



**INSTITUTIONEN FÖR MARINA VETENSKAPER  
TJÄRNÖ MARINA LABORATORIUM**

Fiskeridirektoratet

**Toktrapport 27.11.2020, 01.01.2021-31.12.2021, Jnr. 20/18952**

Cruise summary report RV Nereus 2021

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

Cruise: 27.11.2020, 01.01.2021-31.12.2021, Jnr. 20/18952

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)

Cruise dates and activities at the Tisler reef:

Date	PI	Latitude	Longitude	Depth (m)	Fieldwork
2021-04-12	NL	58°59.724	10°58.112	110-135	Deployment of two ADCPs and one rack with settling panels.
2021-04-13	NL	58°59.737	10°58.053	123	Deployment of two racks with settling panels. Video transect.

2021-05-26	AL	-	-	-	Retrieval of ADCPs aborted due to unfavorable winds.
2021-05-28	NL	-	-	-	Retrieval of ADCPs aborted due to unfavorable winds.
2021-06-02	NL	58°49.600	11°05.039	103-131	Retrieval of ADCP and video transect.
2021-06-04	NL	58°59.796	10°57.679	118	Retrieval of ADCP.
2021-08-31	SS	58°59.728	10°58.081	116-132	Retrieval of settling panels from 2020-09-29.
2021-12-10	SS	-	-	-	Coral sampling aborted due to strong bottom currents.
2021-12-14	SS	58°59.829	10°57.602	105-119	Coral sampling*. Collected 10 samples (identified only females upon return to lab).

\* All necessary permits were in place: the Ytre Hvaler National Park Board 2019/48047-2 432.3; Miljødirektoratet, CITES export permit 21NO-0017-EX; and the Swedish Board of Agriculture, CITES import permit Dnr: 4.10.18-16283/2021

#### 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.

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. We aim to publish all data and results from larval studies in peer-reviewed scientific articles. For example is a study of temperature dependent embryo and larval development being prepared for publication during autumn 2022. Data from the current measurements are together with measurements from 2020 currently being analyzed and prepared for publication within the LIFE Lophelia, EcoPulse and Biophysical modelling projects. Settling panels from 2020 were retrieved in august 2021 and the effects of material and surface structure on the recruitment of marine invertebrates were analyzed by a Bachelor student from GU. One set of the panels

deployed during 2021 will be retrieved and studied this autumn (2022), the remaining set during autumn 2023.

Tjärnö 2022-09-15  
Ann Larsson