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CHAIKAS RINGLUEN : DIVERSITY OF PHYTOPLANKTON IN
DIFFERENT HABITATS AT THE LAEM PHAK BIA, AMPHOE BAN LAEM,
CHANGWAT PHETCHABURI. THESIS ADVISORS: SANSANEE CHOOWAEW,
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The study on the Diversity of Phytoplankton in Different Habitats at the Laem Phak Bia, Amphoe Ban Laem, Changwat Phetchaburi was carried out between June 1998 and May 1999. The water samples were collected from 4 different habitats : mangrove forest at Laem Phak Bia , coastal sea at Laem Phak Bia, E-Add canal and mangrove forest at Ban Panern.

There were 5 Phylums, 27 Families, 56 Genera of Phytoplankton : 32 Genera of Bacillariophyta 9 Genera of Cyanophyta, 8 Genera of Chlorophyta, 4 Genera of Pyrrophyta, and 3 Genera of Euglenophyta . The most abundantly found were the Bacillariophyta and the Cyanophyta. Diversity Index of Phytoplankton was highest in 0.121 at the mangrove forest at Laem Phak Bia, compared to 0.08, 0.06, and 0.043 of the coastal sea, mangrove at Ban Panern and the canal, respectively. Statistical testing for One way analysis of variance on the amounts of Phytoplankton in 4 different areas indicated that Bacillariophyta, Euglenophyta and Pyrrophyta were significantly different at 0.05 level. Water quality of all 4 habitats was within an acceptable range : Temperature 29.45 - 30.12 °C, Salinity 28.65 - 30.63 ppt, pH 7.25 - 7.33, Turbidity 174.11 - 347.08 NTU, Dissolved Oxygen 4.12 - 4.53 mg/l, BOD 1.96 - 4.53 mg/l, TKN 0.05 - 0.40 mg/l, and Orthophosphate 0.07 - 0.39 mg/l. The correlations between Phytoplankton and water quality were as follows : Cyanophyta was positively related with BOD, TKN and Orthophosphate and negatively related with Dissolved oxygen and temperature ; Bacillariophyta was positively related with pH, and Salinity and negatively related with BOD and Orthophosphate; Chlorophyta was positively related with BOD and Orthophosphate and negatively related with Dissolved oxygen, Salinity, and Turbidity ; Pyrrophyta was positively related with Dissolved oxygen, pH, Salinity, and Turbidity and negatively related with TKN and Orthophosphate; Euglenophyta was positively related with Dissolved oxygen and Temperature and negatively related with Salinity. Mangrove species commonly found were of Avicenniaceae Family : *A. marina* and *A. officinalis* and of Rhizophoraceae Family : *R. mucronata*. In conclusion, nutrient in mangrove forest at Laem Phak Bia were higher than in other areas. Therefore diversity of phytoplankton at Laem Phak Bia was also higher than in other habitats.