

Polymorphism trends in North Atlantic bryozoans

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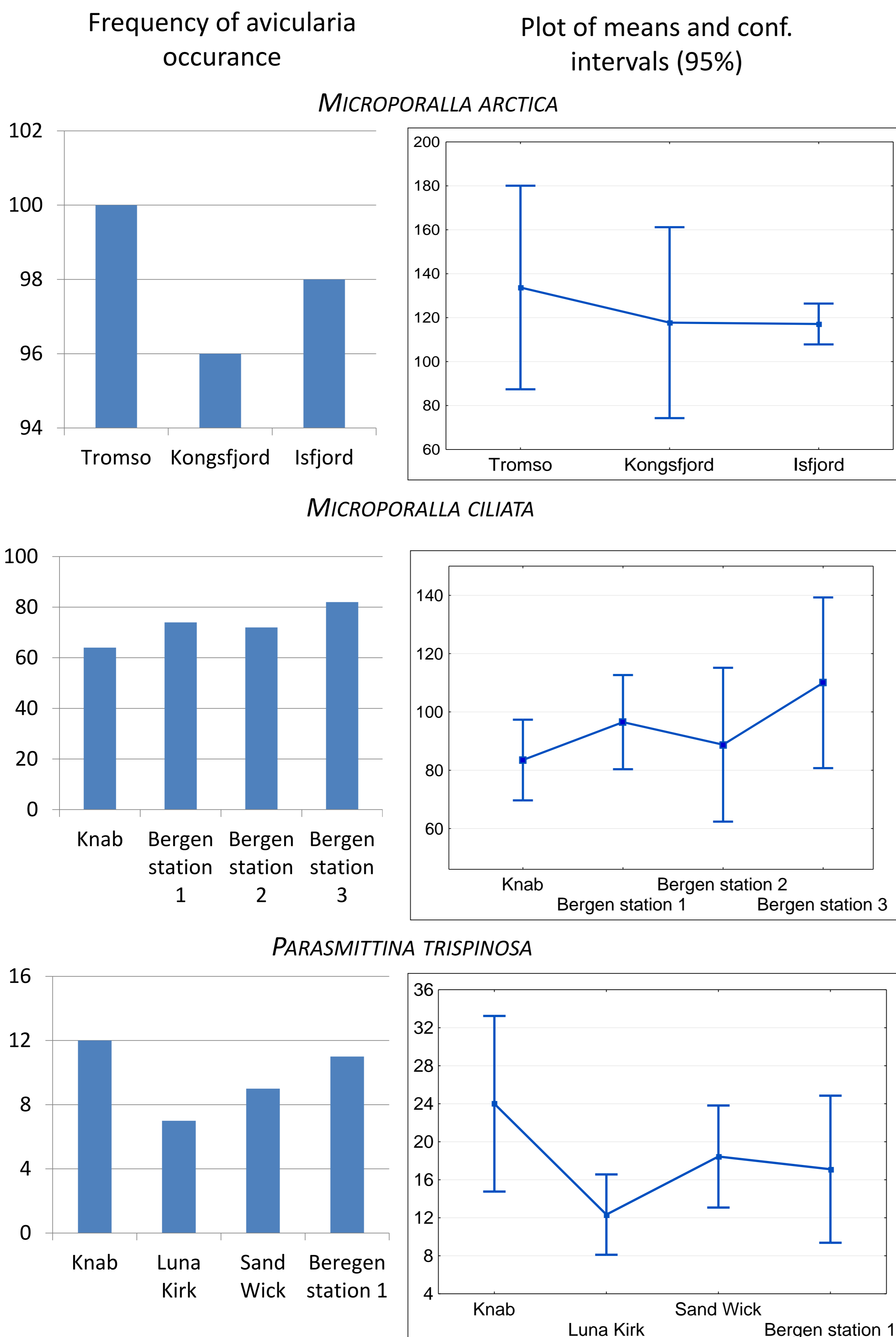
INTRODUCTION

Avicularia are non-feeding zooids which characterise the cheilostomate Bryozoans and are suggested to have a defense or cleaning function. Knowledge about complexity of colonies and environmental conditions controlling it is still very poor. It is suggested that dynamics of the environment play a role in shaping polymorphism patterns. Polar region is recognized by some researchers as an environment with less stable conditions than lower latitudes. It is hypothesised that Polar bryozoan communities have higher proportion of species lacking avicularia in comparison to lower latitudes. However these thesis have never been supported by the quantitative analysis.

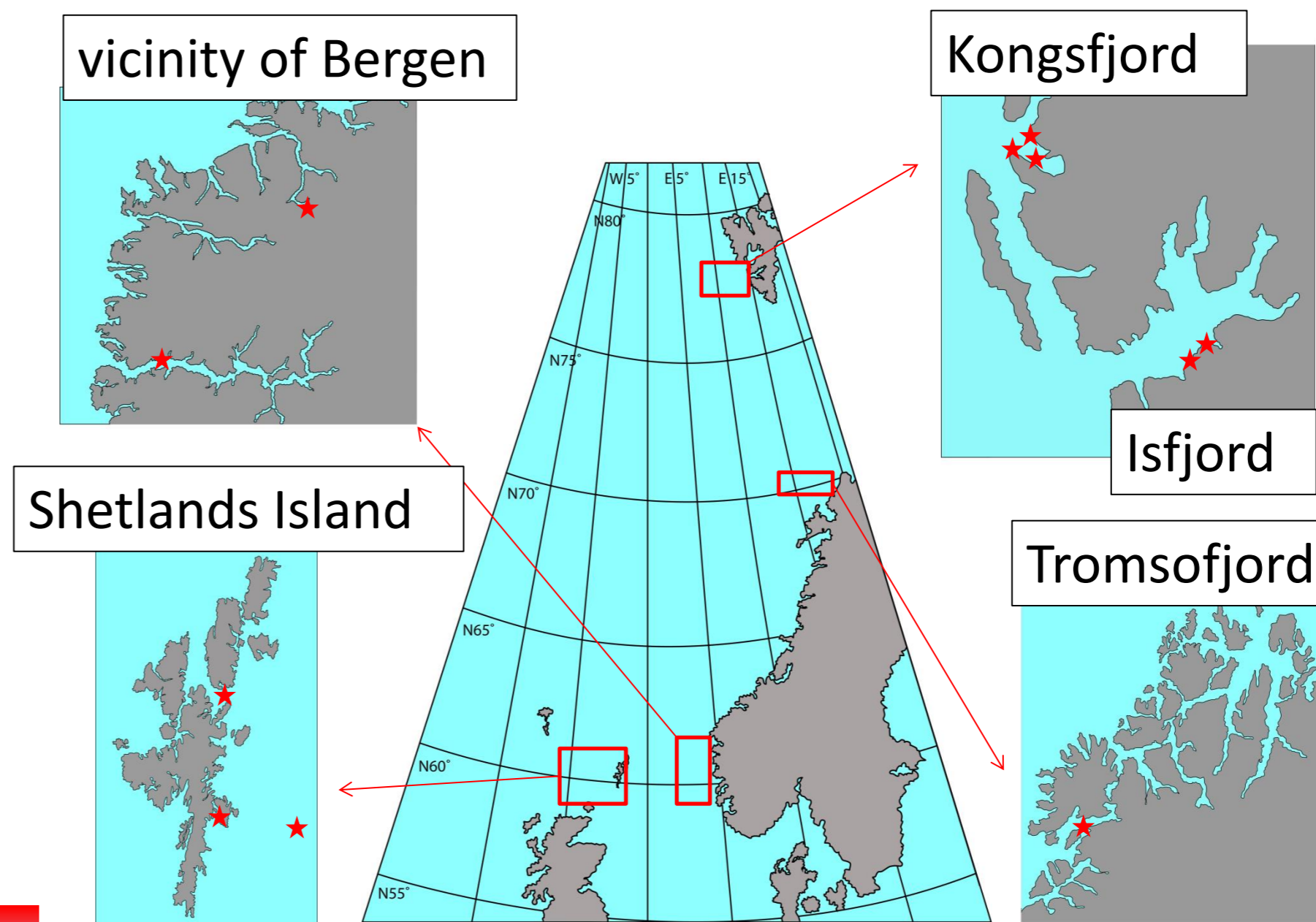
AIM OF THE STUDY

The aim of our study was to explore trends in numbers of avicularia in bryozoan colonies occurring in temperate, subarctic and arctic region, based on quantitative analysis. Both physical (e.g. temperature) and biological (the number of predators and competitors) settings change along latitudinal gradients. We predict that these changes will induce the differences in number of polymorphic zooids.

RESULTS

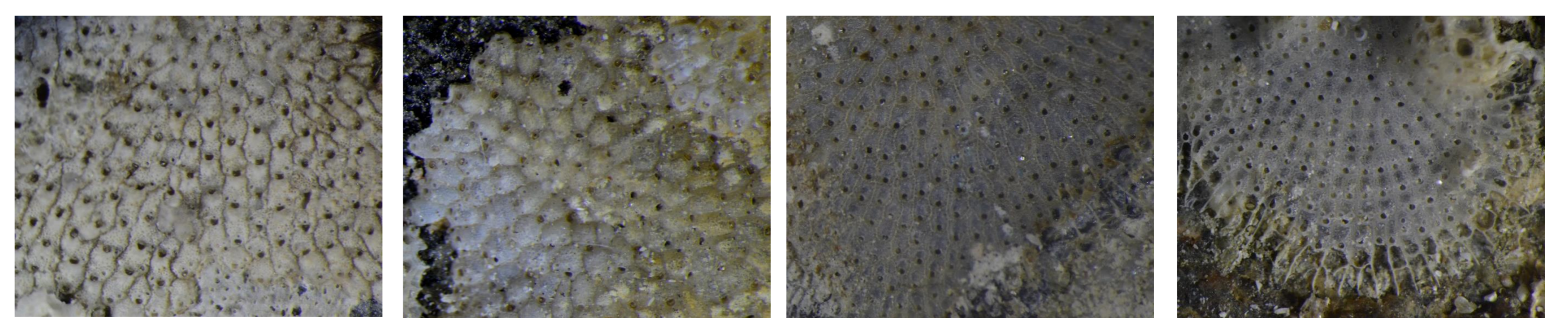


STUDY AREA



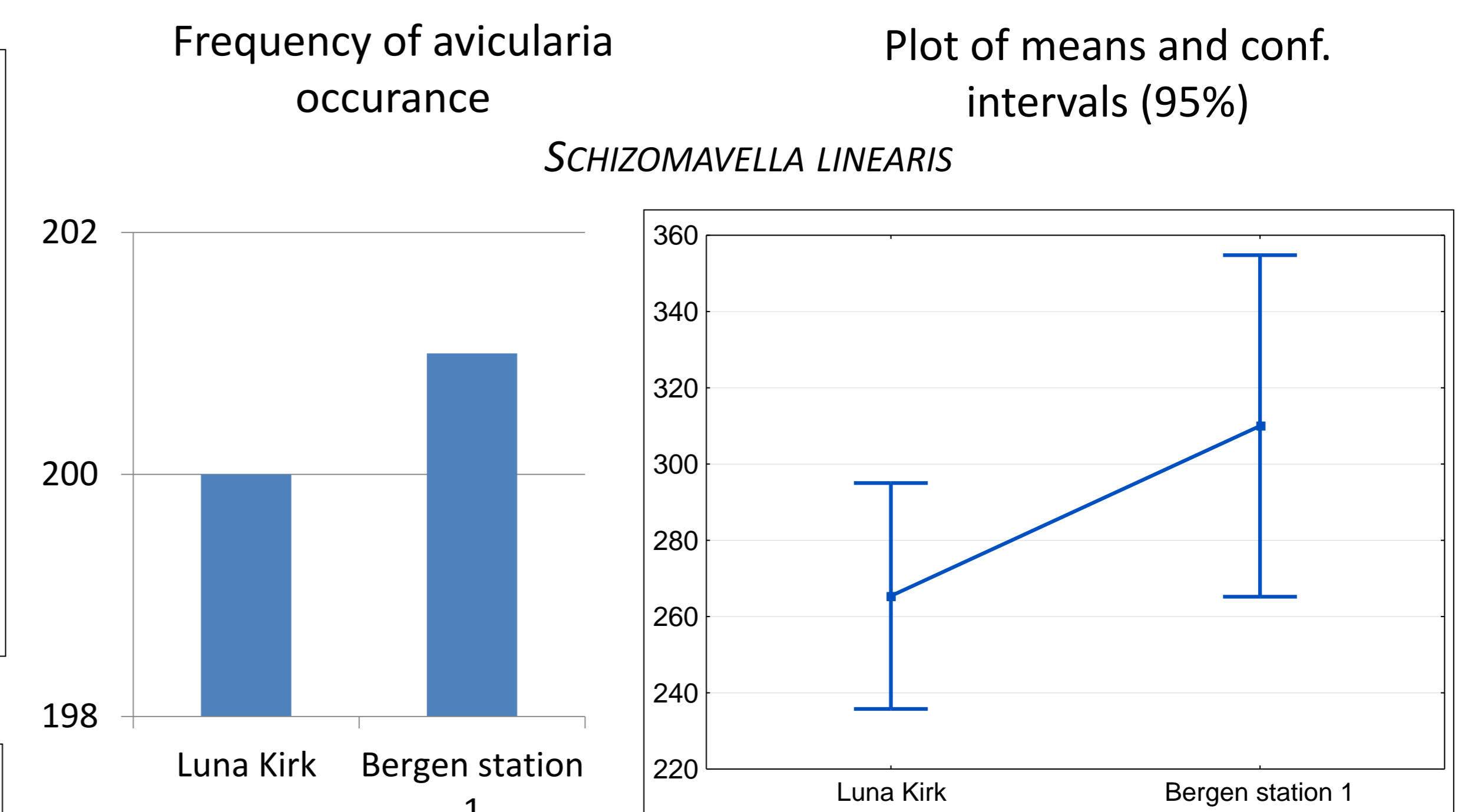
Bryozoa for the study were collected from 6m depth using Scuba diving. Material was gathered from eleven stations in total, located in wide range of latitudes (60-79 °N)

MATERIAL AND METHODS



<i>Microporella arctica</i>	<i>Microporella ciliata</i>	<i>Parasmittina trispinosa</i>	<i>Schizomavella linearis</i>
3 stations	4 stations	4 stations	2 stations
23 colonies	16 colonies	36 colonies	8 colonies
1 square per colony	1 square per colony	3 square per colony	1 square per colony

Four widespread and frequently occurring species were used for the investigation: *Microporella ciliata*, *Microporella arctica*, *Parasmittina trispinosa* and *Schizomavella linearis*. At the laboratory species were examined under the stereo- mikroskop. Colonies were randomly selected for photographic analysis. On the pictures of colony squares with 5mm side were drawn and within those quadrats quantitative counts of polymorphism was conducted. Depending on species and the size of the colony there were one to three squares per colonies. Avicularia and autozooids were counted.



CONCLUSION

- There are no statistically significant difference in number of avicularia in studied species between investigated localities
- Number of avicularia in *M. arctica* is relatively constant
- Number of avicularia slightly increase towards higher latitudes in *M. ciliata* and *S. linearis*
- *P. trispinosa* characterizes in intercolonial variety in number of polymorphic zooids