

**Isolation and potential culture of phytoplankton live feed for freshwater mussels
Sinanodonta woodiana (Lea, 1834)**

ABSTRACT

Background and Objective: Gastropod and Bivalves are widely known as filter feeders which used to feed the phytoplankton and other micro creatures. This study was conducted to identify, isolate and determine the potential culture of phytoplankton species for mussel culture. Materials and Methods: The phytoplankton identification and the culture of phytoplankton in ponds in UPMKB, Sarawak, Malaysia were studied for a period of 3 months from February 2019 to May 2019. Results: Three genera were recorded from the ponds namely *Selenastrum* sp. followed by *Licmophora* sp. and *Gloeocapsa* sp. The highest abundant genus was *Licmophora* sp. due to their presence in every pond while the highest composition in culture condition was *Selenastrum* sp. because every treatment had this genus. The impact of physicochemical parameters on phytoplankton compositions and abundances in four ponds in UPMKB was assessed. Water quality parameters, such as temperature, dissolved oxygen, pH and conductivity were measured in situ from the ponds. Phytoplankton compositions and abundances were analyzed in the laboratory. ANOVA result of the physicochemical parameters showed the presence of significant difference among pH and temperature between ponds. Conclusion: The study concluded that the presence of the *Selenastrum* sp. genus could be the biological indicator of the water quality ponds. The best culture of phytoplankton shown by using the fertilizer treatment which was NPK fertilizer that improves the distribution of the culture of the phytoplankton.

Keyword: Phytoplankton; Physiochemical parameters; Phytoplankton abundance; *Selenastrum* sp.; Water quality parameters