SMHI

Oceanographic Unit

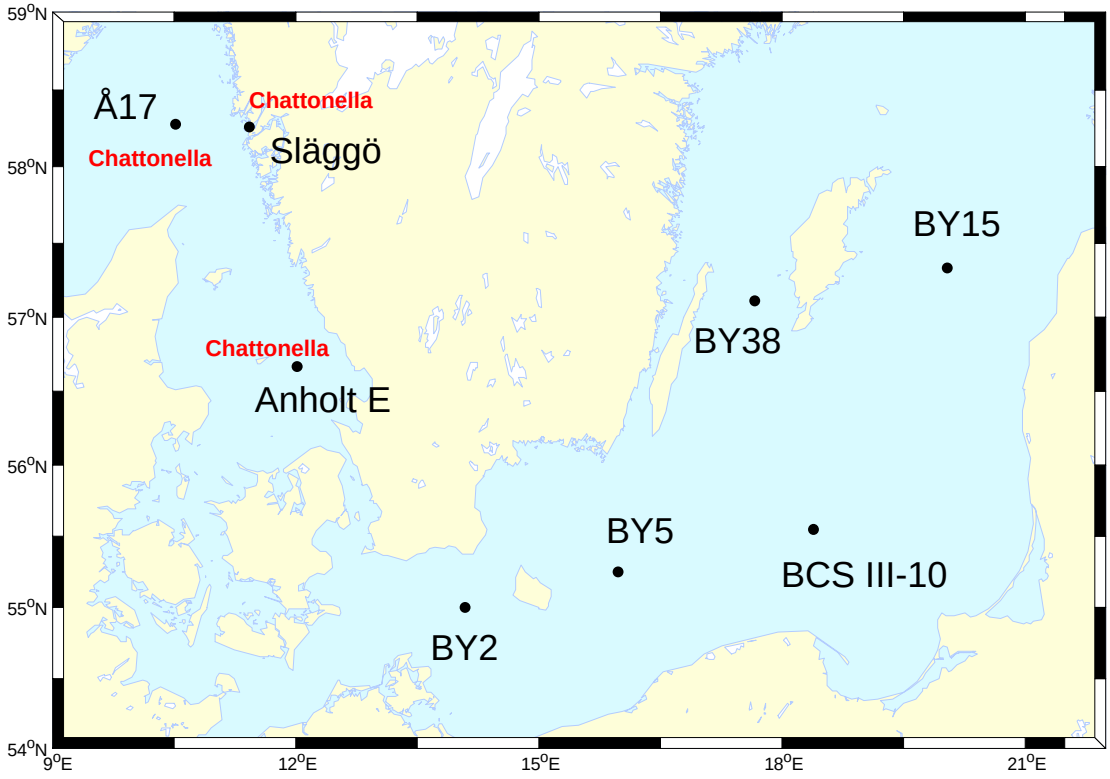
AlgAware

ALGAL SITUATION IN MARINE WATERS SURROUNDING SWEDEN

No 2, 27 February – 4 March 2006

I öppna **Skagerrak** pågick en mycket artrik vårblomning med *Thalassiosira nordenskioeldii* och *Skeletonema costatum* som dominanter. Den toxiska arten *Chattonella* cf. *verruculosa** förekom med ca 250 000celler per liter. I **Skagerraks** kustområde var vårblomningen dominerad av *Skeletonema costatum*, medan *Chattonella* cf. *verruculosa** förekom i mindre mängder. I **Kattegatt** var den kraftiga vårblomningen också dominerad av *Thalassiosira nordenskioeldii* och *Skeletonema costatum*. *Chattonella* cf. *verruculosa** förekom med mer än 2 miljoner celler per liter.

Planktonfloran var mycket fattig i **Östersjön**, och endast enstaka filament av *Aphanizomenon* sp. och några stora diatoméer påträffades i håvproven.



Eventuell giftighet/Potential toxicity |

Alexandrium spp. **- Paralytic shellfish poisoning (PSP)**

Dinophysis spp. **- Diarrhetic shellfish poisoning (DSP)**

Pseudo-nitzschia spp. **- Amnesic shellfish poisoning (ASP)**

Chattonella **- fishkills**

Nodularia **- hepatotoxin (e.g. toxic to the liver)**

Chrysochromulina **- Fishkills**

In the open **Skagerrak** the spring bloom, very rich in species, was well underway. *Thalassiosira nordenskioeldii* and *Skeletonema costatum* dominated. The toxic *Chattonella* cf. *verruculosa** was present with about 250 000 cells per liter. In the coastal **Skagerrak** the spring bloom was dominated by *Skeletonema costatum*. *Chattonella* cf. *verruculosa** had lower cell densities here. In the **Kattegat** the strong spring bloom was also dominated by *Thalassiosira nordenskioeldii* and *Skeletonema costatum*. *Chattonella* cf. *verruculosa** was present with more than 2 million cells per litre.

The plankton flora in the **Baltic** was very poor, and only a few filaments of the cyanobacterium *Aphanizomenon* sp. and a few large diatoms were found in the net samples.

DETAILS

Based on quantitative samples 0-10 m depth and net samples *POTENTIALLY HARMFUL SPECIES

SKAGERRAK

Å17 27 February

A strong spring bloom, rich in species, was going on. Among the 40 different diatom species *Thalassiosira nordenskioeldii* and *Skeletonema costatum* dominated. Dinoflagellates were few and only *Peridiniella danica* reached a considerable density. The toxic *Chattonella* cf. *verruculosa** was common with 250 000 cells/L.

Släggö 27 February

The situation at Släggö was similar to Å17, but the spring bloom was at a later stage. The diversity was lower with about 20 diatom species, dominated by *Skeletonema costatum*. Dinoflagellates were few and dominated by *Peridiniella danica*. *Chattonella* cf. *verruculosa** was present with 50 000 cells/L.

KATTEGAT

Anholt E 28 February

The spring bloom was considerable also at this station. More than 25 diatom species made up the major part of the plankton flora. *Skeletonema costatum* dominated with about half a million cells per litre. Also at this station *Peridiniella danica* was the dominant dinoflagellate. *Chattonella* cf. *verruculosa** was present with more than 2 million cells/L.

Chattonella cf. *verruculosa*

Selection of observed species	Recommended limit	Å17 2006-02-27 cells/L	Släggö 2006-02-27 cells/L	Anholt E 2006-02-28 cells/L
Attheya septentrionalis		present	present	
Chaetoceros danicus		present	present	common
Chaetoceros debilis		common	common	present
Chaetoceros diadema		common	present	present
Chaetoceros laciniosus		common	common	common
Chaetoceros similis		50 000	30 000	common
Chaetoceros socialis		present		
Chaetoceros wighamii		present		
Coscinodiscus concinnus		present	present	present
Cylindrotheca closterium		present	present	present
Detonula confervacea		present		
Guinardia delicatula		present	present	
Guinardia flaccida		present		present
Leptocylindrus danicus		present	present	common
Leptocylindrus minimus				very common
Navicula transitans		common	common	common
Proboscia alata		present	common	present
Pseudo-nitzschia delicatissima-group	1 million cells/L	present	present	present
Pseudo-nitzschia seriata-group	1 million cells/L	present	present	present
Rhizosolenia hebetata		common	common	common
Rhizosolenia setigera		present	present	common
Skeletonema costatum		310 000	910 000	600 000
Thalassionema nitzschioides		40 000	25 000	25 000
Thalassiosira angulata		common	present	present
Thalassiosira anguste-lineata		present	present	present
Thalassiosira nordenskioeldii		110 000	common	55 000
Thalassiosira punctigera		present		present
Thalassiosira rotula		present		
Alexandrium tamarense	300 cells/L		present	present
Ceratium furca		present		
Ceratium fusus			present	
Ceratium longipes		present		
Ceratium tripos		present	present	present
Dinophysis acuminata	900 cells/L	50		50
Dinophysis norvegica	2 000 cells/L	50	50	50
Dinophysis rotundata	900 cells/L			
Heterocapsa rotundata		present	present	common
Peridiniella danica		40 000	present	100 000
Protoperidinium bipes		present	present	
Protoperidinium depressum		present	present	present
Protoperidinium granii		present		present
Protoperidinium pallidum		present		
Protoperidinium pellucidum		common	present	present
Protoperidinium steinii		present		
Dictyocha speculum		present	present	present
Teleaulax spp.		present	present	75 000
Pyramimonas spp.		common		
Chrysochromulina spp.		common	present	common
Eutreptiella sp.		present	present	
Phaeocystis sp.		present		
Chattonella cf. verruculosa	**no recommendation**	**250 000**	**50 000**	**2 million**

BALTIC SEA

The plankton flora was very poor at all stations. Even the net hauls were close to empty.

Arkona basin BY2 1 March

A few filaments of *Aphanizomenon* sp. and a single chain of *Skeletonema costatum* were seen in the net sample.

Bornholm basin BY5 1 March

A few filaments of *Aphanizomenon* sp. and some *Chaetoceros danicus* and *C. impressus* were seen in the net sample.

South East Baltic BCS III-10 2 March

Some chains of *Skeletonema costatum* were seen in the net sample.

Eastern Gotland basin BY15 3 March

Although the amount of phytoplankton was very low, there were more species at this station than at the other in the Baltic. *Actinocyclus octonarius, Thalassiosira baltica, Peridiniella catenata* and *Aphanizomenon* sp. were all seen in the net sample.

Western Gotland basin BY38 4 March

Some *Actinocyclus octonarius* and a single *Dinophysis acuminata** were seen in the net sample.

Selection of observed species	BY2 2006-03-01 cells/L	BY5 2006-03-01 cells/L	BCS III 10 2006-03-02 cells/L	BY15 2006-03-03 cells/L	BY38 2006-03-04 cells/L
Actinocyclus octonarius				present	present
Chaetoceros danicus	present	present			
Chaetoceros impressus		present			present
Skeletonema costatum	present		present		
Thalassiosira baltica		present		present	
Dinophysis acuminata					present
Heterocapsa rotundata	present	present			
Peridiniella catenata				present	
Aphanizomenon sp.	present	present		present	

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 ro 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.
Chattonella 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.
Pseudo- nitzschia 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.

Manual on harmful marine microalgae (2003 - UNESCO Publishing)

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