



## The Baltic Sea

The AlgAware report No 6 will be divided in PART 1 and PART 2 because the expedition in June is divided in two cruises. This report present phytoplankton analyses from the Baltic Sea.



## BCS III-10 Southeast Baltic 18<sup>th</sup>of June

The Aphanizomenon flos-aquae dominated southeast part of the Baltic and three species from the genus Dinophyceae was present *D. acuminata*, *D. norvegica* and *D. rotundata*. Species from the order Prymnesiales and small flagellates were numerous at this station. In the sample taken from the surface there was a dominance of the species *Nodularia spumigena*, *Aphanizomenon flos-aquae* and species from Prymnesiales.



Phytoplankton community in the South East Baltic from 0-10m (left) and from surface water (right).

## BY15 Eastern Gotland Basin 18<sup>th</sup> of June and BY38 Western Gotland Basin 19<sup>th</sup>of June

Gotland Basin was dominated by small colonyforming cyanobacteria and the filamentous *Aphanizomenon flos-aquae*. Dinophysis *acuminata* and *D. norvegica* were numerous and species from the order Prymnesiales and small flagellates were common. There was a chlorophyll fluorescence peak at 10 m depth in BY38. The phytoplankton community at this depth was dominated by unidentified species from the order Prymnesiales.



Eastern Baltic basin and Western Gotland basin was dominated by colony forming cyanobacteria and possibly one species from the genus Pterosperma (lower right corner)

## Ref M1V1 Kalmar Sound 19<sup>th</sup> of June

It was a very low cell density in Kalmar Sound and the phytoplankton community consisted mainly of picocyanobacteria and cryptomonads. *Dinophysis acuminata* and *D. norvegica* were present in low numbers and there were also small amounts of *Aphanizomenon flos-aquae.* 

Selection of charmed analise		BY15	RV29. Kerleädi	Def M4 V4
Selection of observed species	2012 06 19		2012 06 10	2012 06 10
	2013-00-18	2013-00-18	2013-00-19	2013-00-19
		Cells/I	Cells/I	Cells/I
	present		propont	
	present	propert	present	procent
Dinophysis acuminata	present	present	present	present
Dinophysis norvegica	present	present		present
Dinophysis rotundata	present	present		
Gymnodiniales	present	common		
Heterocapsa rotundata			common	
Katodinium glaucum		present		
Peridiniella danica			present	
Prorocentrum minimum	present			
Oocystis spp	present	common		
Planctonema lauterbornii	present	common	common	
Pterosperma spp			88500	
Pyramimonas spp	common			common
Ebria tripartita		present		
Cryptomonadales	common	common	common	common
Plagioselmis spp				common
<i>Teleaulax</i> spp	present			
Dinobryon faculiferum	common	common	common	
Anabaena spp			present	
Aphanizomenon flos-aquae	very common	common	very common	present
Aphanocapsa spp	present	common	present	
Aphanothece paralleliformis	present			
Aphanothece spp	common	very common	present	
Cyanobacteria spp				very common
Cyanodictyon spp	present	common	present	
Nodularia spumigena	present			
Snowella spp		common	present	
Woronichinia spp		very common	common	
Prymnesiales	common	very common	very common	very common
Ciliophora	present	present	-	-
Mesodinium rubrum	present	present		
Flagellates		common	very common	
Unicell	common	common	very common	

Art / Species	Gift / Toxin	Eventuella symptom	Clinical symptoms
Alexandrium spp.	Paralytic shellfish poisoning (PSP)	Milda symptom: Inom 30 min.: Stickningar eller en känsla av bedövning runt läpparna, som sprids gradvis till ansiktet och nacken; stickningar i fingertoppar och tår; Huvudvärk; yrsel, illamående, kräkningar, diarré Extrema symptom: Muskelförlamning; andningssvårigheter; känsla av att kvävas; Man kan vara död inom 2-24 timmar efter att ha fått i sig giftet, på grund av att andningsmuskulaturen förlamas.	Mild case: Within 30 min: tingling sensation or numbness around lips, gradually spreading to face and neck; prickly sensation in fingertips and toes; headake, dizziness, nausea, vomiting, diarrhoea. Extreme case Muscular paralysis; pronounced respiratory difficulty; choking sensation; death trough respiratory paralysis may occur within 2-24 hours after ingestion.
Dinophysis spp.	Diarrehetic shellfish poisoning (DSP)	Milda symptom: Efter cirka 30 minuter till några timmar: yrsel, illamående, kräkningar, diarré, magont Extrema symptom: Upprepad exponering kan orsaka cancer	Mild case: Within 30 min-a few hours: dizziness, nausea, vomiting, diarrhoea, abdominal pain. Extreme case: Repeated exposure may cause cancer.
Pseudo- niztschia spp.	Amnesic shellfish poisoning (ASP)	Milda symptom: Efter 3-5 timmar: yrsel, illamående, kräkningar, diarré, magkramper Extrema symptom: Yrsel, hallucinationationer, förvirring, förlust av korttidsminnet, kramper	Mild case: Within 3-5 hours: dizziness, nausea, vomiting, diarrhoea, abdominal cramps. Extreme case: dizziness, hallucinations, confusion, loss of memory, cramps.
Chaetoceros concavicornis/ C.convolutus	Mechanical damage through hooks on setae	Låg celltäthet: Ingen påverkan. Hög celltäthet: Fiskens gälar skadas, fisken dör.	Low cell numbers: No effect on fish. High cell numbers: Fish death due to gill damage.
Pseudochattonella spp.	Fish toxin	Låg celltäthet: Ingen påverkan. Hög celltäthet: Fiskens gälar skadas, fisken dör.	Low cell numbers: No effect on fish. High cell numbers: Fish death due to gill damage.