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Lars Edler

ALGAL SITUATION IN SWEDISH MARINE WATERS

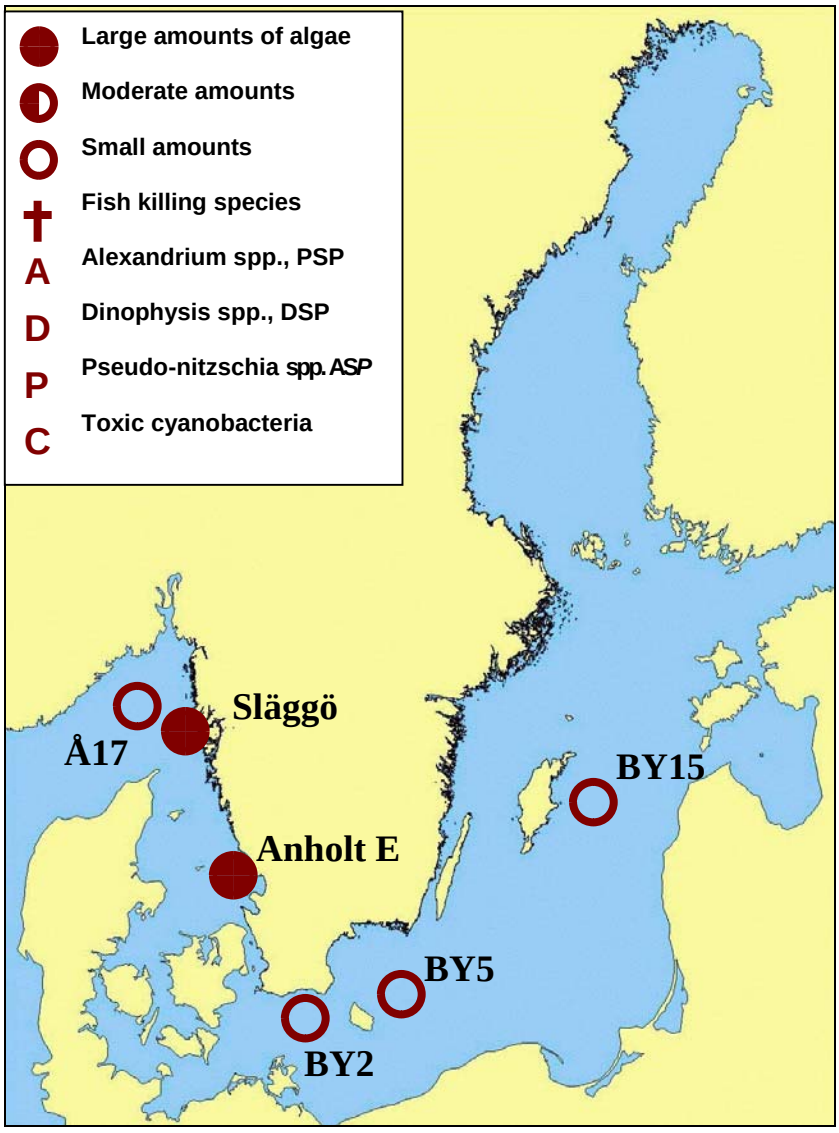
No 1,

2004 16 February – 10 March

OVERVIEW

In the Kattegat and coastal Skagerrak the spring bloom has developed. At the same time a bloom of the potentially toxic *Chattonella* sp. is developing in the whole area.

In the Baltic Sea the winter situation still prevails and only small amounts of phytoplankton are present.



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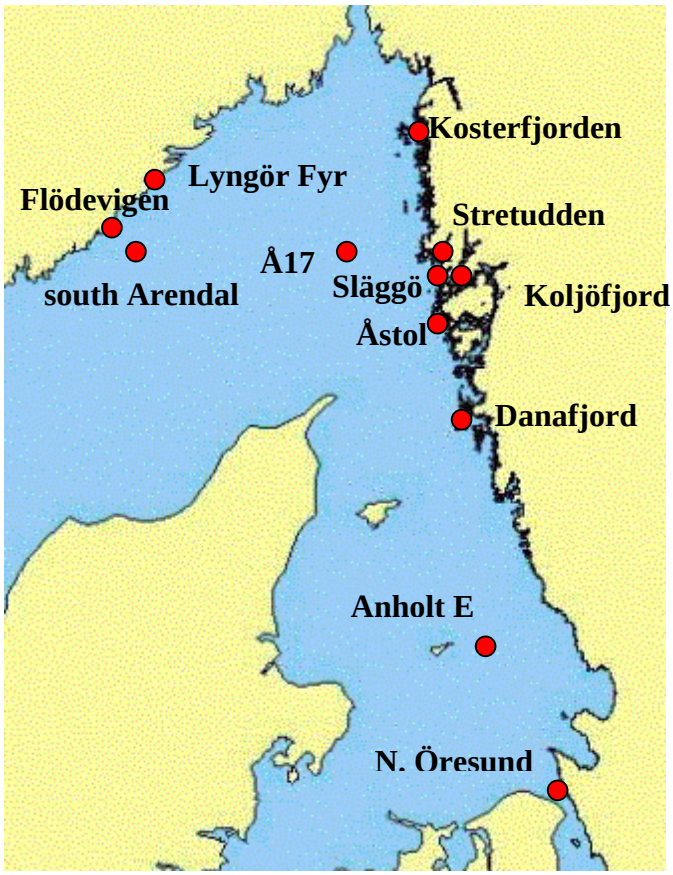
DETAILS

* POTENTIALLY HARMFUL SPECIES

The Chattonella bloom:

During the sampling period in February- March *Chattonella* sp.* was observed at several places in the Kattegat, Skagerrak and northern Öresund. Below is a compilation of findings, we have been able to get hold of so far.



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Date	Station	*Chattonella* sp. cells/l	Source
2004-02-16	Släggö	5 000	L Edler, SMHI
2004-02-16	Å17	0	L Edler, SMHI
2004-02-17	Anholt E	75 000	L Edler, SMHI
2004-02-22	Anholt E	160 000	L Edler, SMHI
2004-03-01	Anholt E	720 000	L Edler, SMHI
2004-03-02	Danafjord	252 000	M Kuylenstierna, SMHI
2004-03-02	Åstol	214 000	M Kuylenstierna, SMHI
2004-03-02	Kosterfjorden	14 000	AT Skjevik, SMHI
2004-03-02	Koljöfjord	3 600	AT Skjevik, SMHI
2004-03-03	Stretudden	84 000	M Kuylenstierna, SMHI
2004-03-03	1 nm south of Arendal	32 000	T. Johnsen, Niva, Norway
2004-03-09	Flödevigen	174 000	LJ Naustvoll, IMR, Norway
2004-03-09	N. Öresund	240 000	L Edler, SMHI
2004-03-10	Flödevigen	200 000	LJ Naustvoll, IMR, Norway
2004-03-11	Flödevigen	260 000	LJ Naustvoll, IMR, Norway
2004-03-11	Lyngör Fyr, Tvedestrand	1 120 000	T. Johnsen, Niva, Norway

SKAGERRAK

Station Å17, 16 February

At this station in the Skagerrak the spring bloom had not really started yet, even if there were an obvious increase in cell numbers of e.g. *Skeletonema costatum* and *Thalassionema nitzschioides*. Chlorophyll values in the upper 15 m were about 1 µg/l.
Chattonella sp.* was not observed.

Station Släggö, 16 February

The spring bloom was in a developing stage with a very rich diatom flora. *Skeletonema costatum*, *Thalassionema nitzschioides*, *Chaetoceros socialis* and *Thalassiosira nordenskioeldii* dominated. *Thalassionema nitzschioides* was present with about 35 000 cells per liter, a cell density uncommon for this species. Among dinoflagellates *Heterocapsa rotundata* was the most common.
Chattonella sp.* was present with about 5 000 cells per liter

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KATTEGAT

Station Anholt E, 17 and 22 February

At the first visit at Anholt E, the 17th, the spring bloom has started, shown by the rich diversity of diatoms and the large cell numbers. *Skeletonema costatum* dominated with 1.7 million cells per liter. Other important diatoms were *Chaetoceros socialis*, *Thalassiosira* cf. *levanderi*, *Thalassiosira nordenskioeldii* and *Thalassionema nitzschioides*. Among dinoflagellates *Heterocapsa rotundata* was the most important. Chlorophyll above the halocline was about 4.5 µg/l.
Chattonella sp.* was present with about 75 000 cells per liter

Five days later, the 22nd, the bloom had developed further, but still not reached the peak. *Skeletonema costatum* was still dominating, but less abundant. Several species of Chaetoceros had developed, but still *Thalassiosira nordenskioeldii* and *Thalassionema nitzschioides* were among the most important. Chlorophyll had more than doubled and at 15 m depth it was about 15 µg/l.
Chattonella sp.* was present with about 160 000 cells per liter

	2004-02-16 Å17	2004-02-16 Släggö	2004-02-17 Anholt E	2004-02-22 Anholt E
	cells/liter	cells/liter	cells/liter	cells/liter
Chaetoceros socialis		very common	common	
Chaetoceros laciniosus			common	common
Skeletonema costatum	common	~ 2 million	~ 1.7 million	~ 300 000
Thalassionema nitzschioides	present	very common	very common	very common
Thalassiosira nordenskioeldii		~ 1.1 million	~ 250 000	very common
Pseudo-nitzschia spp		present		
Heterocapsa rotundata		very common	common	common
Dinophysis acuminata		~ 100	present	present
Dinophysis norvegica			present	present
Chattonella sp.		present	~ 75 000	~ 160 000

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BALTIC SEA

Arkona basin. Station BY2, 18 February

Very little phytoplankton. Only single chains of *Skeletonema costatum* and filaments of *Aphanizomenon* sp. were seen. Ciliates vere common.

Bornholm basin. Station BY5, 18 February

Very little phytoplankton. Single chains of *Skeletonema costatum* and *Thalassiosira baltica* were present together with some filaments of *Aphanizomenon* sp. Ciliates vere also seen.

South East Baltic. Station BCS III 10, 19 February

Hardly any phytoplankton observed at this station.

Eastern Gotland basin, Station BY15, 19 February

Single cells of *Actinocyclus octonarius*, *Dinophysis acuminata* and threads of *Planktonema lauterbornii* were found in the net sample.

Western Gotland basin, Station BY38, 21 February

Single cells of *Actinocyclus octonarius*, *Dinophysis acuminata* and chains of *Peridiniella catenata* were found in the net sample. Quite a few filaments of *Aphanizomenon* sp. were also seen.

	2004-02-18	2004-02-18	2004-02-18	2004-02-19	2004-02-21
	BY2	BY5	BCS III 10	BY155	BY38
Actionocyclus octonarius		present		present	present
Skeletonema costatum	present	present			
Thalassiosira baltica		present			
Dinophysis acuminata				present	present
Peridiniella catenata					present
Planktonema lauterbornii				present	
Aphanizomenon sp.	present	present			present