

Cruise Report

Compiled by: Gregor Steffen, gsteffen@geomar.de

F.K. Littorina

Cruise No.: L05-21

Dates of Cruise: 14.6. – 18.6.2021

Areas of Research: Public relations and aquarium west shore

Port Calls: Grena/ DK (15.6. – 17.6.2021)

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 XX 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. Station list

2. Research program

The aim of this cruise of the research vessel “Littorina” from June 14th to 18th 2021 was the sampling of living marine organisms for the public relations division (GEOMAR) and the institutes own aquarium.

Marine invertebrates and vertebrates were collected with dredges at different stations and depth in the Kattegat to complete scientific collections in the Kiel aquarium.

Additional depth water sampling was maintained for rearing the organisms on the vessel.

3. Narrative of cruise with technical details

14.6.21	08:30	Departure of RV “Littorina” from Kiel harbor
15.6.21	01:00	Mooring at port of Grena (DK)
	07:00	Departing port of Grena (DK)
	08:45	Arrival at the 1th station Sampling of depth water from 30m of depth Salinity was 29,7 and Temperature at 7,8 °C
	09:25	First dredge at 24m of depth (Dive point: 56°24.41N, 11°22.90E)
	14:50	Finished first station after 18 dredge towings
	17:00	Mooring at port of Grena (DK)
16.6.21	05:45	Departing port of Grena (DK)
	10:05	Arriving at the 2nd station First dredge at 17m of depth (Dive point: 56°59.23N, 11°34.95E)
	12:45	Finished second station after 08 dredge towings
	13:00	Heading towards Grena (DK)
	18:00	Mooring at port of Grena (DK)
17.6.21	07:00	Departing port of Grena (DK)
	08:50	Arrival at the 3th station Sampling of depth water from 30m of depth Salinity was 29,3 and Temperature at 7,5 °C
	09:55	First dredge at 20 m of depth (Dive point: 56°13.56N, 10°56.11E)
	14:50	Finished 3rd station after 20 dredge towings
	15:00	Heading towards Kiel.
18.6.21	07:00	Arrival of RV “Littorina” at Kiel port

4. Scientific report and first results

During your 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. We supported the Kiel Aquarium and also the Multimar Wattforum in Tönning with living organisms from this cruise.

To gain as many different species as possible we also dredged in various depths between 17 to 28m where the factor “light intensity” plays also a big role in benthic community composition.

5. Scientific equipment: moorings and instruments

- **Dredge**
- **Depthwater pump**
- **Salinity probe**

6. Acknowledgements

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

7. Appendices

- A. Station list

Station list “1. dredge towing starting point”:

Station 1	56°24.41N 11°22.90E
Station 2	56°59.23N 11°34.95E
Station 3	56°13.56N 10°56.11E