Kesorn Teanpisut 2006: Species Diversity of Marine Planktonic Diatoms at Chang Islands, Trat Province. Master of Marine Science (Marine Science), Major Field: Marine Science, Department of Marine Science. Thesis Advisor: Assistant Professor Sunan Patarajinda, M.S. 280 pages.
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Collections of the marine planktonic diatoms at Chang Islands, Trat Province were conducted in March 2003, from 27 stations by 20 and 70 micrometers plankton nets. Under light microscope (LM) and scanning electron microscope (SEM), 70 genera and 140 species, in Order Biddulphiales and Order Bacillariales were identified.

The Order Biddulphiales (centric diatoms) included 14 families 38 genera and 93 species. Of which Family Chaetoceraceae composed of the most frequent incidents with 2 genera 23 species, Family Rhizosoleniaceae with 5 genera and 17 species and Family Coscinodiscaceae with 2 genera and 13 species respectively.

The Order Bacillariales (pennate diatoms) included 10 families 32 genera and 47 species. Of which Family Naviculaceae composed of the most frequent incidents with 9 genera and 16 species, Family Surirellaceae with 5 genera and 8 species and Family Bacillariaceae with 5 genera and 7 species respectively.

Chaetoceros was the most species abundance (17 species), followed by *Coscinodiscus* (11 species) and *Rhizosolenia* (9 species) respectively. Among the species found in this studies, *Stictocyclus varicus* Mann is a first record for Thailand and *Asteromphalus robustus* Castracane is a first record for the Gulf of Thailand.

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