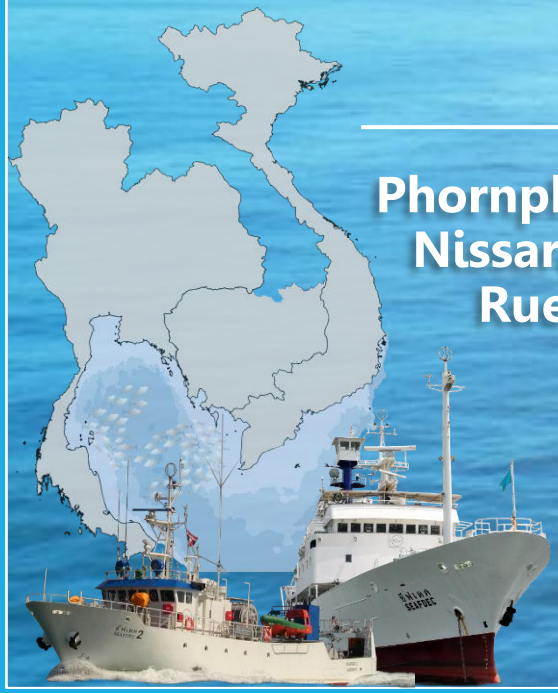
COLLABORATIVE RESEARCH SURVEY ON MARINE FISHERIES RESOURCES AND ENVIRONMENT IN THE GULF OF THAILAND 2018

Distribution of Phytoplankton in the Gulf of Thailand

Phornphisut Senpradit, Shettapong Meksumpun, Nissara Thavonsod, Oning Veschasit, Chakhrit Ruengsorn and Songpao Samuchchanon



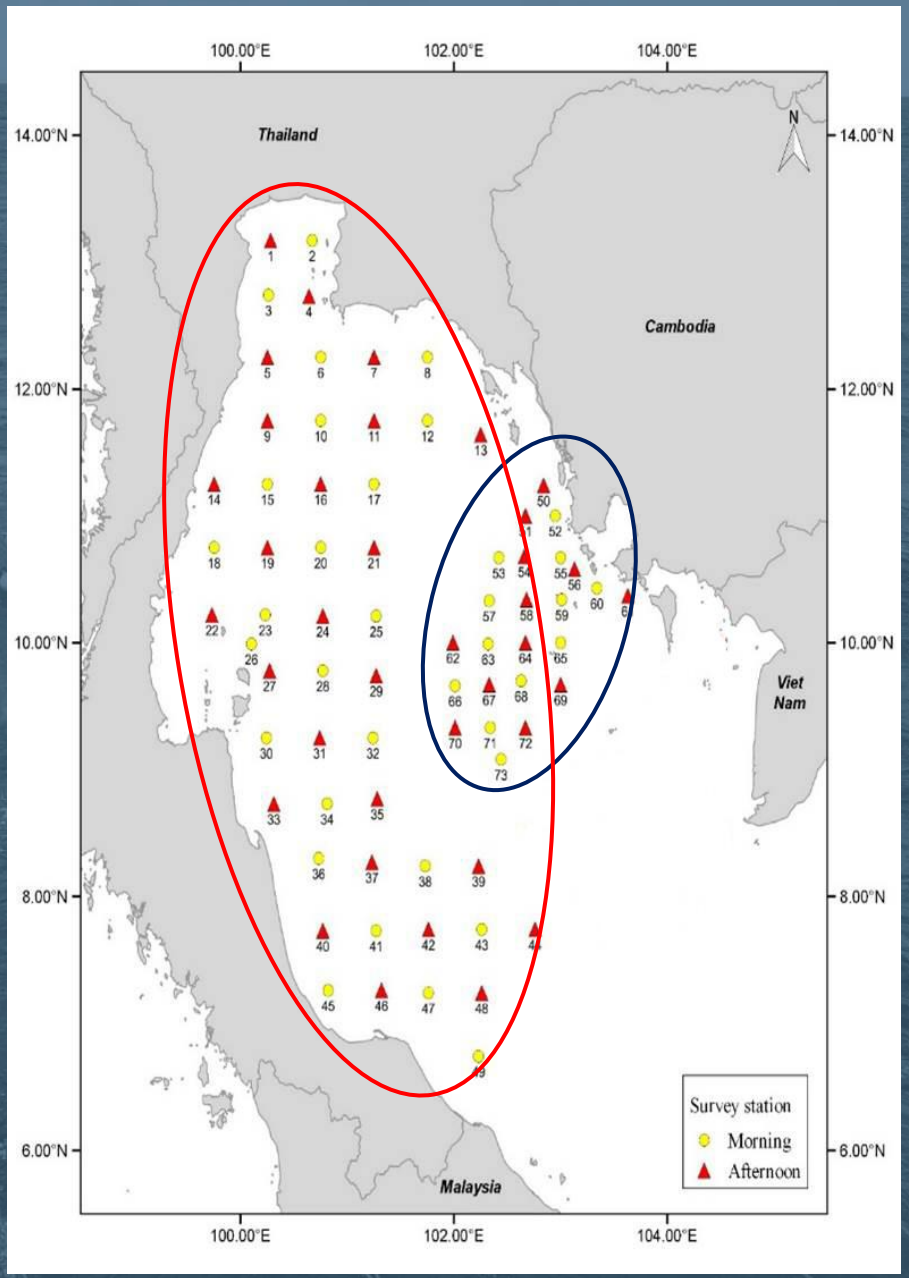
Supported by Southeast Asian Fisheries Development Center
Training Department, Samut Prakan, Thailand

Outline

- Study area
- Distribution of Phytoplankton
  - ✓ Gulf of Thailand
  - ✓ Cambodia
- Biotoxin
- Conclusion

Study area

- The study on distribution of phytoplankton in the Gulf of Thailand was carried out during 17th August – 22nd September 2018, can be divided into two main areas: the Gulf of Thailand from stations 1-49 and Cambodian waters from stations 50-73.



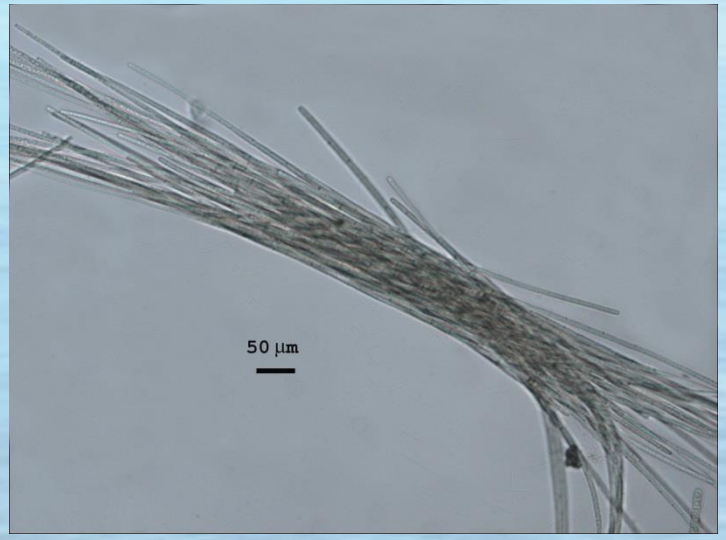
Distribution of Phytoplankton

Gulf of Thailand

- 3 Phylums, 5 classes of phytoplankton were found, including Chlorophyceae, Cyanophyceae, Bacillariophyceae, Dictyochophyceae and Dinophyceae.
- 48 genus was found.
- Dominant class was Bacillariophyceae.
- Density ranged between 96 – 31,217 cells/L

Class Cyanophyceae

- 2 genus, including *Richelia* sp. and *Trichodesmium* spp.
- *Trichodesmium* sp. was found every stations. The highest density was found at station 13 (1,688 cells/L).



Trichodesmium erytraeum

Trichodesmium thiebautii

Class Cyanophyceae

Richelia intracellularis was found only station 34 with a density of 5 cells/L.

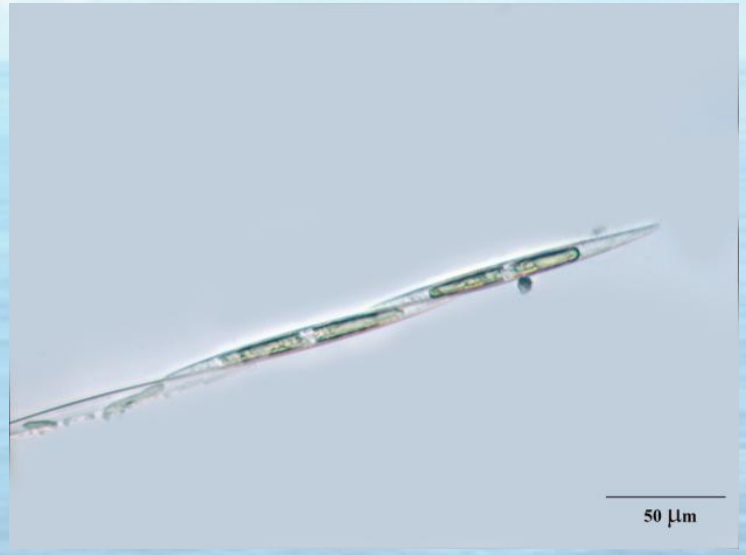
Richelia intracelluraris

Class Chlorophyceae

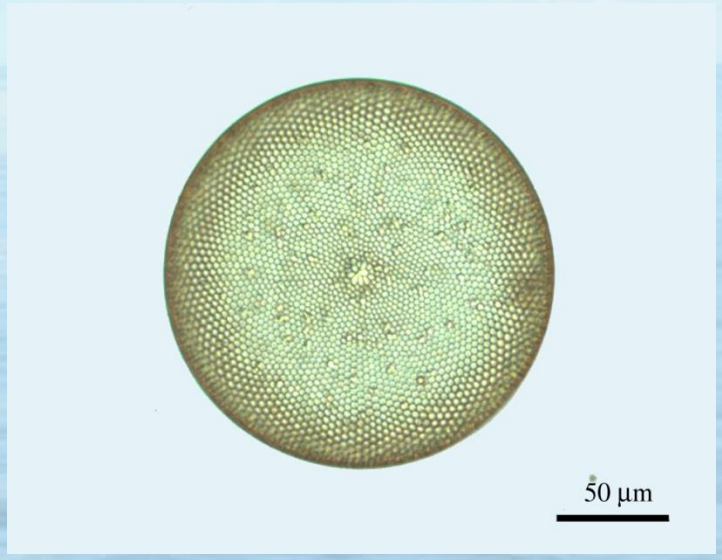
- Only *Melosira* sp. was found at 4 stations.
- The highest density was found at station 27 with a density of 24 cells/L.

Class Bacillariophyceae

- 32 genus were found.
- Dominant genus was *Chaetoceros* spp., with the highest density of 19,941 cells/L at station 1.

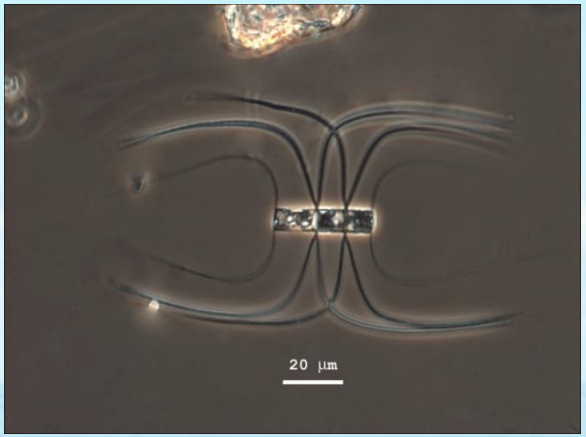


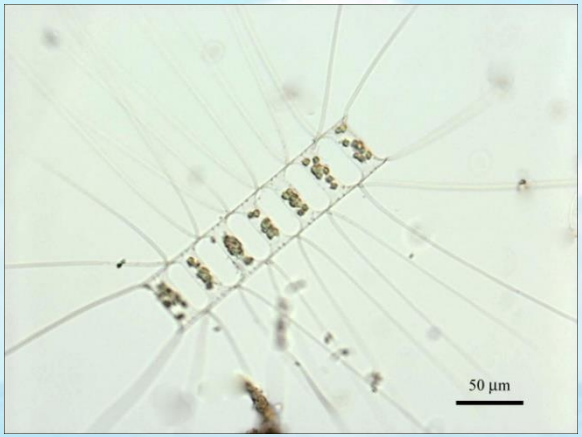
Pseudo-nitzschia pungens

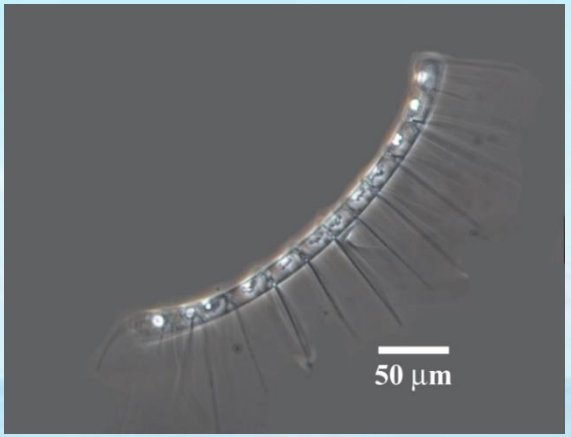


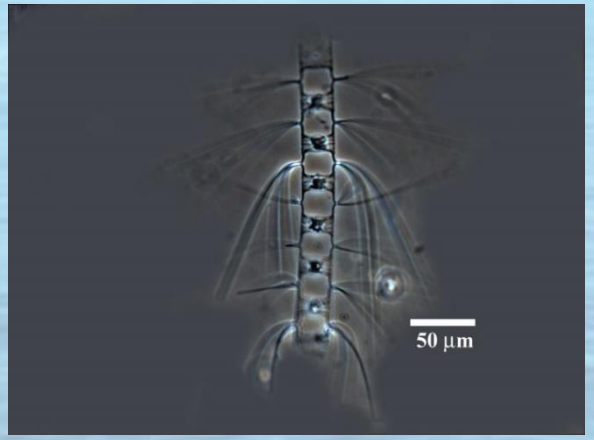
Coscinodiscus sp.

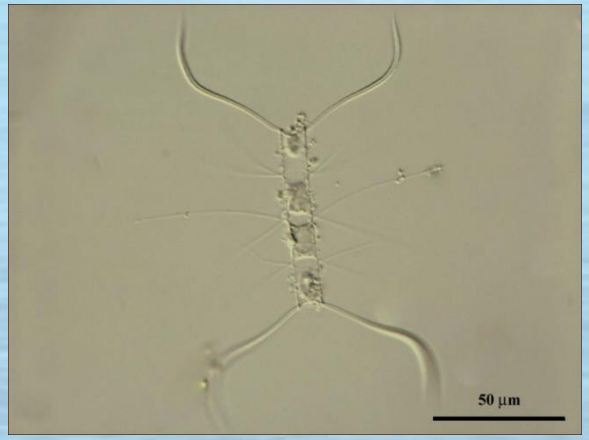
Class Bacillariophyceae

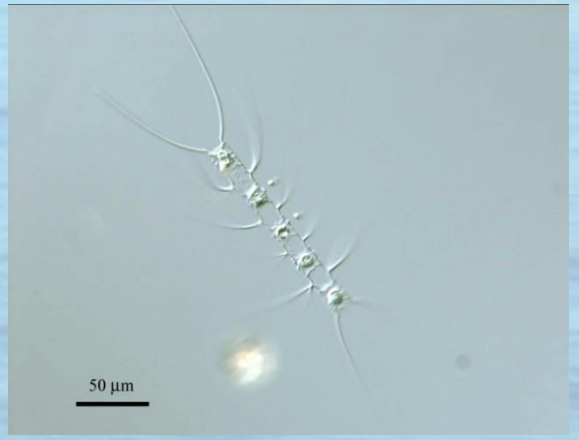






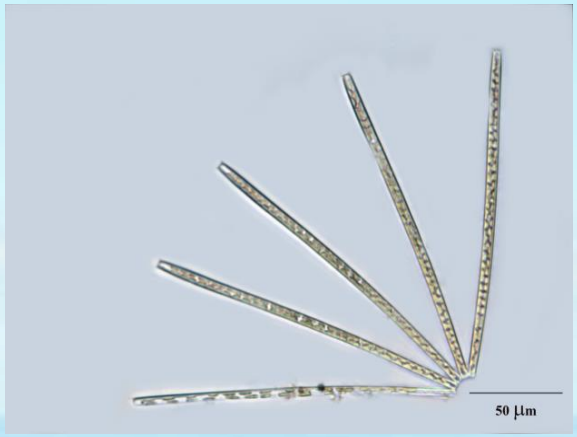


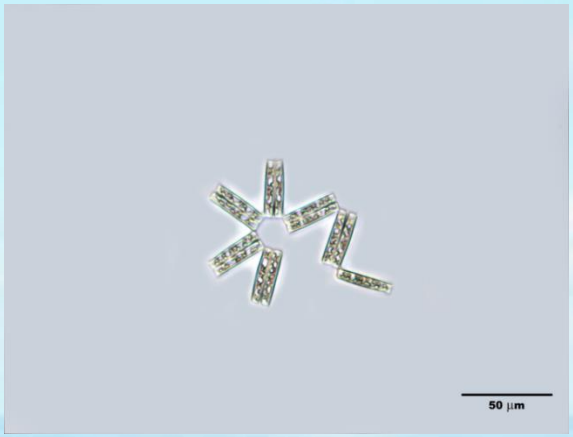


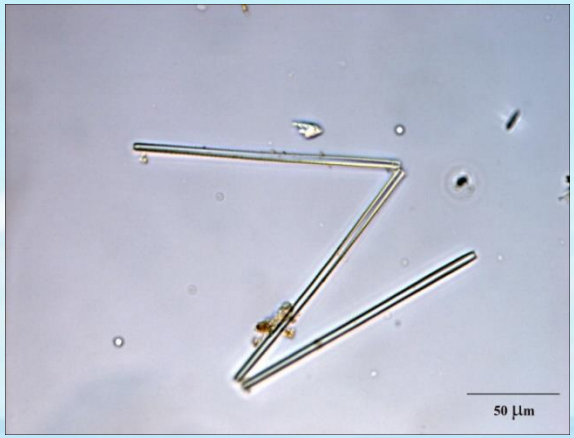


Chaetoceros spp.

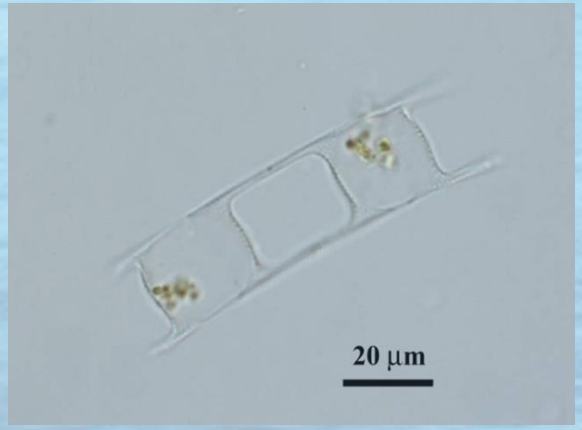
Class Bacillariophyceae

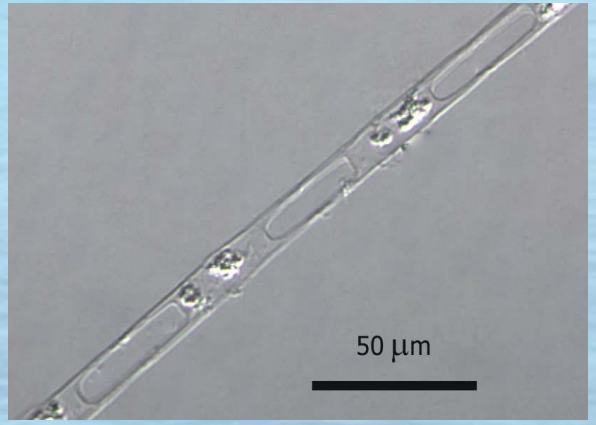


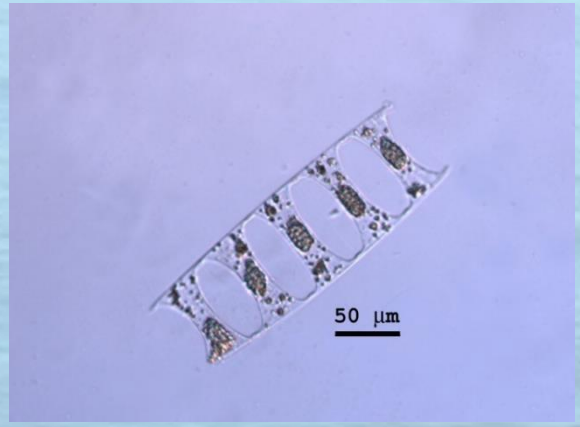




Thalassionema spp.

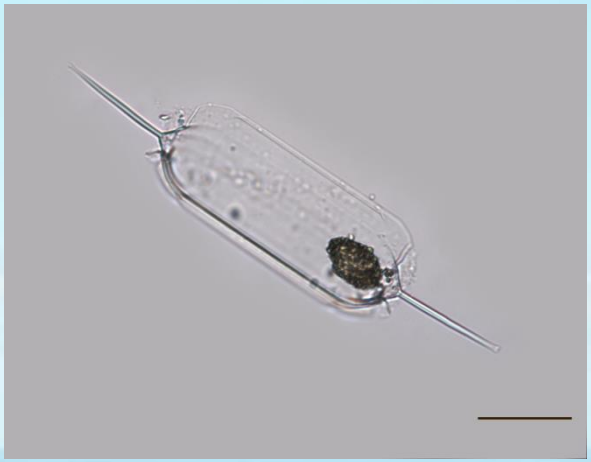




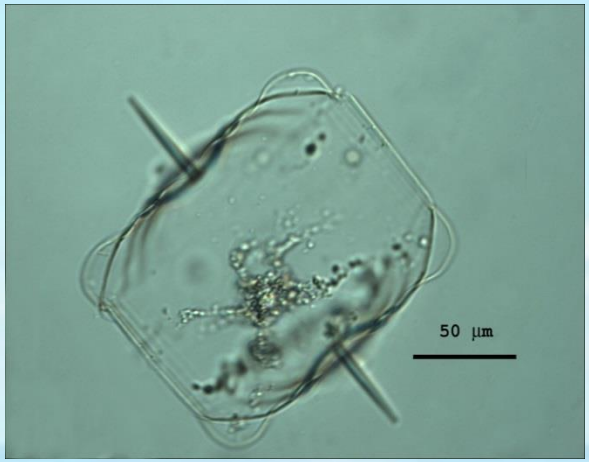


Hemiaulus spp.

Class Bacillariophyceae

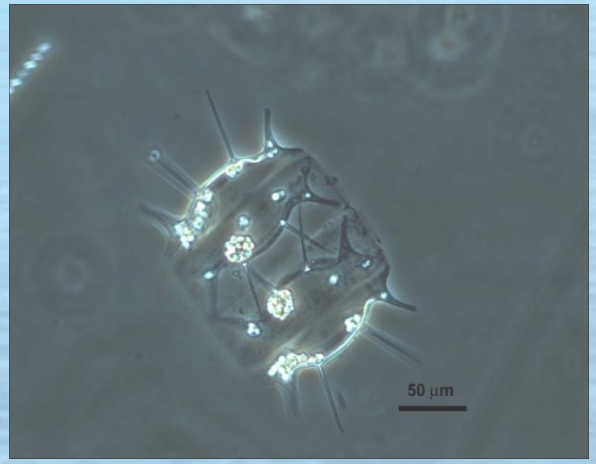


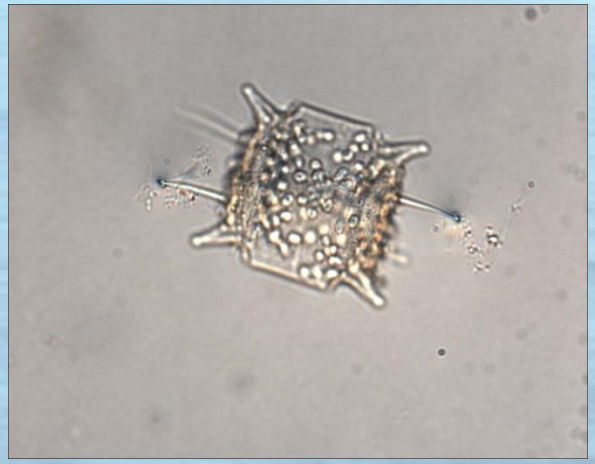
Dictylum



Dictylum sol

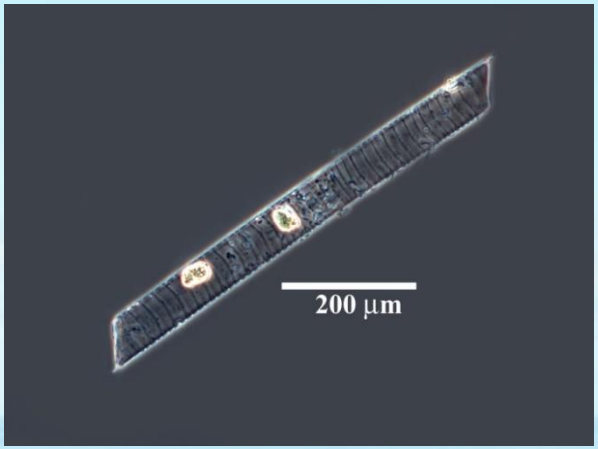
Eucampia

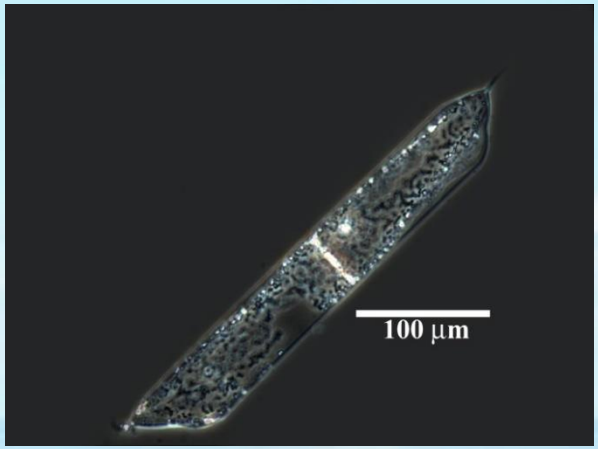


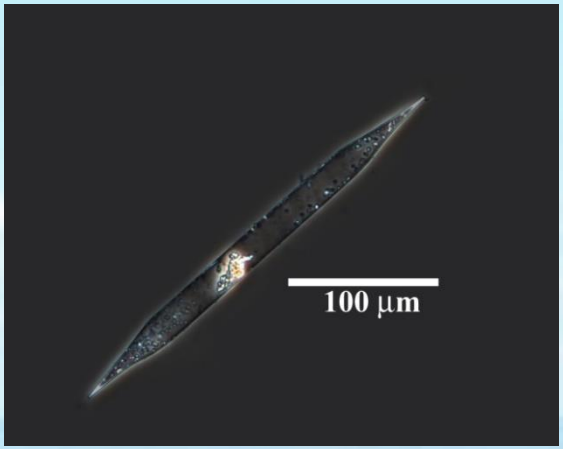


Odontella spp.

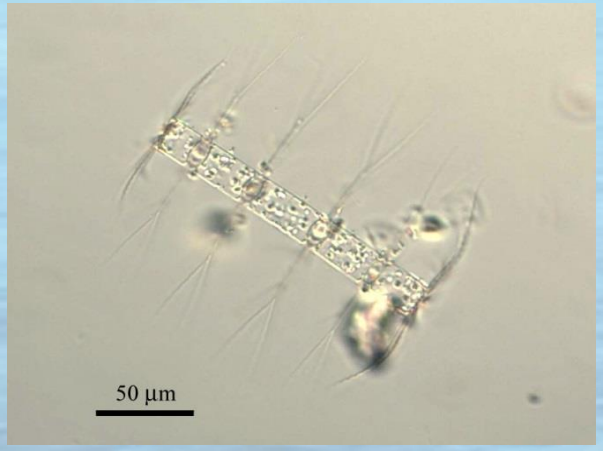
Class Bacillariophyceae

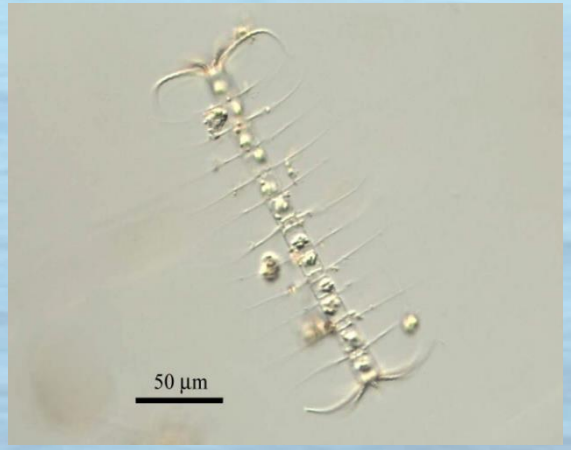






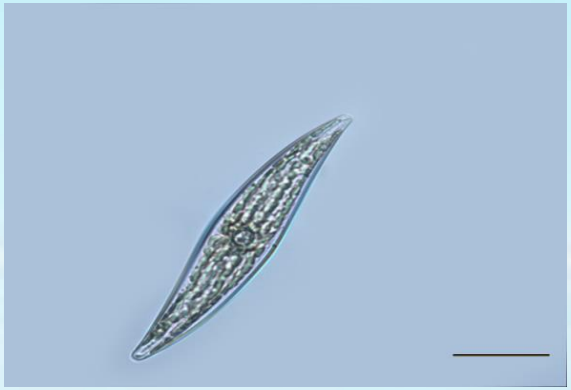
Rhizosolenia spp.





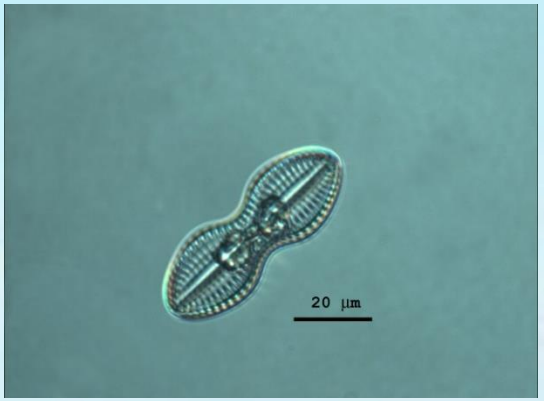
Bacteriastrum spp.

Class Bacillariophyceae



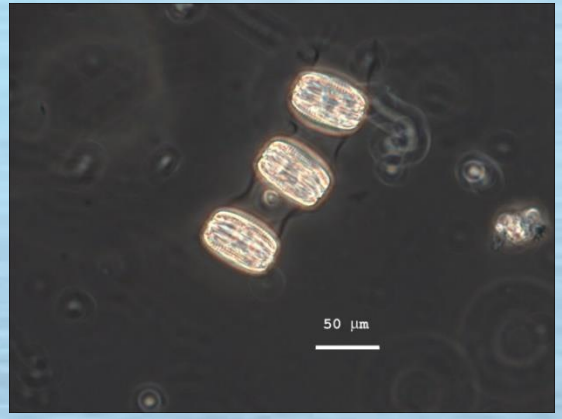
Pleurosigma sp.

Suriella spp.



Diploneis sp.

Asteromphalus sp.

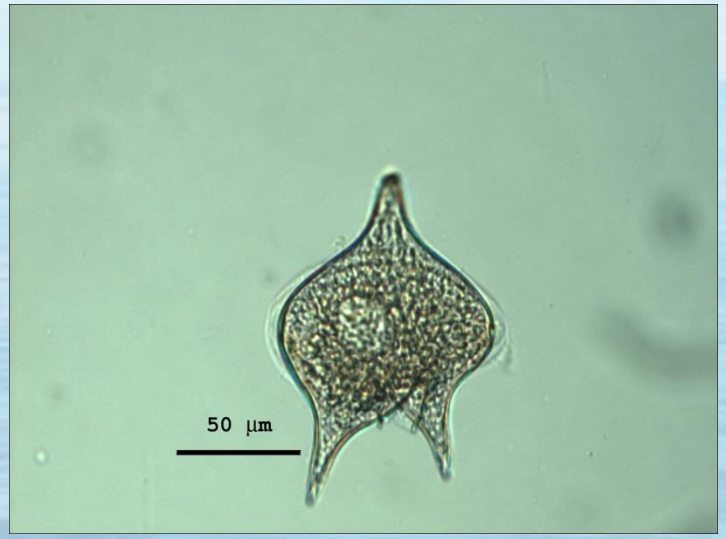


Thalassiosira sp.

Planktoniella sp.

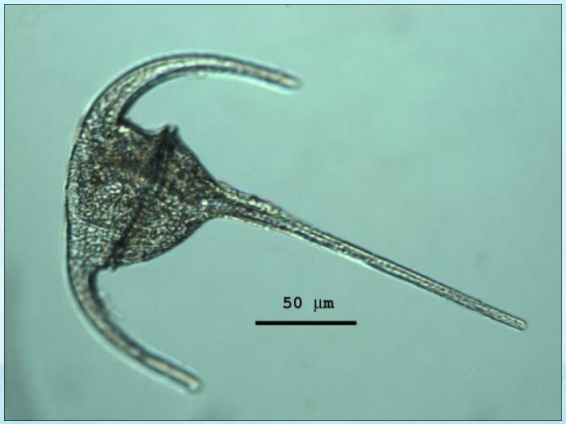
Class Dinophyceae

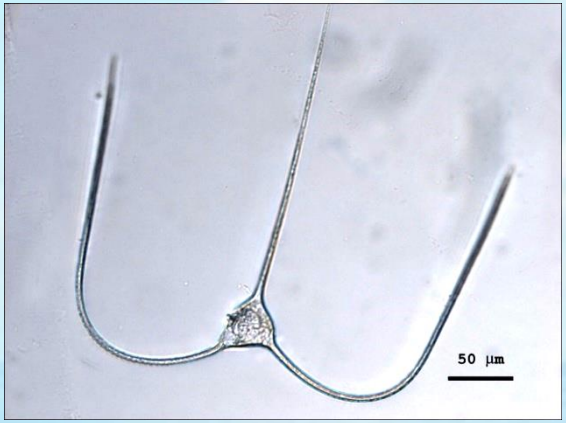
- 12 genus were found.
- Dominant genus was *Ceratium* spp., with the highest density of 408 cells/L at station 1.

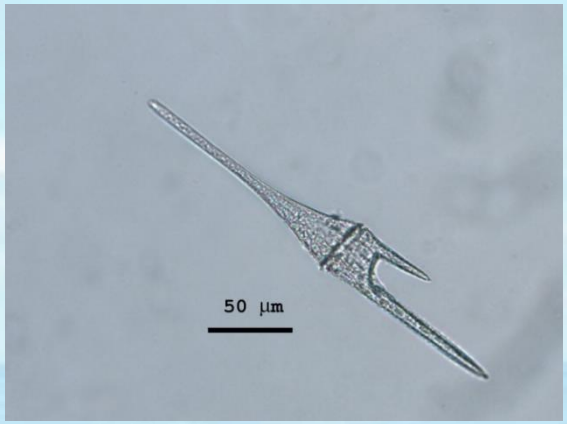


Protoperidinium spp.

Class Dinophyceae

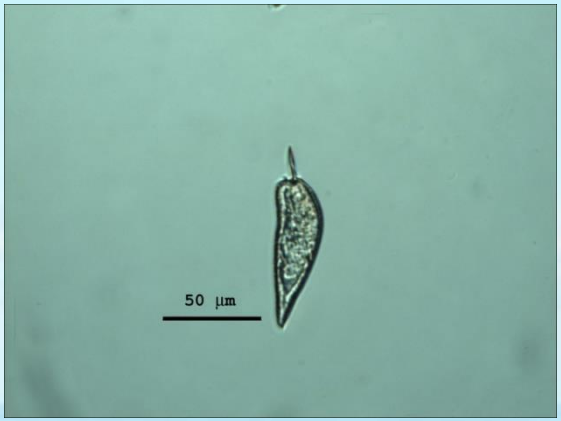






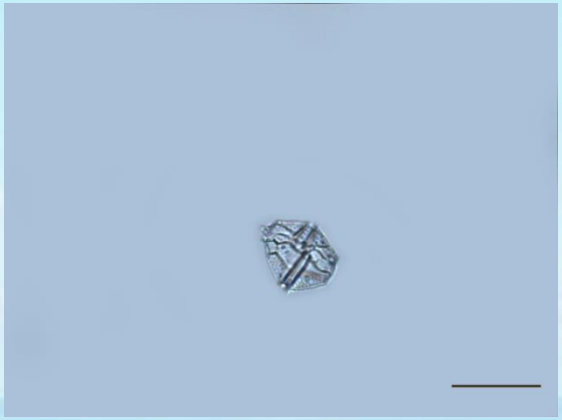
Ceratium spp.

Class Dinophyceae

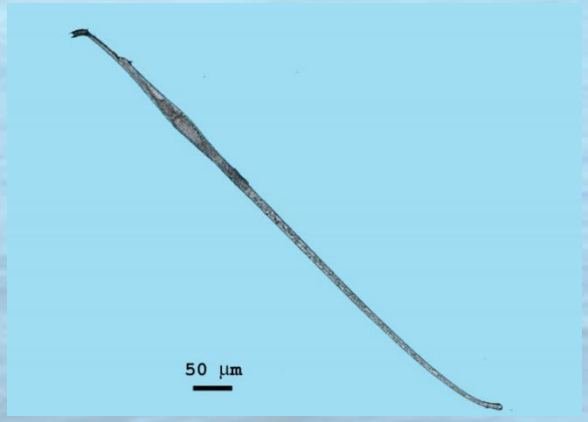


Prorocentrum sp.

Gymnodinium sp.

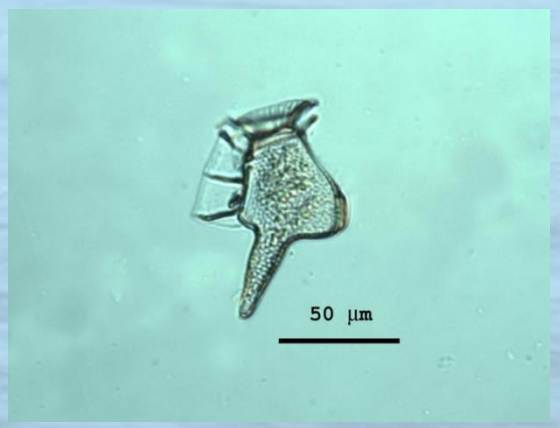


Gonyaulax sp.



Amphisolenia sp.

Podolampas sp.



Dinophysis caudata

Class Dictyochophyceae

- Only *Dictyocha* sp. was found.
- The highest density was found at station 39 with a density of 15 cells/L.

Dictyocha fibula

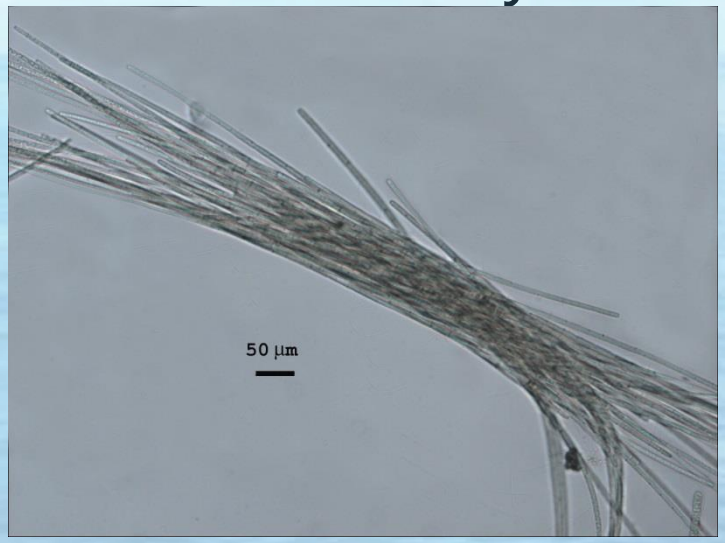
Dictyocha speculum

Cambodian waters

- 2 phylums, 3 classes of phytoplankton were found in Cambodian waters, including Cyanophyceae, Bacillariophyceae and Dinophyceae.
- 33 genus were found.
- Dominant class was Bacillariophyceae.
- Density ranged between 60 – 562 cells/L.

Class Cyanophyceae

- Only *Trichodesmium* sp. was found
- The highest density was found at station 63 with a density of 204 cells/L.

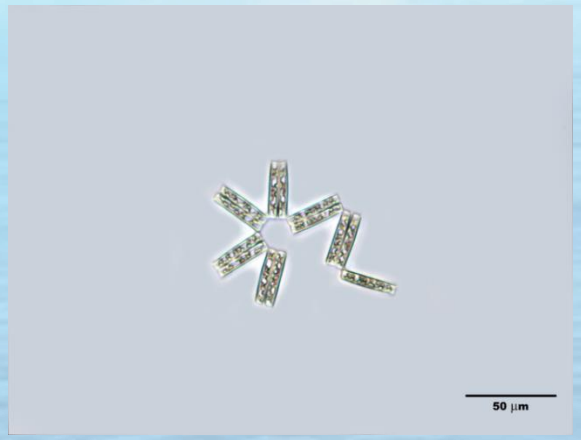


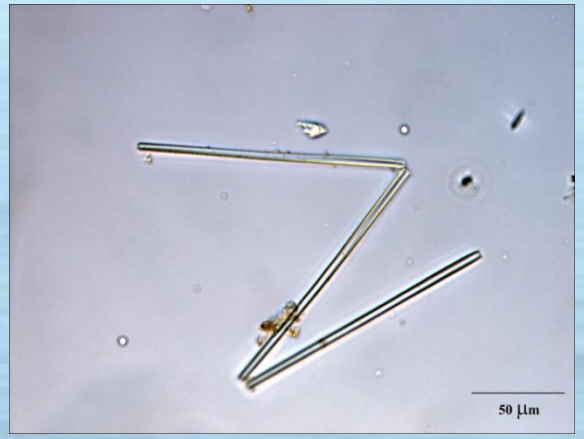
Trichodesmium erytraeum

Trichodesmium thiebautii

Class Bacillariophyceae

- 19 genus were found.
- Dominant genus was *Thalassionema* sp. with the highest density of 138 cells/L at station 60.





Thalassionema spp.

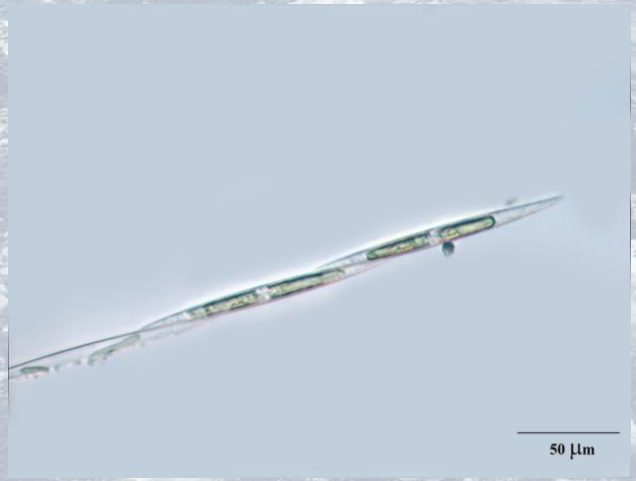
Class Dinophyceae

- 13 genus were found.
- Dominant genus was *Ceratium* spp., with the highest density of 24 cells/L at station 60.
- *Ceratocorys* sp. has the highest density at stations 73 (33 cells/L).

Ceratocorys sp.

Biotoxin

- In addition, some phytoplankton identified from this survey can produce toxic species that may cause the deposition of toxins in economically important marine species along the food chain and transmission. Impact on seafood consumers such as *Pseudo-nitzschia* sp. and *Nitzschia* sp., etc.



Pseudo-nitzschia pungens

Conclusion

Topic	Gulf of Thailand	Cambodian water
Number of Classes found	5	3
Dominant Class	Bacillariophyceae	Bacillariophyceae
Dominant Genus	*Chaetoceros* spp.	*Thalassionema* sp.
Density range	96 – 31,217 cells/L	60 – 562 cells/L

**Ceratocorys* sp. was found only in Cambodian waters.

Collaborative Research Survey on Marine Fisheries Resources and Environment in the Gulf of Thailand 2018

Thank you