



**INSTITUTIONEN FÖR MARINA VETENSKAPER
TJÄRNÖ MARINA LABORATORIUM**

Fiskeridirektoratet

Toktrapport 06.11.2019, 01.01.2020–31.12.2020, Jnr. 19/15881

Cruise summary report RV Nereus 2020

Ship: RV Nereus, Call sign: SKTD
Type of ship: Research vessel

Cruise: 06.11.2019, 01.01.2020–31.12.2020, Jnr. 19/15881

Operating authority:
Tjärnö Marine Laboratory, Tjärnö, University of Gothenburg, Sweden

Owner: University of Gothenburg, Sweden

Name of master: Carl-Henrik Gustavsson

Scientist in charge: Ann Larsson

Principal investigators:
Ann Larsson (AL)
Susanna Strömberg (SS)
Nina Luckas (NL)
Laurence De Clippele (LDC)

Cruise dates and activities at the Tisler reef:

Date	PI	Latitude	Longitude	Depth (m)	Fieldwork
2020-01-10	SS	58°59.648	10°58.174	92	Coral sampling*
2020-01-22	SS	58°59.755	10°58.054	116	Coral sampling*
2020-01-29	LDC	58°59.682	10°58.241	120	Deployment of sound trap
2020-02-07	NL	58°59.820	10°57.661	116	Deployment ADCP
2020-02-14	NL	58°59.737	10°58.096	123	Deployment ADCP
2020-02-28	NL	58°59.821	10°57.612	119	Deployment ADCP
2020-05-15	NL	58°59.900	10°57.649	Ca 110	Deployment settling panels

2020-06-15	NL				Wind conditions did not allow safe anchoring, mission aborted
2020-06-16	NL	58°59.821	10°57.612	119	Retrieval of ADCP's deployed in February
2020-09-29	AL	58°59.849	10°58.088	137	Deployment of 2 ADCP's and settling panels
2020-10-12	LDC	58°59.682	10°58.241	120	Retrieval of sound trap
2020-11-10	SS	58°59.676	10°58.166	117	Coral sampling*
2020-11-11	SS	58°59.824	10°57.579	122	Coral sampling*
2020-12-16	NL				Wind conditions did not allow safe anchoring, mission aborted
2020-12-18	NL	58°59.849	10°58.088	137	Retrieval of ADCP's deployed 200929

* All necessary permits were in place: the Ytre Hvaler National Park Board 2019/48047-2 432.3; Miljødirektoratet, CITES export permits 19NO-0029-EX, 20NO-0016-EX; and the Swedish Board of Agriculture, CITES import permits Dnr: 4.10.18-14123/2020

Aim of the cruise

Corals and data from the cruise activities are used in the following projects:

LIFE Lophelia, Method development for cold-water coral reef habitat restoration with implementation in Kosterfjord-Väderöfjord, Sweden. 2019–2025, PI Ann Larsson.

Biophysical modelling of *Lophelia pertusa* larval dispersal in the Skagerrak. PhD-project 2018–2022, Vilhelm Fagerström.

iAtlantic, Integrated Assessment of Atlantic Marine Ecosystems in Space and Time. H2020 project 2019–2024, PI Ann Larsson.

EcoPulse. Internal waves, development and enhancement of biological production at coral reefs. 2020–2023, PI Johannes Röhrs, Meteorological Institute in Oslo.

Assemble + project on underwater sounds at coral reefs. 2020, PI Laurence De Clippele, University of Edinburgh.

The collected corals were used for studies of reproduction, embryo and larval development, larval behaviour and larval settlement during different experimental conditions in the laboratory. These studies are made both within the LIFE Lophelia and iAtlantic projects. Data from the current measurement are not yet analysed and compiled but will be used in the LIFE Lophelia, EcoPulse and Biophysical modelling projects. The settling panels are deployed within the LIFE Lophelia project and will be retrieved during 2021 and 2022 to assess the effects of material and surface structure on the recruitment of marine invertebrates, especially corals. Parts of data from the sound trap deployment are already published, see below. We aim to publish all data and results from larval studies in peer-reviewed scientific articles.

Tjärnö 2021-06-30
Ann Larsson

Publication

De Clippele LH, Risch D (2021) Measuring Sound at a Cold-Water Coral Reef to Assess the Impact of COVID-19 on Noise Pollution. *Front. Mar.Sci.*8:674702.
doi:10.3389/fmars.2021.674702