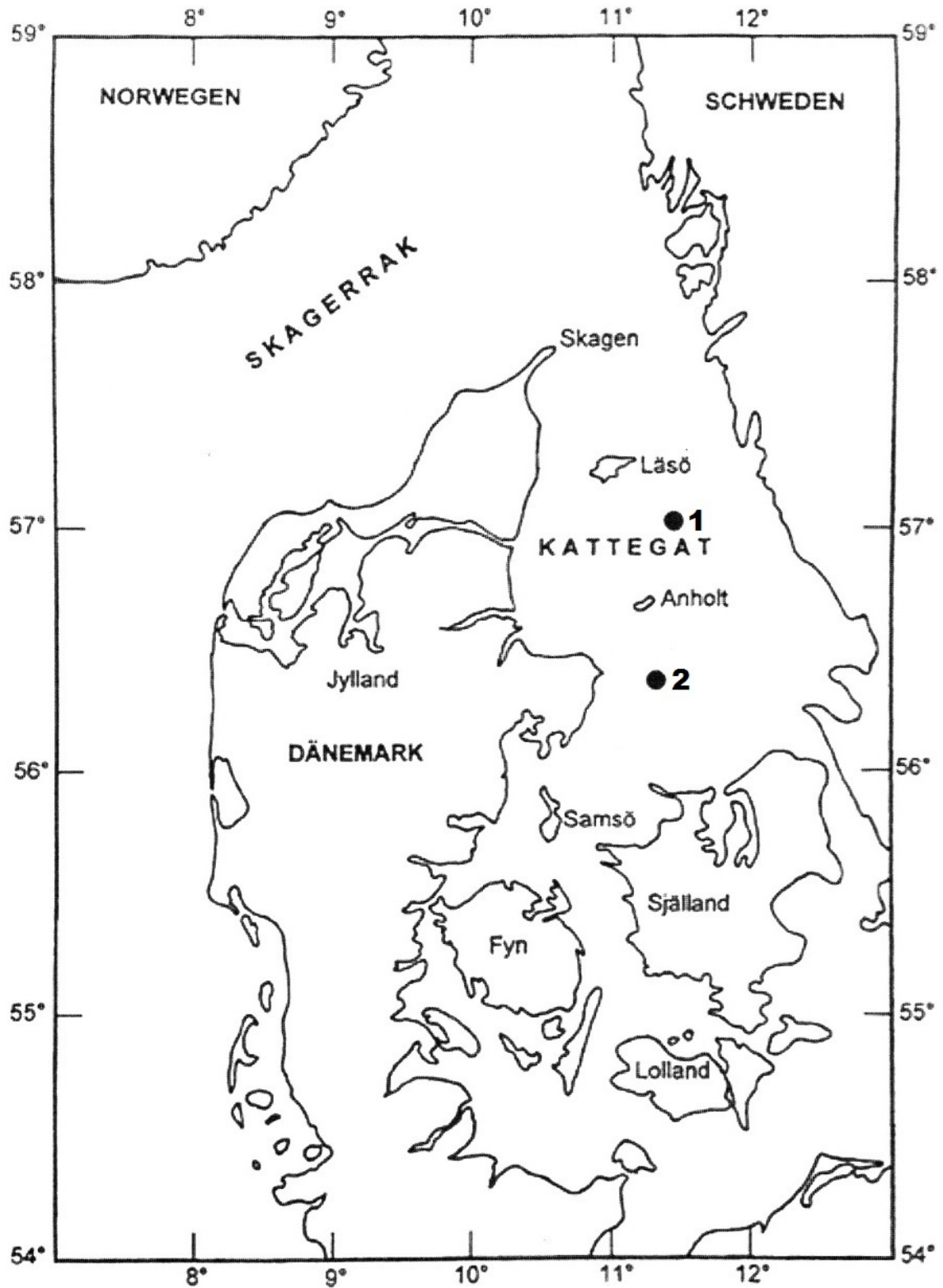
Thanks to the captain and the whole Littorina crew for the big support during the trip.

#### **7. Appendix**

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

**Map**

Map:



**Dredge position list:**

**18.06.2019 (Station 1):**

<b>Dredge#</b>	<b>Time</b>	<b>Start coordinates</b>	
1	10:00	57°01,34'N	11°35,73'E
2	10:10	57°00,99'N	11°35,18'E
3	10:22	57°00,63'N	11°34,86'E
4	10:33	57°00,35'N	11°34,75'E
5	10:45	57°00,20'N	11°35,10'E
6	11:09	57°01,63'N	11°32,62'E
7	11:16	57°01,87'N	11°32,16'E
8	12:35	57°02,91'N	11°33,97'E
9	12:50	57°01,86'N	11°34,59'E
10	13:06	57°02,05'N	11°34,26'E
11	13:30	57°03,73'N	11°35,45'E
12	15:17	57°09,77'N	11°21,76'E
13	15:32	57°10,17'N	11°20,70'E

**19.06.2019 (Station 2):**

<b>Dredge#</b>	<b>Time</b>	<b>Start coordinates</b>	
1	14:20	56°25,06'N	11°25,22'E
2	14:40	56°24,71'N	11°24,67'E
3	14:50	56°24,50'N	11°24,34'E
4	15:10	56°23,89'N	11°23,63'E
5	15:37	56°24,09'N	11°20,63'E
6	15:48	56°24,22'N	11°19,08'E

**20.06.2019 (Station 2):**

<b>Dredge#</b>	<b>Time</b>	<b>Start coordinates</b>	
1	08:59	56°24,15'N	11°19,53'E
2	09:11	56°24,35'N	11°20,30'E
3	09:26	56°24,42'N	11°21,25'E
4	09:45	56°24,44'N	11°21,74'E
5	09:57	56°24,36'N	11°20,81'E
6	10:05	56°24,31'N	11°20,20'E
7	10:13	56°24,15'N	11°19,80'E
8	10:20	56°23,96'N	11°19,84'E
9	10:30	56°24,15'N	11°20,53'E
10	11:05	56°21,53'N	11°21,20'E
11	11:15	56°21,30'N	11°21,30'E
12	12:24	56°15,08'N	11°12,75'E
13	12:36	56°14,64'N	11°12,14'E
14	13:20	56°08,60'N	11°09,40'E
15	13:36	56°08,50'N	11°09,50'E
16	14:00	56°08,25'N	11°09,31'E
17	14:23	56°08,29'N	11°08,82'E
18	14:40	56°08,98'N	11°09,13'E

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19	14:58	56°08,42'N	11°09,63'E
20	16:00	56°07,63'N	10°55,35'E
21	16:06	56°07,43'N	10°54,90'E
22	16:16	56°07,20'N	10°54,40'E
23	16:40	56°07,08'N	10°51,07'E
24	16:48	56°07,70'N	10°51,03'E
25	16:57	56°07,36'N	10°50,82'E
26	17:05	56°07,04'N	10°50,68'E
27	17:17	56°06,69'N	10°50,77'E

**Station list:**

<b>Station 1</b>	57°00,050'N, 011°34,886'E
<b>Station 2</b>	56°22,469'N, 011°17,447'E