

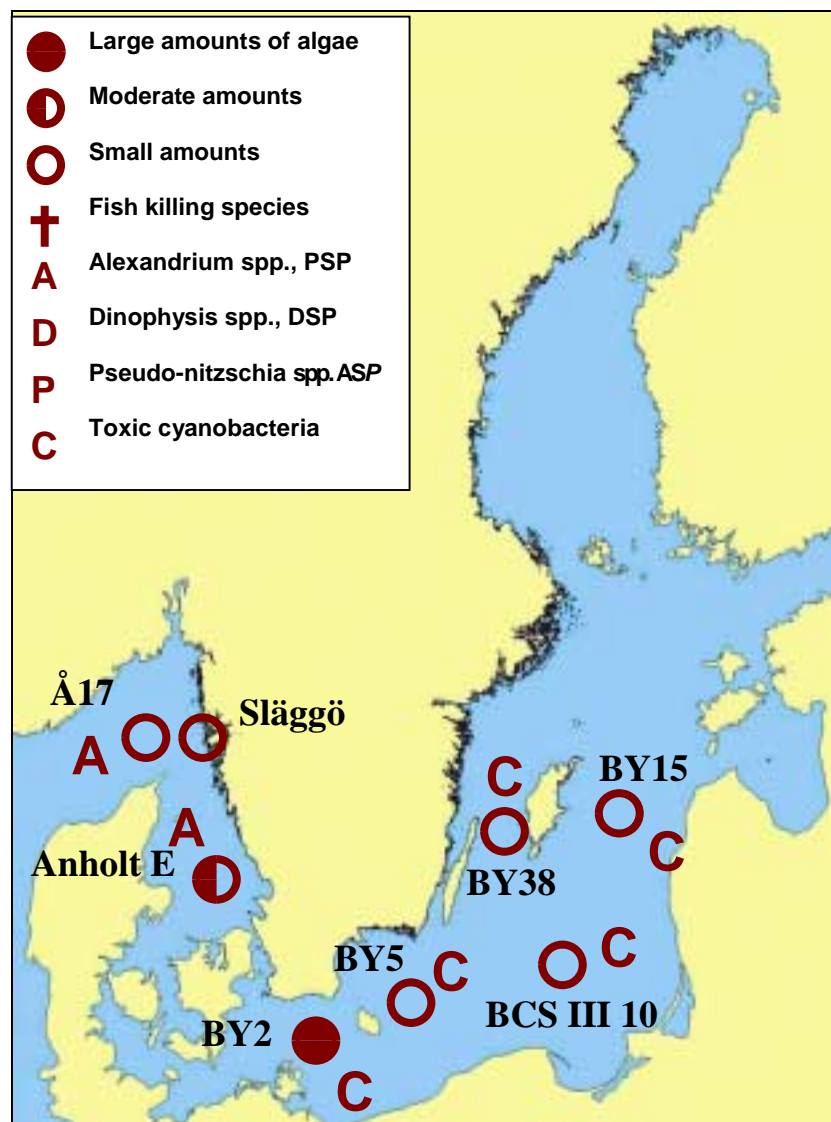
ALGAL SITUATION IN SWEDISH MARINE WATERS

No 8, 2003, 28 July - 2 August

OVERVIEW

In the Skagerrak the plankton flora was poor with few diatoms and dinoflagellates. Toxic species as *Dinophysis acuminata**, *Dinophysis rotundata**, cf. *Alexandrium pseudogonyaulax** and *Chrysochromulina* spp. * were present in low concentrations. In the Kattegat a diatom bloom of *Guinardia flaccida*, *Proboscia alata* and *Dactyliosolen fragilissimus* decreased between the two samplings. Small amounts of Baltic cyanobacteria were found, as well cf. *Alexandrium pseudogonyaulax**.

In the Baltic blue-green algae were common at most stations, with a dominance of *Aphanizomenon* sp. and less of *Nodularia spumigena**. Most of the *Nodularia* chains were senescent and a lot of *Nitzschia paleacea* were attached to the chains. In Arkona a large *Prorocentrum minimum* bloom was going on.



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DETAILS

* POTENTIALLY HARMFUL SPECIES

SKAGERRAK

Station Å17, 28 July

A poor plankton flora with hardly any diatoms was found at this station, with the exception of about 15 000 cells/l of *Chaetoceros thronsenii*. Among dinoflagellates *Heterocapsa minuta/rotundata* dominated. Few cells of cf. *Alexandrium pseudogonyaulax** and *Dinophysis rotundata** were also seen. Small flagellates with *Chrysochromulina* spp.* and *Pyramimonas* spp. reached the highest cell densities.

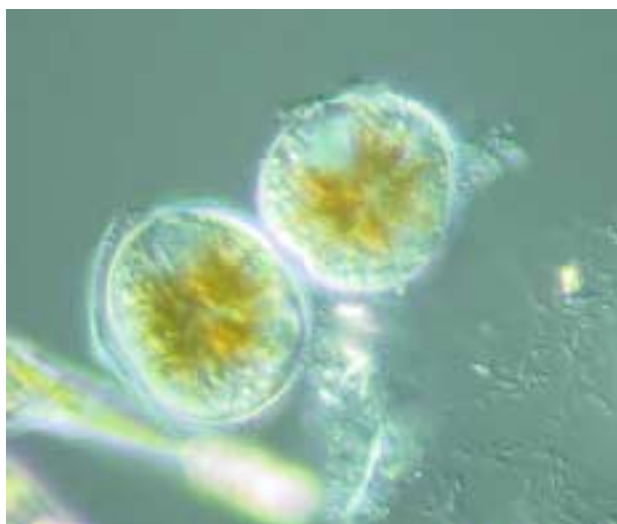
Station Släggö, 28 July

At this station a few species of diatoms - *Guinardia flaccida*, *Proboscia alata*, *Skeletonema cosatum* and *Leptocylindrus danicus* - were present, but all in low concentrations. *Dinophysis acuminata** and *Heterocapsa minuta/rotundata* were the most important dinoflagellates. Small flagellates with *Chrysochromulina* spp.* and *Pyramimonas* spp. reached the highest cell densities. The characteristic blue-greens of the Baltic Sea, *Aphanizomenon* spp. and *Nodularia spumigena** were found in very low amounts of about 0.05 m/l, indicating a transport of low saline water northwards along the Swedish west coast.

KATTEGAT

Station Anholt E, 29 July

Diatoms were common with the highest cell densities of *Proboscia alata*, *Guinardia flaccida* and *Dactyliosolen fragilissimus*. A number of dinoflagellates were found, but only *Heterocapsa minuta/rotundata* reached over 20 000 cells/l. Small unidentified flagellates and non-flagellated cells were very common. A few threads of *Nodularia spumigena** were observed.



cf. *Alexandrium pseudogonyaulax**

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Station Anholt E, 2 August

During the days between the samplings at this station the plankton flora changed, so that the diatom concentration declined considerably. The cell densities of *Proboscia alata*, *Guinardia flaccida* and *Dactyliosolen fragilissimus* had dropped by 60-80%. Also species of other phytoplankton groups had gone down. Most noticeable was the presence of small numbers of cf. *Alexandrium pseudogonyaulax** and about 15 000 cells/l of *Prorocentrum minimum*.

	2003-07-28	2003-07-28	2003-07-29	2003-08-02
	Å17	Släggö	Anholt E	Anholt E
	0-10 m	0-10 m	0-10 m	0-10 m
<i>Chaetoceros thronsenii</i>	16 569			
<i>Dactyliosolen fragilissimus</i>			27 528	5 304
<i>Guinardia flaccida</i>		present	32 412	12 444
<i>Leptocylindrus danicus</i>		present	3 552	present
<i>Proboscia alata</i>	present	present	76 368	13 668
<i>Skeletonema costatum</i>		sparse		
cf. <i>Alexandrium pseudogonyaulax</i>	204			1 122
<i>Ceratium tripos</i>	sparse	present	sparse	sparse
<i>Dinophysis acuminata</i>		204		
<i>Dinophysis acuta</i>	present		present	
<i>Dinophysis norvegica</i>	present			present
<i>Dinophysis rotundata</i>	present		present	present
<i>Heterocapsa minima/rotundata</i>	26 037	54 441	18 936	
<i>Prorocentrum minimum</i>				14 202
<i>Pyramimonas</i> spp.	47 340	132 552	9 468	
<i>Chrysochromulina</i> sp. (3-6 µm)	52 074	18 936		18 936
<i>Chrysochromulina</i> sp. (6-10 µm)		42 606		
<i>Aphanizomenon</i> sp.		present		
<i>Nodularia spumigena</i>	present	present	present	

BALTIC SEA

Arkona basin. Station BY2, 29 July

The plankton flora was dominated by *Aphanizomenon* sp., present with about 1 m/l. *Nodularia spumigena**, however, was present only with a few threads. The diatom *Nitzschia paleacea* was very common and *Chaetoceros impressus* and *Dactyliosolen fragilissimus* were relatively common, as was the dinoflagellate *Ceratium tripos*. The most common species was *Prorocentrum minimum*, which reached almost 0.7 million cells/l. Also Cryptophyceans, *Pyramimonas* spp. and *Chrysochromulina* spp.* were common.

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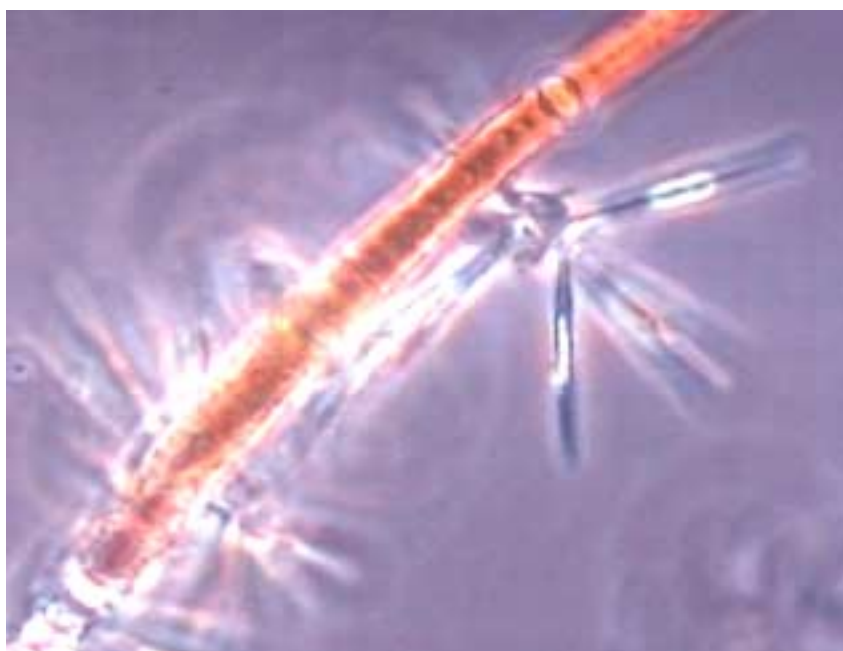
Nodularia spumigena (left),
Aphanizomenon sp. (x-threads)
and *Prorocentrum minimum*.

Bornholm basin. Station BY5, 30 July

A similar situation was found at this station, but with much lower abundance of all species. The large amounts of *Aphanizomenon* sp. and *Prorocentrum minimum* were not seen here and the few threads of *Nodularia spumigena** were senescent and large amounts of *Nitzschia paleacea* were attached to them. Small amounts of *Dinophysis norvegica** were also found.

Southeast Baltic. Station BCS III 10, 30 July

Cell densities of most species were lower at this station compared to BY5 and the only additional species were *Planctonema lauterbornii* and *Myrionecta rubra*.



Senescent *Nodularia* chain with
attached *Nitzschia paleacea*.

Eastern Gotland basin, Station BY15, 31 July

Cell densities of most species continued to decrease at this station. Only *Nitzschia paleacea* kept its relatively high abundance. The green algae *Monoraphidium contortum*, which was not seen at any other station, was present here. Small amounts of *Dinophysis norvegica** were also found.

Western Gotland basin, Station BY38, 31 July

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The plankton flora showed the same pattern as east of Gotland. The abundance of *Aphanizomenon* sp. was higher here.

	2003-07-29	2003-07-30	2003-07-30	2003-07-31	2003-07-31
	BY2	BY5	BCS III 10	BY15	BY38
	0-10 m	0-10 m	0-10 m	0-10 m	0-10 m
Chaetoceros danicus	present	present			present
Chaetoceros impressus	very common	common			
Dactyliosolen fragilissimus	common				
Nitzschia paleacea	very common	very common	very common	very common	very common
Ceratium tripos	present				
<i>Dinophysis norvegica</i>		present		present	present
Gonyaulax verior		present			present
Prorocentrum minimum	700 000	present		present	
Hemiselmis virescens		common	common	present	present
Leucocryptos marina	present	present	common		
Plagioselmis prolunga	common	present	common	present	
Teleaulax acuta	common	common			
Pyramimonas spp.	35 000	common	common	present	present
<i>Chrysochromulina</i> sp. (3-6 µm)	25 000	present	present	present	present
Monoraphidium contortum				common	
Planctonema lauterbornii			present		
Aphanizomenon sp.	1 m/l	very common	common	present	common
<i>Nodularia spumigena</i>	present	present	present	present	present
Myrionecta rubra (40-50)			present		