

Cruise 682. ‚SOLEA‘
Report
30.11. – 18.12.2013

Scientist in charge: Kay Panten

1. Summary

The purpose of this trip was again the qualitative and quantitative recording of the demersal fish fauna in the German Exclusive Economic Zone (EEZ) of the North Sea. In conjunction with the results of investigations of the benthic invertebrate fauna of other research institutes possible changes due to increasing industrialization (wind farms, sand and gravel extraction) are to be detected. The entire EEZ was divided into different ecological zones and covered with a fixed station network. Since the investigation began in 2004, an annual exchange between the beam trawl and bottom trawl maintained. This year the investigations were therefore carried out again with the beam trawl.

A total of 46 fish species and 69 invertebrate species were detected in the 54 carried out hauls with the beam trawl. The fish were dominated by species dab, plaice, pogge and lemon sole. The catch of invertebrates consisted mainly of starfish, swimming crabs and whelks.

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Objectives

1. Monitoring of the demersal fish fauna in the German EEZ
2. Distribution of temperature and salinity in the area of investigation

Narrative (Fig. 1)

The port of Cuxhaven was left on 30.11. around 12:00 clock. The research began the same day in the Elbe estuary. The following days the stations were fished around Helgoland and East Friesian coast line in variable winds before a storm forced four days stay in Cuxhaven. The following storm gap allowed the sampling in the so-called "Entenschnabel" and north of the traffic route Terschelling - German Bay. The next storm was awaited at the port of Esbjerg. After returning to the study area three hauls were carried out in strong winds. Due to poor weather prospects, the trip was finished in the morning of 18.12. in Cuxhaven.

Results (Fig. 2 – 10)

A total of 54 15 minutes and valid hauls were made using the beam trawl. At 54 stations salinity and temperature were measured.

The species composition distribution showed the usual geographic pattern with dab as the most frequent fish, followed by plaice, pogge and Lemon sole. Cod and whiting were present only in small amounts and quantities. More southern species such as anchovy were not represented. The catch of invertebrates consisted mainly of starfish, swimming crabs and whelks.

Participants:

Name	Institution
Kay Panten	TI-SF
Kristina Gall	TI-SF
Thomas Kehlert	TI-SF
Florian Krau	TI-SF
Christine Petersen-Frey	TI-SF
Noemi Silva-Schwarzberg	TI-SF
Thilo Weddehage	TI-SF



Dipl.-Biol. K. Panten

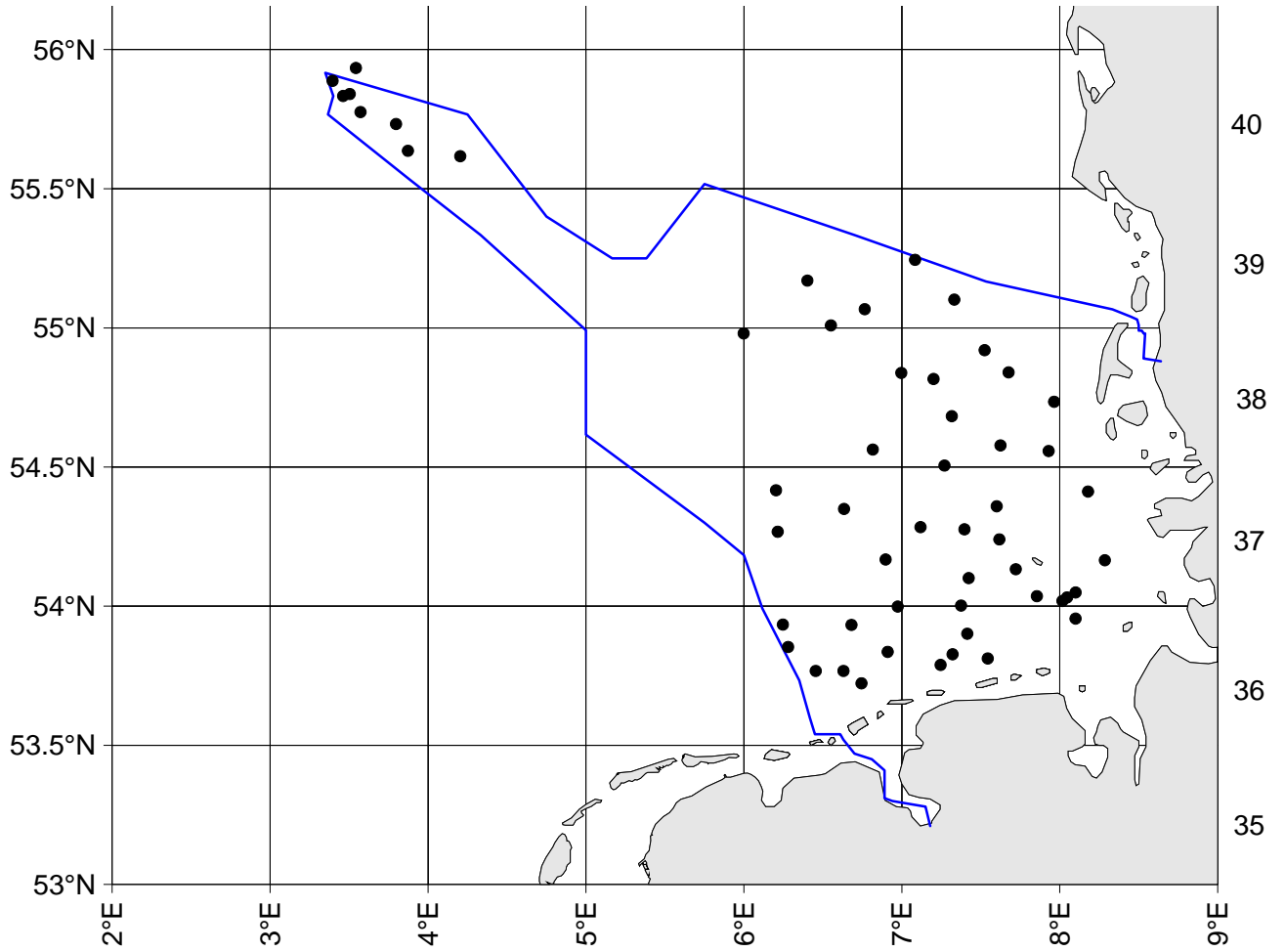


Fig. 1: "Solea", Cruise no. 682 , Haul positions and area of investigation

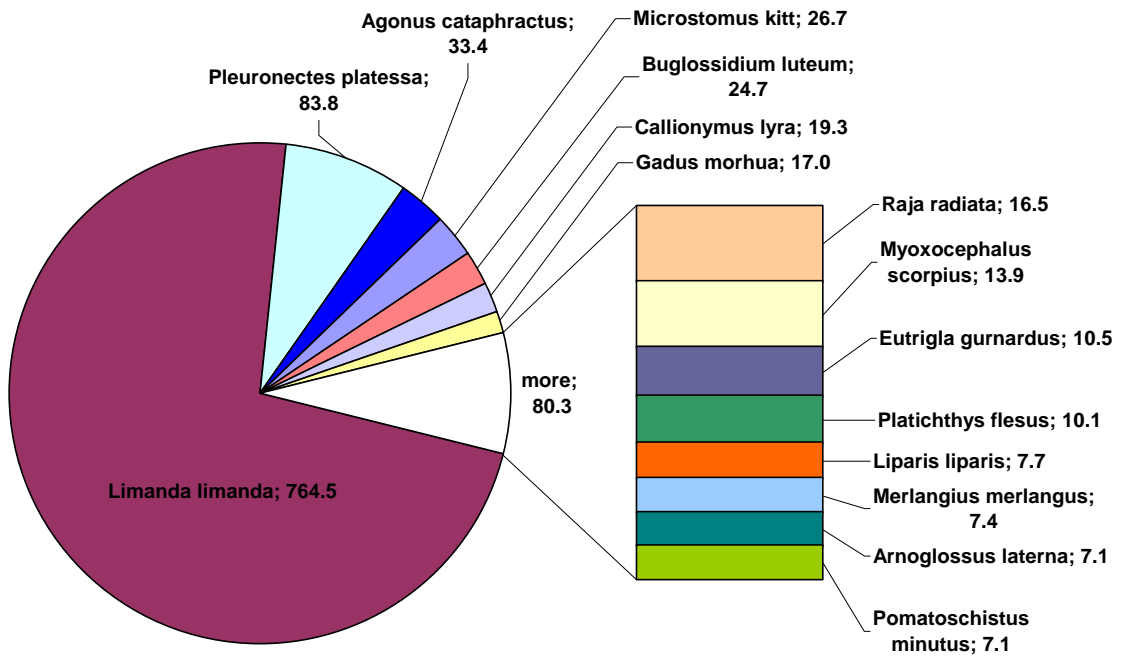


Fig. 2: Catch composition with the 15 most fish species caught in kg

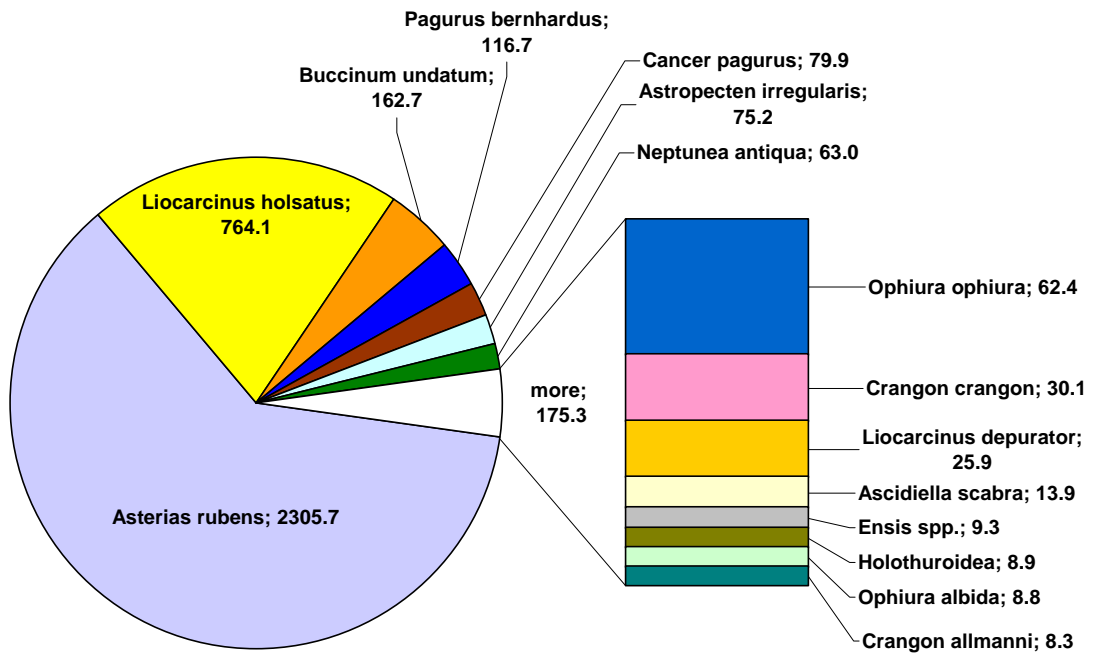


Fig. 3: Catch composition with the 15 most invertebrates caught in kg

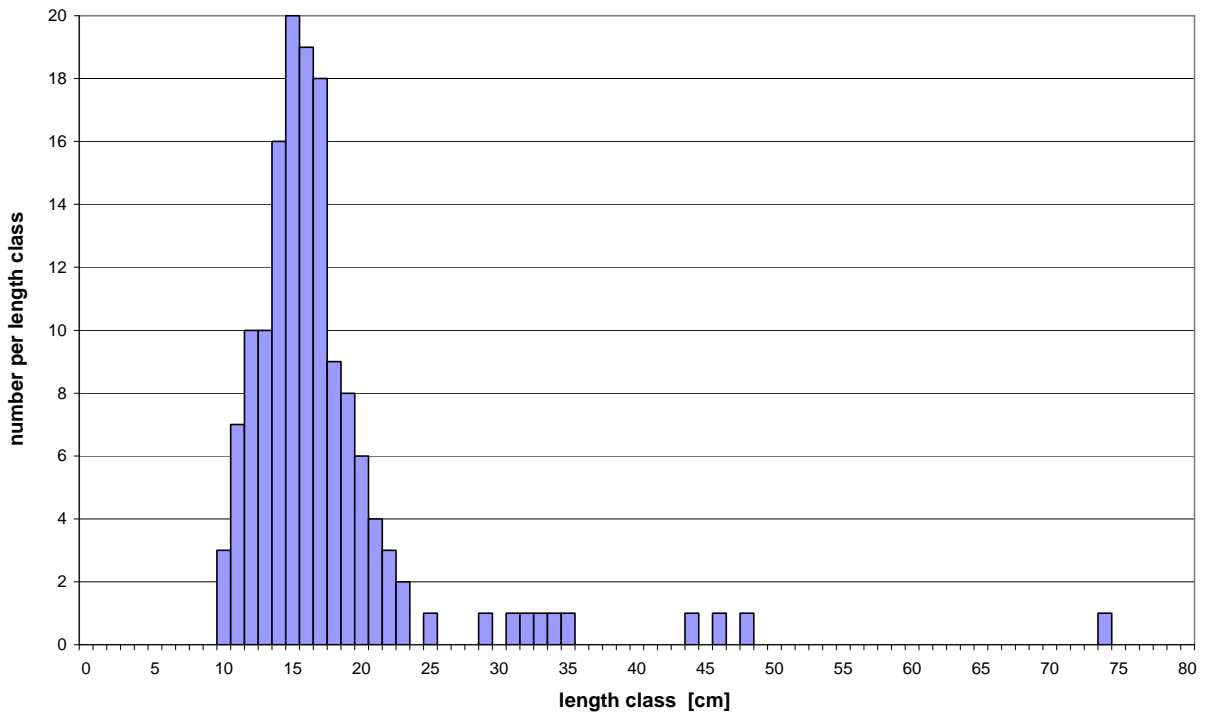


Fig. 4: Length distribution of cod (*Gadus morhua*)

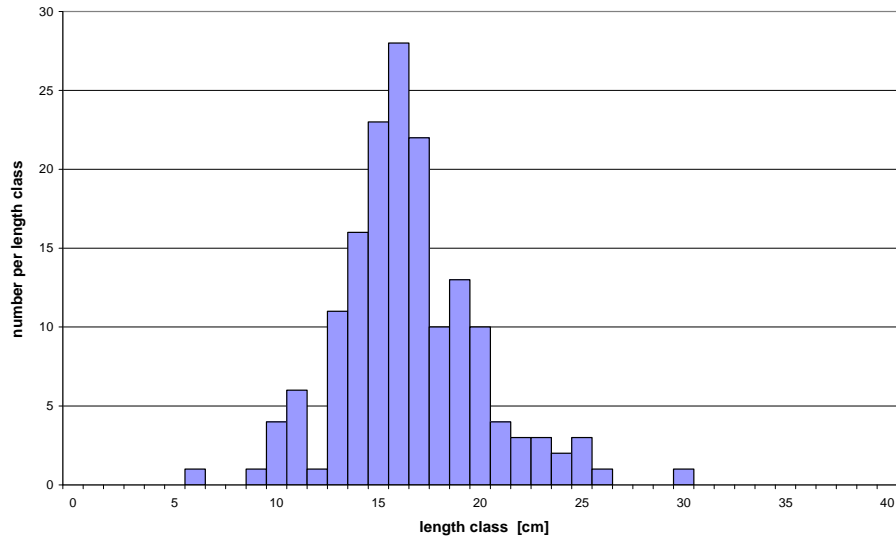


Fig. 5: Length distribution of whiting (*Merlangius merlangus*)

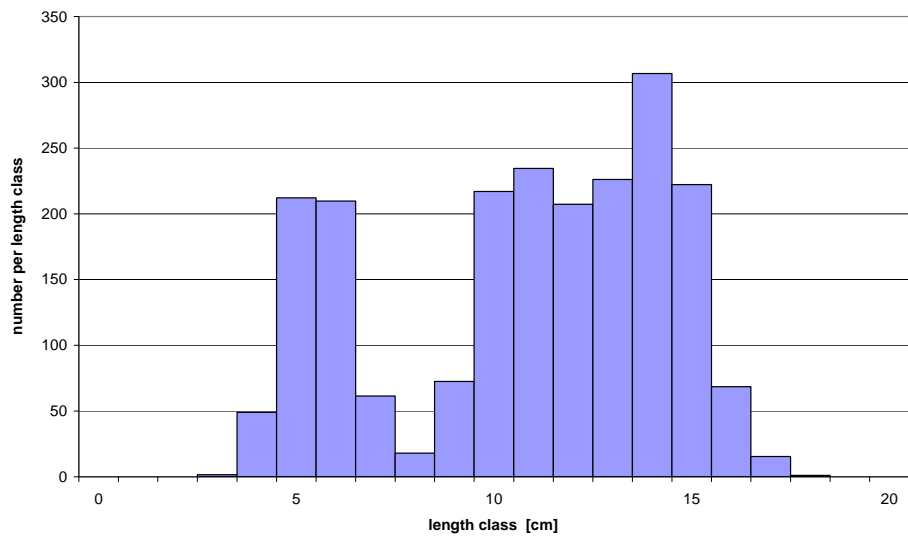


Fig. 6: Length distribution of pogge (*Agonus cataphactus*)

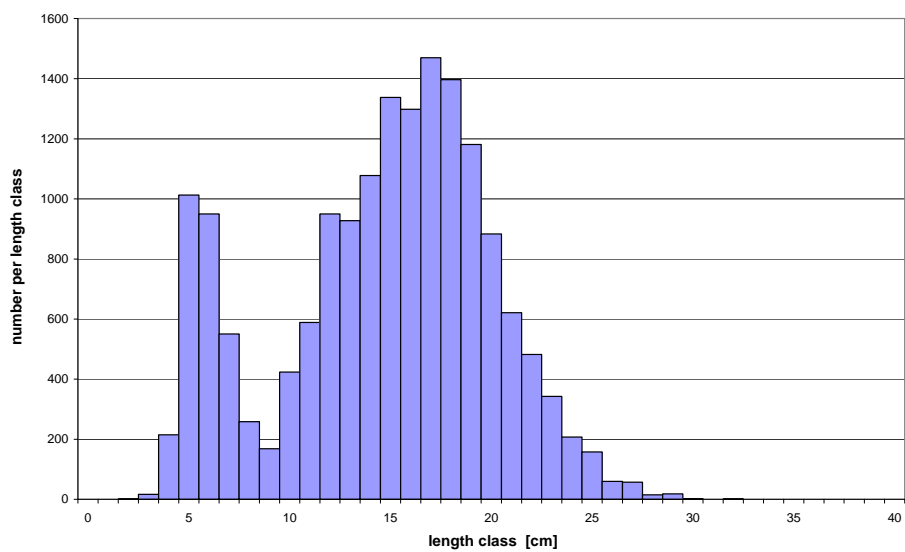


Fig. 7: Length distribution of dab (*Limanda limanda*)

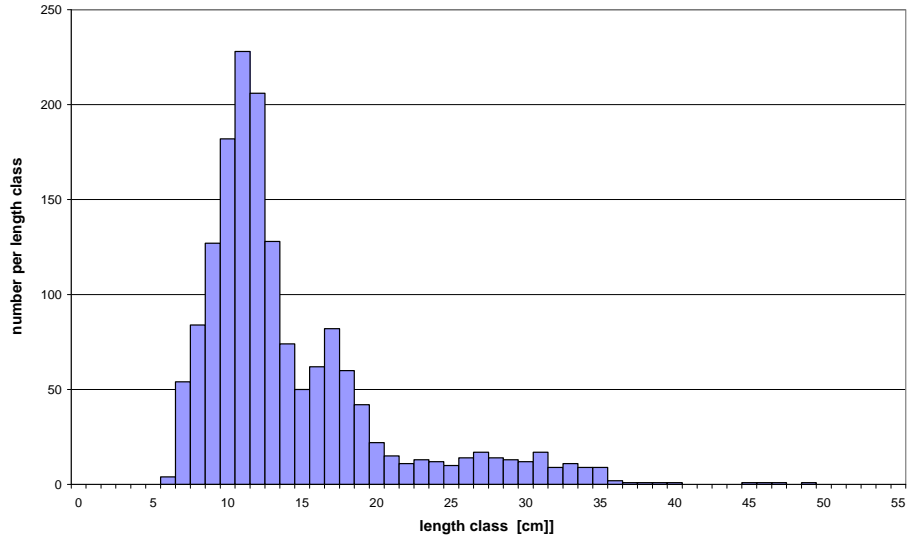


Fig. 8: Length distribution of plaice (*Pleuronectes platessa*)

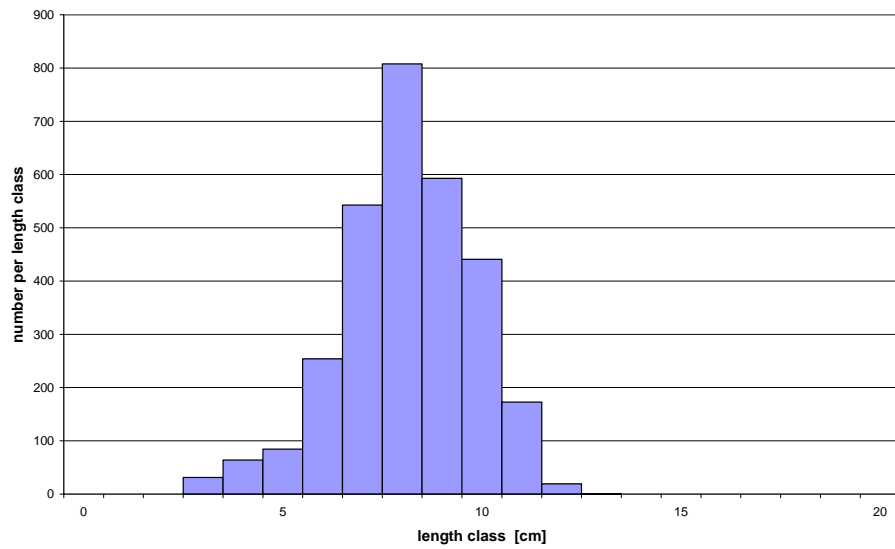


Fig. 9: Length distribution of solenette (*Buglossidium luteum*)

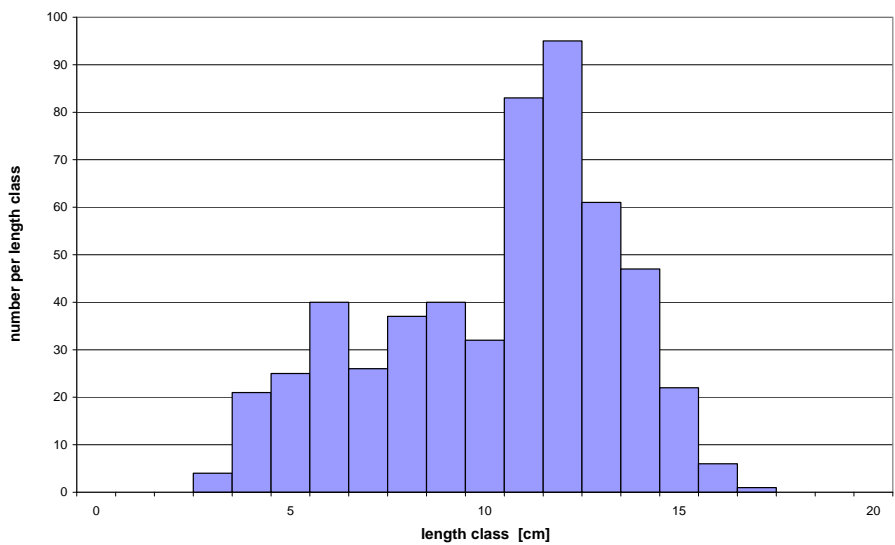


Fig. 10: Length distribution of scaldfish (*Arnoglossus laterna*)