

Sammanfattning

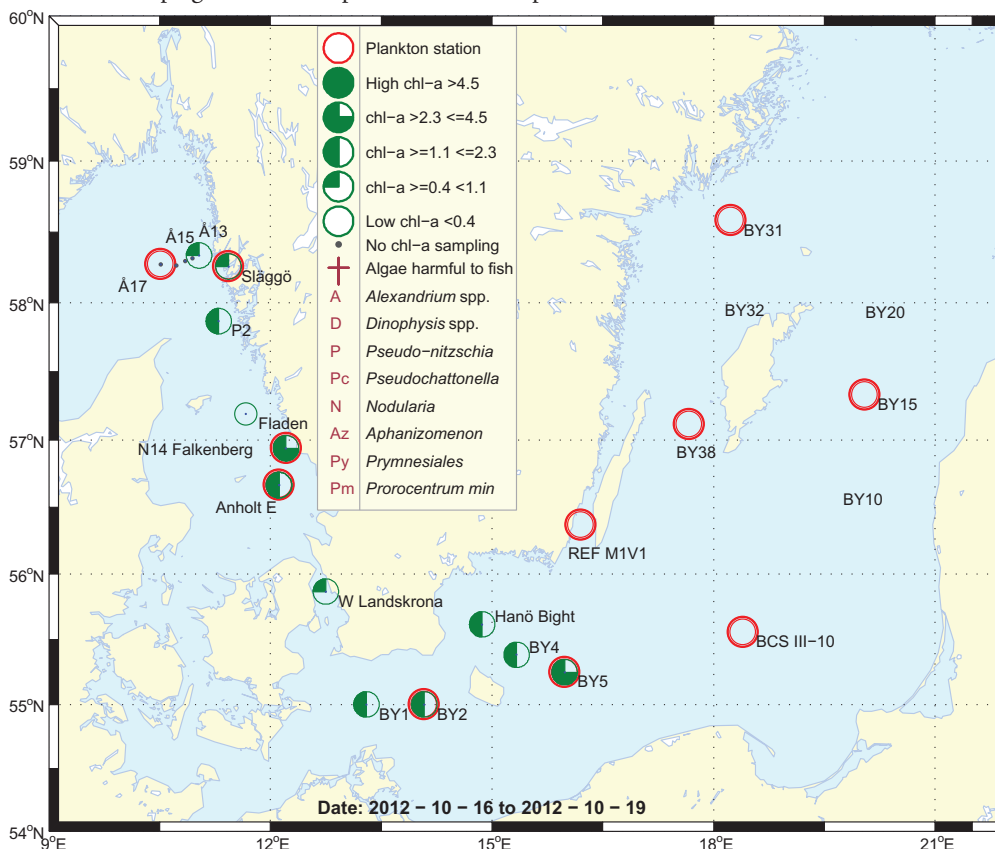
Precis som i september var Utsjöexpeditionen kortare än vanligt, detta på grund av ändrade förutsättningar i samarbetet med Kustbevakningen. Detta påverkade enbart Östersjö stationerna. I de yttre delarna av Skagerrak påverkades dock av svåra väderförhållanden, vilket medförde att man inte kunde ta alla prover vid Å17.

I Kattegatt och Skagerrak var cellantalet lågt men artdiversiteten var hög. Vid Anholt dominerade stora arter av dinoflagellater (båda besöken), främst *Ceratium fusus* och *Prorocentrum micans*. De övriga stationerna dominerades av kiselalger, bland annat *Cerataulina pelagica*, *Ditylum brightwellii*, *Dactyliosolen fragilissimus* och *Pseudo-nitzschia* spp.

I Östersjön var cellantalet mycket lågt vid både BY2 Arkonadjupet och BY5 Bornholmsdjupet. Båda stationerna dominerades av cryptomonader, *Mesodinium rubrum* samt arter från klassen Craspedophyceae.

De integrerade (0-20 m) klorofyll *a* värdena var lägre än normalt i de yttre delarna av Skagerrak och i stora delar av Kattegatt. Klorofyll *a* värdena i södra Östersjön var lägre än normalt vid Arkona djupet och något högre än normalt i Bornholms djupet.

Rapporten är en förkortad version på grund av brist på händelser i växtplanktonvärlden.



Abstract

A new agreement with the Swedish Coastguard caused a shorter cruise, consequently only the Swedish west coast and parts of the southern Baltic Proper (Arkona and Bornholm Basins) were visited. In addition, the weather situation in Skagerrak caused that Å17 was only partially sampled.

The species diversities were very high in the Kattegat and the Skagerrak but the cell counts were low. In the Skagerrak area most large species were represented by diatoms, eg. *Cerataulina pelagica*, *Ditylum brightwellii*, *Dactyliosolen fragilissimus* och *Pseudo-nitzschia* spp. The phytoplankton community at Anholt where on the contrary dominated by dinoflagellates mainly by *Ceratium fusus* and *Prorocentrum micans*.

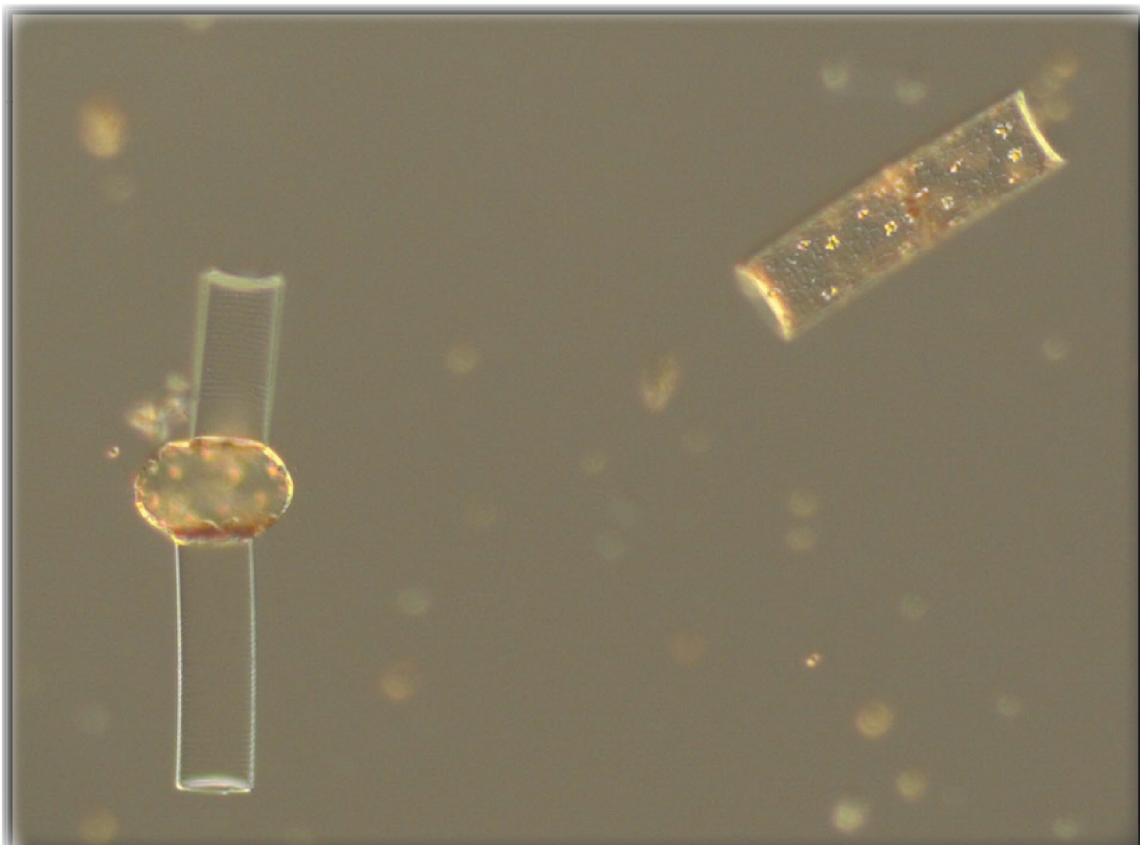
The southern Baltic, BY2 Arkona Deep and BY5 Bornholm Deep, where dominated by small cryptomonads, the ciliate *Mesodinium rubrum* and species from the class Craspedophyceae.

The integrated (0-20 m) chlorophyll *a* concentrations were lower than normal in most parts of the Skagerrak and the Kattegat. Chlorophyll *a* concentrations at the Arkona Deep were lower than normal and at the Bornholm Deep higher than normal.

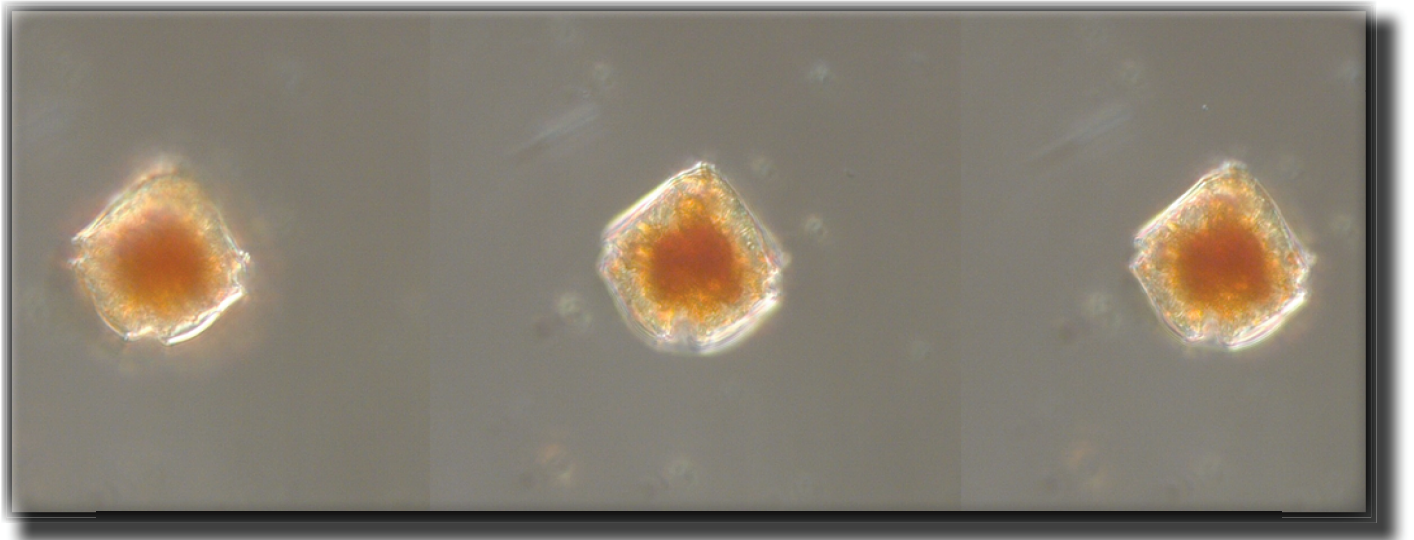
This report is a shortened version because of lack of events in the phytoplankton world.



Chaetoceros contortus, found at Anholt E the 19th of October.



Guinardia flaccida, cell to the right and cyst to the left. Cysts were common at Anholt E.

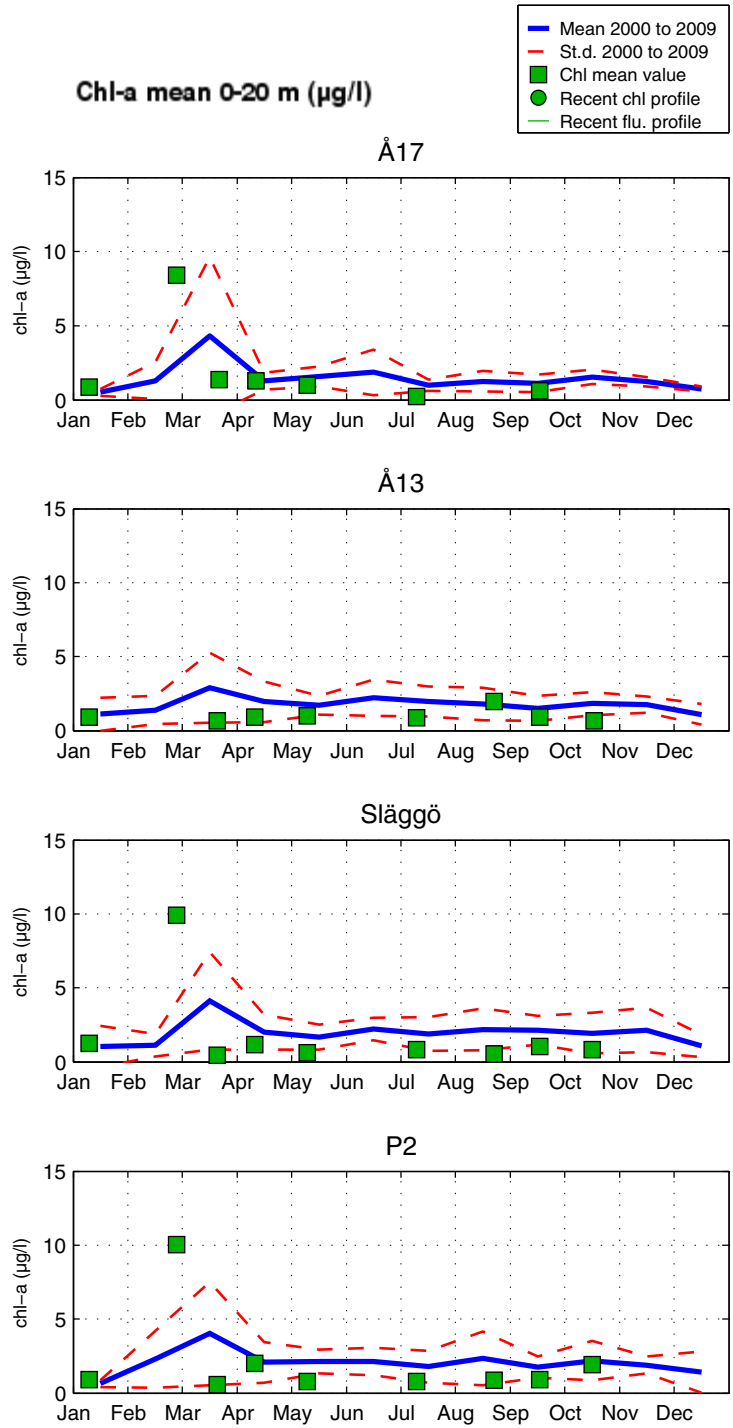
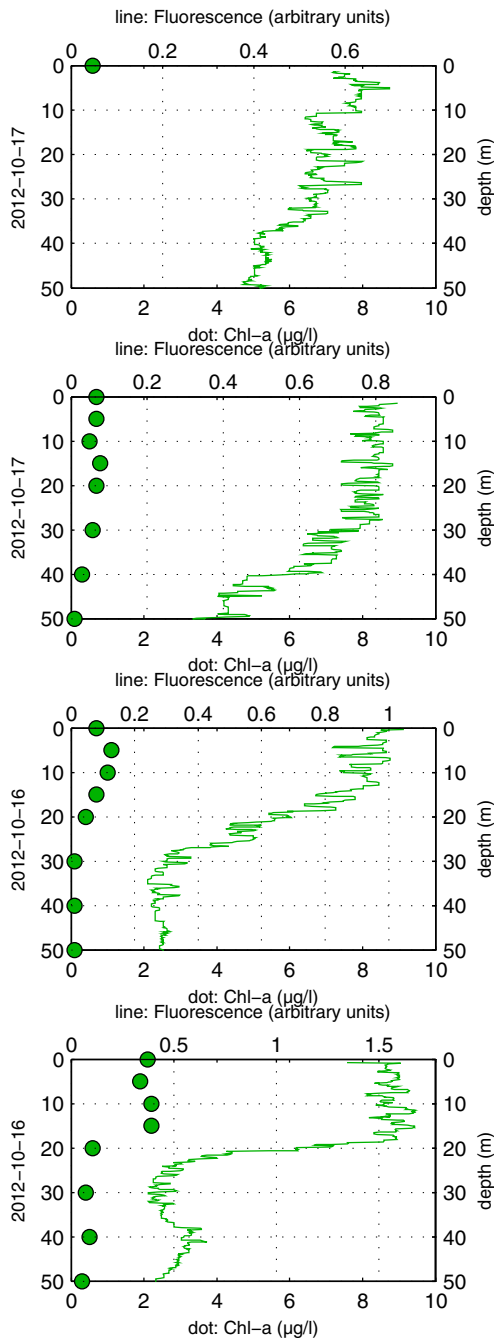


This species from the Peridinales group was found at the Bornholm Deep the 17th of October.
Any suggestions what species this might be?

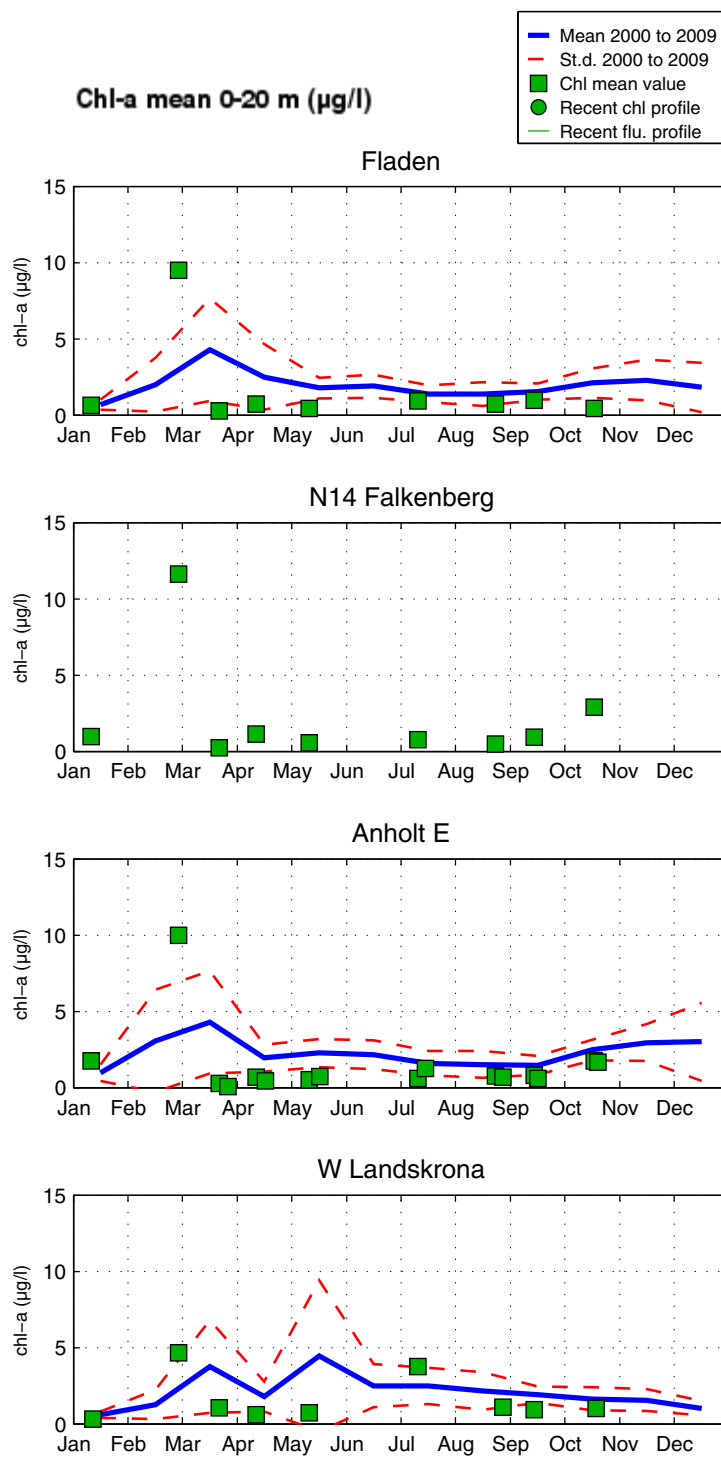
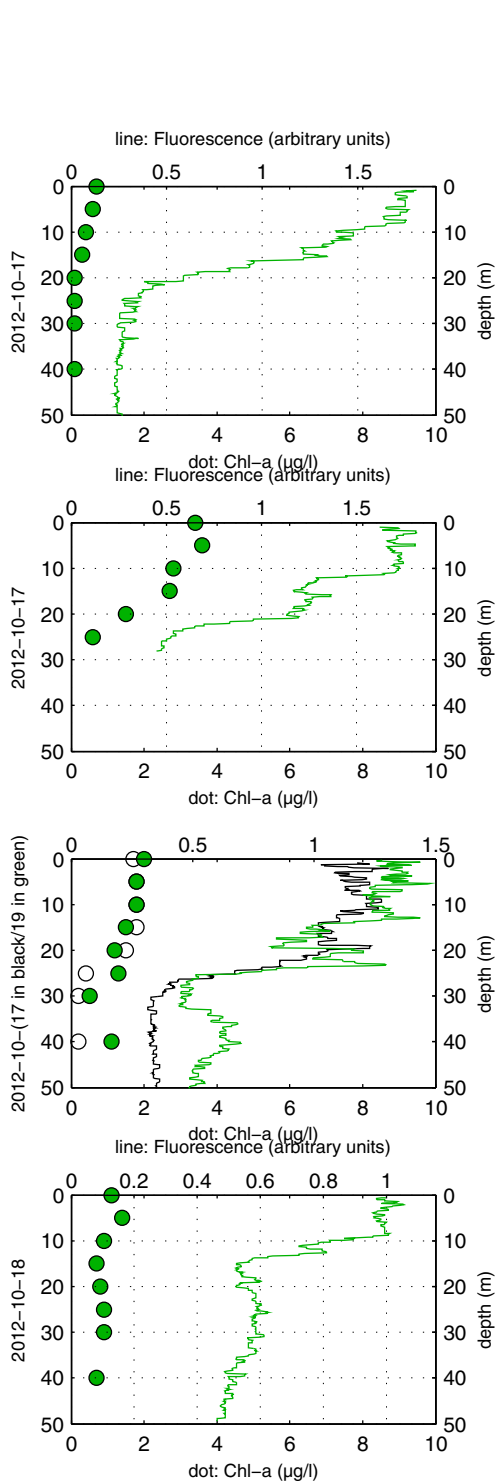
Selection of observed species	Släggö	N14	Anholt E	Anholt E
Red=potentially toxic species	16/10	16/10	17/10	17/10
Hose 0-10 m	Cells/l	Cells/l	Cells/l	Cells/l
<i>Attheya septentrionalis</i>		present		
Centrales	present			
<i>Cerataulina pelagica</i>	present	very common	common	common
<i>Chaetoceros affinis</i>		present		
<i>Chaetoceros constrictus</i>			present	present
<i>Chaetoceros contortus</i>		present		present
<i>Chaetoceros danicus</i>	present	present	present	present
<i>Chaetoceros debilis</i>		present		
<i>Chaetoceros decipiens</i>		common		
<i>Chaetoceros diadema</i>	present			
<i>Chaetoceros didymus</i> v. <i>didymus</i>		common		
<i>Chaetoceros socialis</i> f. <i>radians</i>	present			
<i>Chaetoceros</i> spp.	common	present	common	
<i>Coscinodiscus</i> spp.			present	
<i>Dactyliosolen fragilissimus</i>	present	very common	common	common
<i>Ditylum brightwellii</i>	present	present	present	present
<i>Guinardia flaccida</i>	present	present	present	present
<i>Nitzschia longissima</i>		present	present	present
<i>Proboscia alata</i>	present		present	present
<i>Pseudo-nitzschia</i> spp.	present	common	present	
<i>Pseudosolenia calcar-avis</i>		present	present	present
<i>Rhizosolenia pungens</i>		present	present	present
<i>Rhizosolenia setigera</i>	present		present	present
<i>Skeletonema marinoi</i>	present	common	present	common
<i>Thalassionema nitzschioides</i>	present	present	present	present
<i>Thalassiosira eccentrica</i>			present	present
<i>Thalassiosira punctigera</i>	present			
<i>Ceratium furca</i>	present	present	present	
<i>Ceratium fusus</i>	present	present	present	present
<i>Ceratium lineatum</i>	present	present	present	present
<i>Ceratium longipes</i>	present			
<i>Ceratium macroceros</i>	present			present
<i>Ceratium tripos</i>	present	present	present	present
<i>Dinophysis acuminata</i>	present	present	present	present
<i>Dinophysis norvegica</i>		present	present	present
<i>Dinophysis rotundata</i>				present
Gymnodiniales	present	present	present	present
<i>Karlodinium micrum</i>	present		present	
<i>Katodinium glaucum</i>	present	common	present	present
Peridinales	present	present	present	present
<i>Prorocentrum micans</i>	present	present	present	present
<i>Protoperidinium conicum</i>			present	
<i>Protoperidinium divergens</i>	present	present	present	present
<i>Protoperidinium</i> spp.			present	present
<i>Dictyocha fibula</i>			present	present
<i>Dictyocha speculum</i>	present	common	present	present
Cryptomonadales	common	very common	common	common
<i>Katablepharis remigera</i>		common		
<i>Teleaulax</i> spp.	present	common	present	present
<i>Calliakantha natans</i>	present	common		
Craspedophyceae		common		
<i>Ebria tripartita</i>			present	present
Ciliophora	present	present	present	present
<i>Tiarina fusus</i>		present		

Selection of observed species	BY2 Arkona	BY5 Bornholmsdj
Red=potentially toxic species	18/10	19/10
Hose 0-10 m	Cells/l	Cells/l
<i>Actinocyclus octonarius</i>		present
<i>Attheya septentrionalis</i>	common	
Centrales	present	present
<i>Chaetoceros impressus</i>	present	present
<i>Coscinodiscus centralis</i>	present	present
Pennales	present	
<i>Thalassiosira nordenskiöldii</i>	present	present
<i>cf. Cladopyxis setifera</i>	present	
<i>Dinophysis acuminata</i>	present	
<i>Ebria tripartita</i>	present	present
Gymnodiniales	present	common
<i>Heterocapsa</i> spp.	common	
<i>Katodinium glaucum</i>	present	present
Peridinales	present	
<i>Peridiniella danica</i>		present
<i>Prorocentrum minimum</i>	present	present
<i>Eutreptiella gymnastica</i>	present	
<i>Pyramimonas</i> spp.	very common	very common
Cryptomonadales	very common	very common
<i>Katablepharis remigera</i>	common	
<i>Teleaulax</i> spp.	very common	very common
<i>Aphanizomenon flos-aquae</i>	present	
<i>Cyanobacteria colonyspp.</i>	present	
<i>Calliacantha natans</i>	very common	very common
<i>Craspedophyceae</i> spp.	very common	very common
<i>Ciliophora</i>	present	present
<i>Mesodinium rubrum</i>	present	present

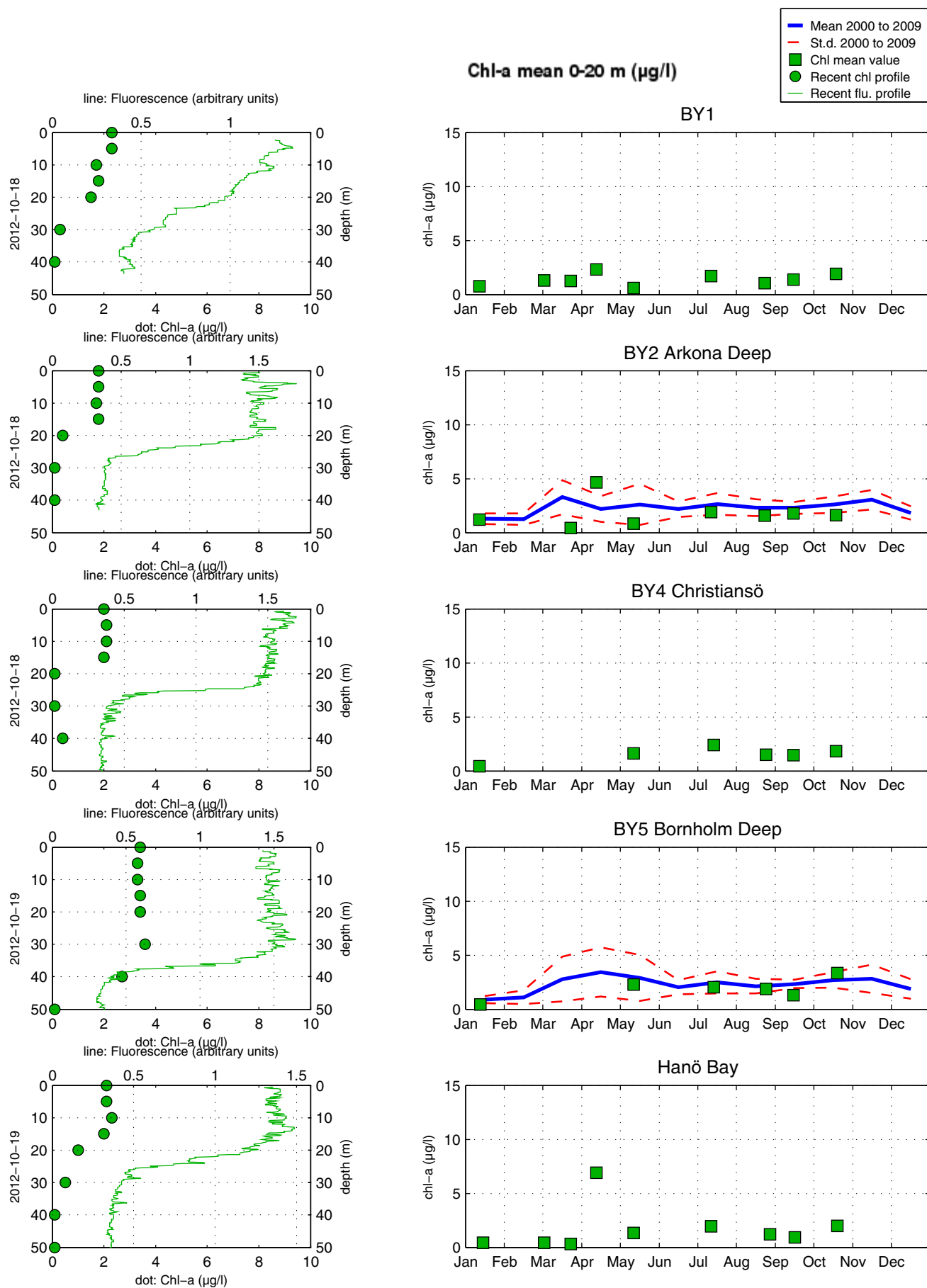
The Skagerrak



The Kattegat and the Sound



The Southern Baltic



Om klorofylldiagrammen

Klorofyll *a* är ett mått på mängden växtplankton. Prover tas från ett antal djup. Data presenteras både från de fasta djupen och som medelvärden 0-20 m. Utöver resultaten från laboratorieanalyserna av vattenprover mäts klorofyll *a* som fluorescens från ett automatiskt instrument som sänks ned från fartyget. På så sätt kan djupt liggande, ibland, tunna lager av växtplankton observeras.

About the chlorophyll graphs

Chlorophyll *a* is sampled from several depths. Data is presented both from the discrete depths and as an average 0-20 m. In addition to the laboratory analysis from the water samples chlorophyll fluorescence is measured in continuous depth profiles from the ship. This is a way to observe thin layers of phytoplankton occurring below the surface.

Om AlgAware

SMHI genomför ca en gång per månad expeditioner i Östersjön och Västerhavet. Resultat baserade på semikvantitativ mikroskopanalys av planktonprover samt klorofyllmätningar presenteras kortfattat i denna rapport. Information från SMHI:s satellitövervakning av algbloomningar finns på www.smhi.se.

About AlgAware

The SMHI carries out monthly cruises in the Baltic and the Kattegat/Skagerrak. Results from semi quantitative microscopic analysis of phytoplankton samples as well as chlorophyll measurements are presented in brief in this report. Information from SMHI:s satellite monitoring of algal blooms is found on www.smhi.se.

Art / Species	Gift / Toxin	Eventuella symptom	Clinical symptoms
<i>Alexandrium</i> 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; headache, dizziness, nausea, vomiting, diarrhoea. Extreme case Muscular paralysis; pronounced respiratory difficulty; choking sensation; death through respiratory paralysis may occur within 2-24 hours after ingestion.
<i>Dinophysis</i> spp.	Diarrhetic 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.
<i>Pseudo-nitzschia</i> spp.	Amnesic shellfish poisoning (ASP)	Milda symptom: Efter 3-5 timmar: yrsel, illamående, kräkningar, diarré, magkramp Extrema symptom: Yrsel, hallucinationer, 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.
<i>Chaetoceros concavicornis</i> / <i>C. convolutus</i>	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.
<i>Pseudochattonella</i> 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.

Översikt över några potentiellt skadliga alger och det aktuella giftets effekt. Overview of potentially harmful algae and effects of toxins. Manual on harmful marine microalgae (2003 - UNESCO Publishing).

Kartan på framsidan visar viktat medelvärde för klorofyll *a*, µg/l (0-20 m) vid de olika stationerna. Förekomst av skadliga alger vid stationer där arter analyseras markeras med symbol.

The map on the front page shows weighted mean of chlorophyll *a*, µg/l (0-20 m) at sampling stations. Presence of harmful algae at stations where species analysis is performed is shown with a symbol.

