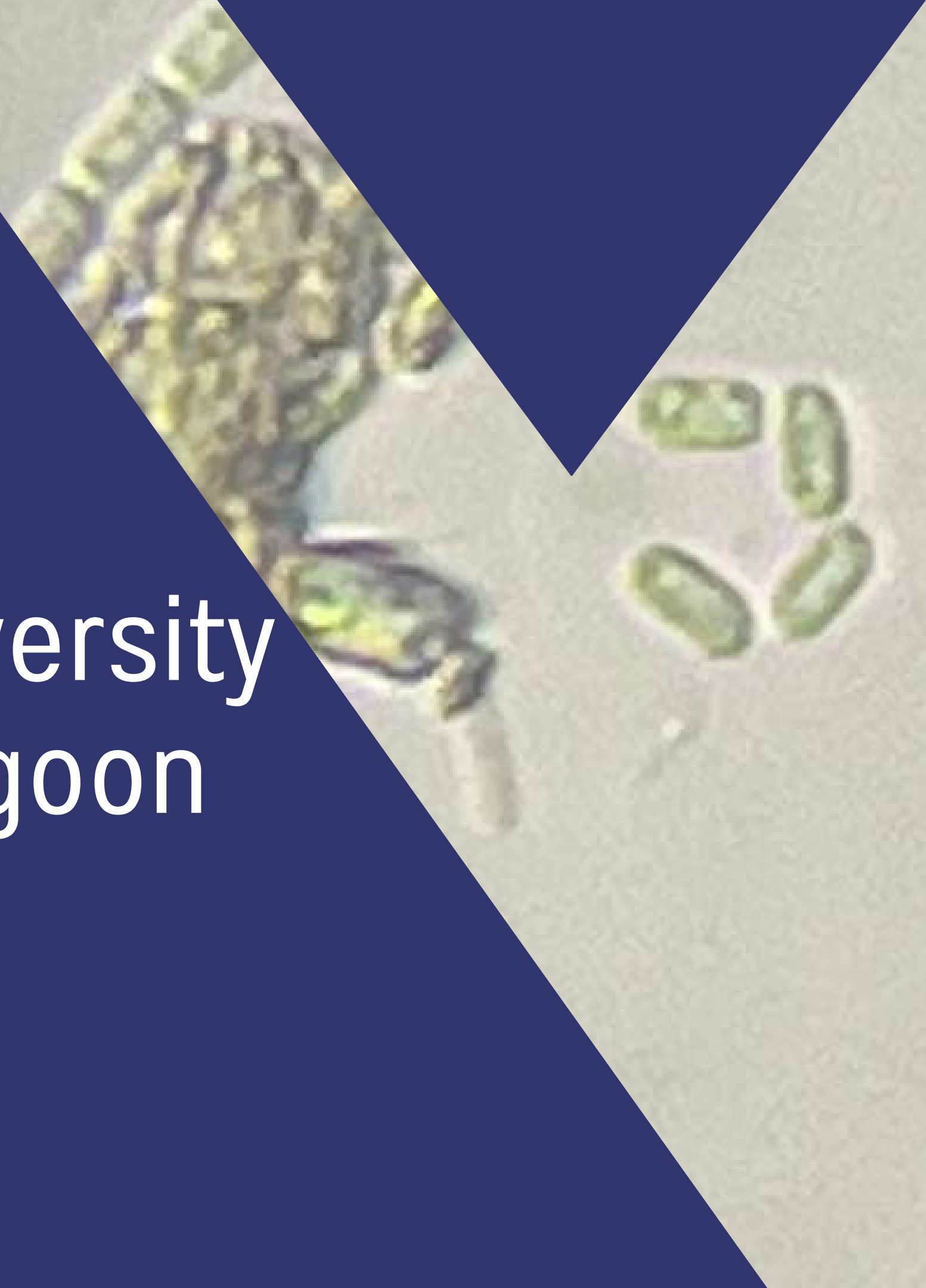




# Diversity of plankton biodiversity from the Khapang Surin lagoon Trang.





# Provider and Advisor



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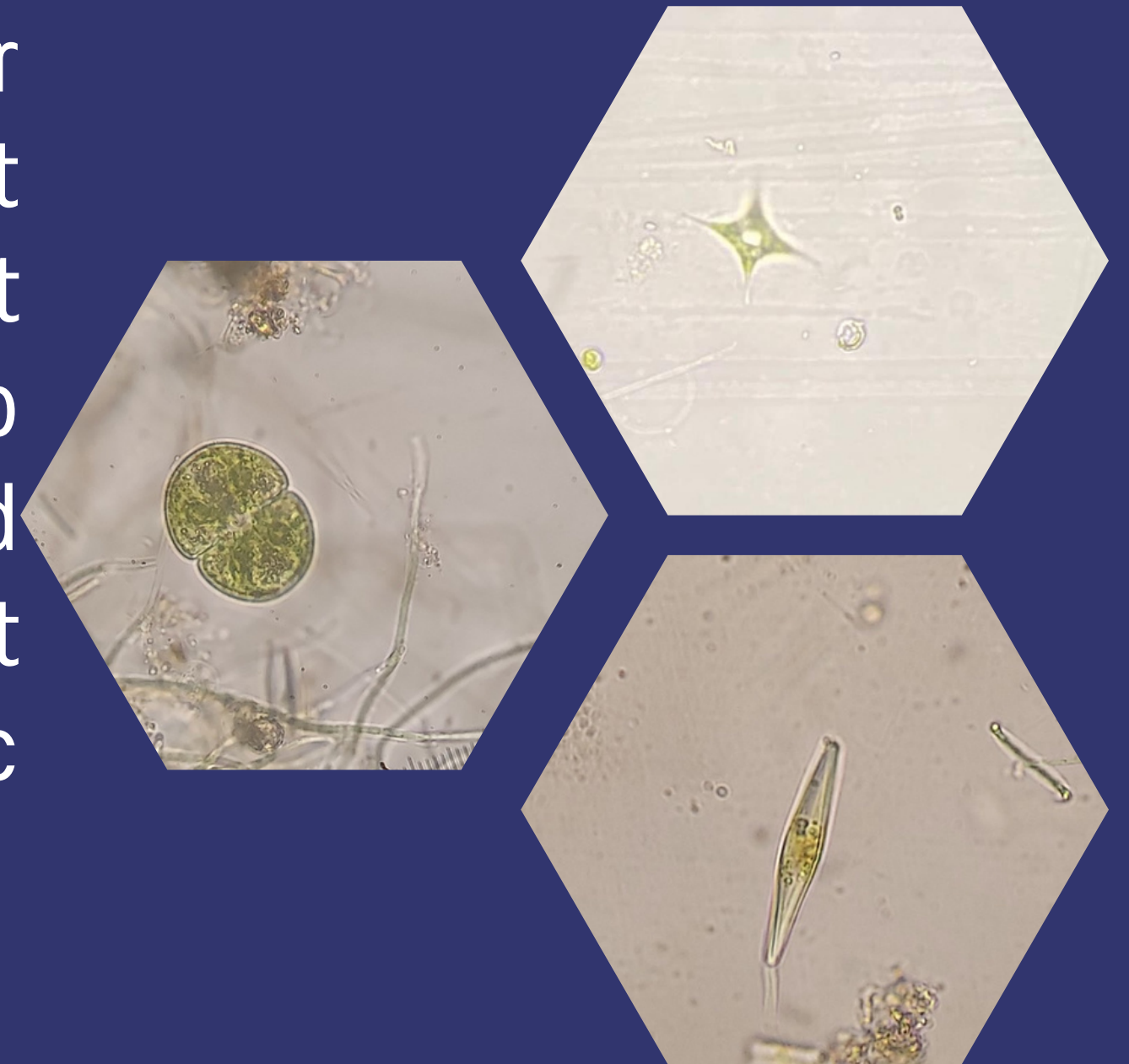


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# Introduction

Plankton are the organisms found in water and they are unable to propel themselves against a current. As well, they are very small that cannot be seen by eyes only. Plankton are divided into two groups namely Phytoplankton and Zooplankton. The both groups play an important role in being a food source for other aquatic animals.



# Determinate of education piont

Set the distance are straight about 50 m. Along the line of poolside, collect 3 points along the way that set, Using Geographic Coordinates from application. Around of Kaphang Surin Public Park, Thaptiang, Muang District, Trang Province 92000





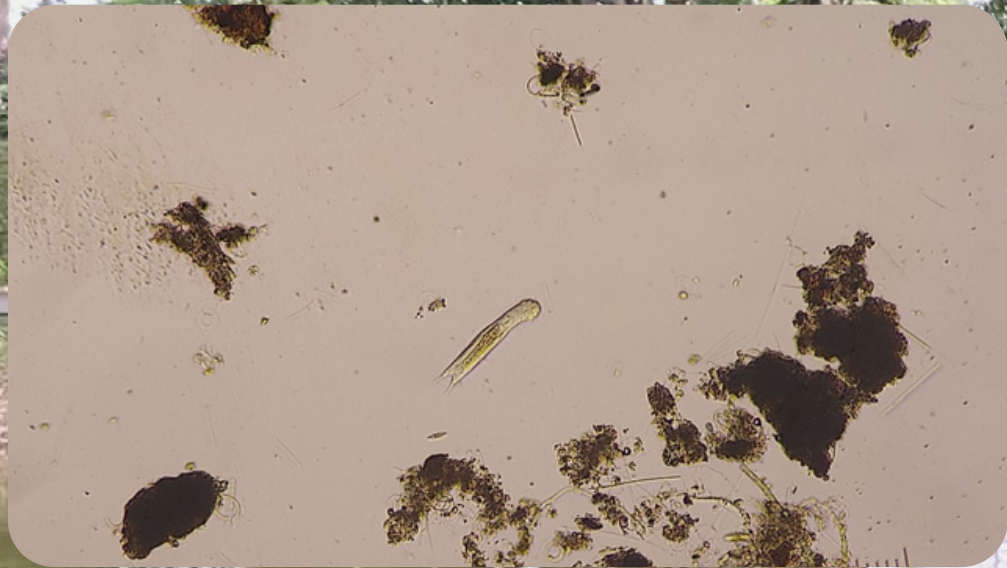
# Objectives

**1. To study the physical factors affecting the diversity of Plankton in the Kaphang Surin lagoon.**

**2. To analyze biological water quality from water quality indicators or Phytoplankton in the Kaphang Surin lagoon**

**Research Question: The quality of water is effective to diverse of Plankton?**

**Research Hypothesis: The quality of water is effective to diverse of Plankton.**





# Equipment

4-5 liter water  
tank  
Bottle 250 ml  
Secchi disk  
Microscope  
Litmus paper  
Thermometer  
Tape measure

Slide  
Slide cover  
Dropper  
Coordinate measuring machine  
Plankton Net  
Dissolved Oxygen





# Protocols

**Secchi disk**

**Principle of Hydrosphere  
inspection methods**

**Thermometers**

**Plankton Net**

**Litmus paper**

**Dissolved Oxygen**

**Study average acid-bass pH Value, Water Temperature, Dissolved Oxygen (DO), Water Turbidity**

The first fix an issue to choose the topic want to study then determine the objective to study and determine the sampling area to study. Next, Determine the area to collect the samples water. Then collect the samples water around the lagoon side 3 points, 3 times each by using Plankton net and bottles. Next, Measuring the pH value of water by pH meter and Measuring Turbidity value of water by using Secchi disk. Then Reading and Reporting.



# Protocols

**Principle of Atmosphere  
inspection methods.**

**Study Amount of Clouds cover in the sky**

**Measuring cloud cover how many percent of 100 percent  
that all 3 areas and found amount of Clouds cover in the sky**



# Protocols

## Principle of Biosphere inspection methods.

Study species of plankton, Plankton biodiversity index, Applied Algal Research Laboratory-Phytoplankton (AARL-PP) score, Phytoplankton density.

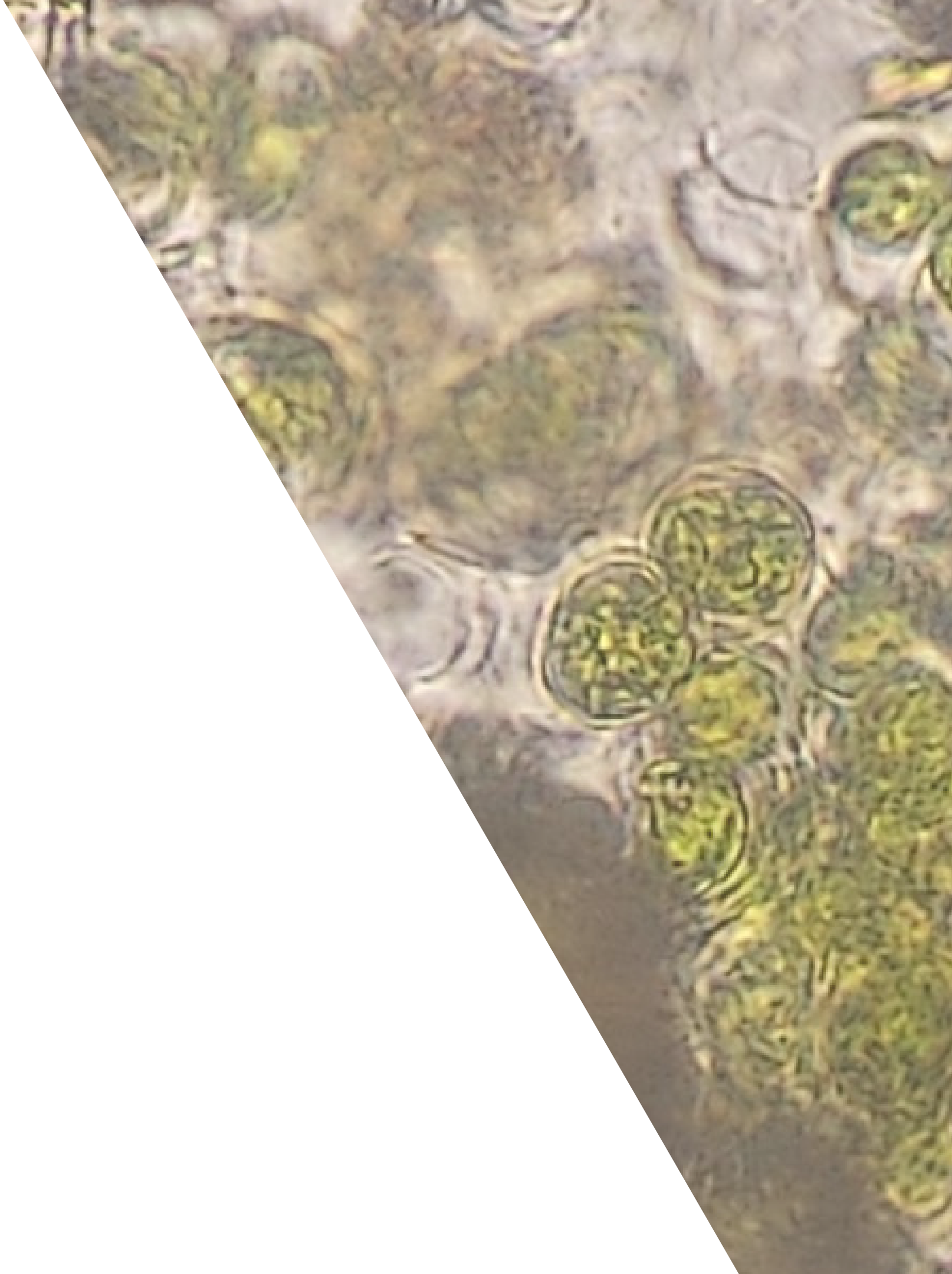
Collect the samples water for research species Phytoplankton by microscope. And found biological water quality from Phytoplankton in the lagoon by calculate Applied Algal Research Laboratory-Phytoplankton (AARL-PP) score and Plankton biodiversity index.



# Result

**Geographic Coordinates Study at Sa Kaphang Surin  
park Tambol Thaptiang amphue Muang , Trang  
92000.**

Zone	Geographic Coordinates	
	Latitude (N)	Longitude (E)
Sa <u>Kaphang Surin</u>	7.572666	99.624598





# Result

analyze Physical water quality.

Type	Area1	Area2	Area3	Average ( $\bar{X}$ ) $\pm$ S.D.
pH value	7.00	7.00	7.00	7.00 $\pm$ 0.00
Temperature ( $^{\circ}\text{C}$ )	29.50	30.50	30.00	30.00 $\pm$ 0.50
Turbidity value (m.)	0.32	0.30	0.30	0.30 $\pm$ 1.00
Dissolved Oxygen (DO)	10.25	11	10.25	10.50 $\pm$ 0.43



# Result

cloud cover analysis.

Type	The first	The second	The third	Average ( $\bar{X}$ ) $\pm$ S.D.
Cirrus	10%	15%	13%	12.67 $\pm$ 2.52
Cirrocumulus	10%	8%	17%	11.67 $\pm$ 473



# Result

shows the number of Phytoplankton.

Type	Quality(cell)			Total
	Area1	Area2	Area3	
<i>Navicula</i> spp.	5	7	5	17
<i>Cosmarium</i> sp.	0	2	0	2
<i>Scenedesmus</i> spp.	2	1	1	4
<i>Oscillatoria</i> sp.	3	5	2	10
<i>Microcystis</i> sp.	1	1	0	2
<i>Planktolyngbya</i> sp.	0	0	1	1
<i>Aphanocapsa</i> spp.	2	0	0	2
<i>Pseudanabaena</i> sp.	2	2	3	7
<i>Tetraedron</i> spp.	1	3	1	5
<i>Chlorella</i> sp.	0	2	1	3
<i>Cymbella</i> sp.	2	3	1	6
<i>Oocystis</i> sp.	1	1	0	2
<i>Pediastrum</i> spp.	0	0	1	1
<i>Trachelomonas</i> spp.	0	1	0	1
<i>Aphanothece</i> sp.	1	0	0	1
				N=64



# Result

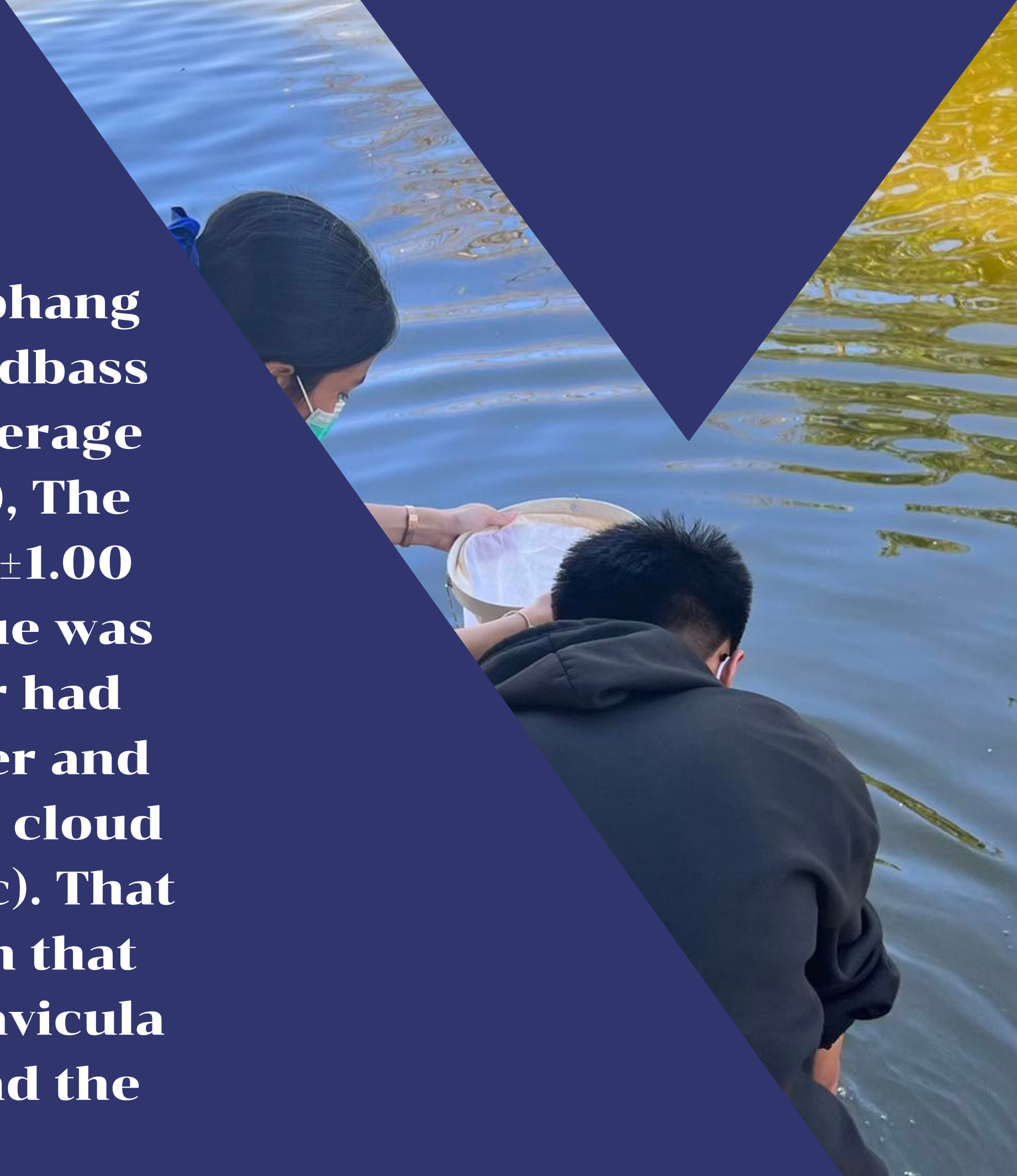
showing the number of Zooplankton Found one species of Zooplankton, *Coleps* sp.

Type	Quality(cell)			Total
	Area1	Area2	Area3	
<i>Coleps</i> sp.	0	1	0	1



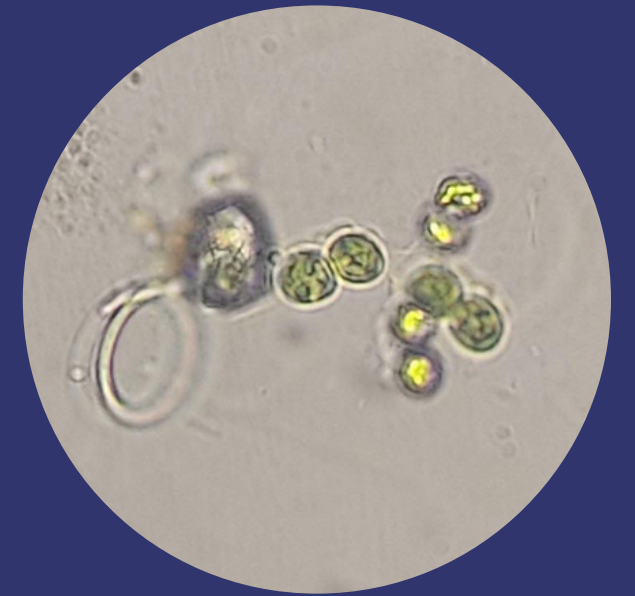
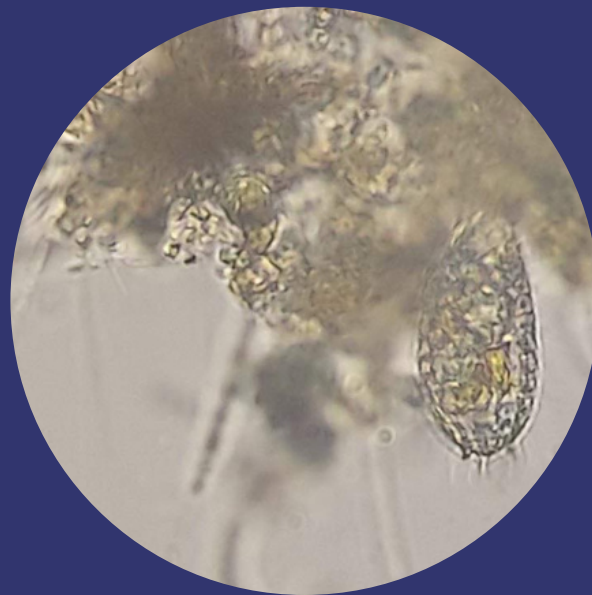
# Conclusion

**The research from water source in Kaphang Surin Public Park That was Average acidbass pH value 7, it was medium value, the average Temperature value was  $30.00 \pm 0.50$  (°C), The average water turbidity value was  $0.30 \pm 1.00$  and average Dissolved Oxygen (DO) value was  $10.50 \pm 0.43$ . It was found that the water had high oxygen and the clouds were cluster and clearly separated. That found high level cloud 2 types: Cirrus (Ci) and Cirrocumulus (Cc). That found of amount lots of Phytoplankton that found the first dominant feature was Navicula spp. The second was Oscillatoria sp. And the last was Pseudanabaena sp.**





**By Plankton biodiversity index was 1.03, Applied Algal Research Laboratory Phytoplankton (AARL-PP) score was 6.267 that was medium quality water to polluted and Phytoplankton density was 80 cell/L, it was found that the water had high of Phytoplankton density. In addition, that was found Protozoa, Ancylostoma ceylanicum, Paramecium aurelia and Cyanobacteria was Vorticella sp. In conclusion, The water quality from Kaphang Surin lagoon has high Diversity of Plankton and medium quality water.**





# THANK YOU

