D-11: Monthly abundance of copepods and correlation of various dominant species with some water characters in two ponds in Jaffna peninsula

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Copepods form one of the most important constituents of zooplankton in freshwater habitat. They need to be studied to get a good knowledge of ponds.

Studies on the monthly abundance and distribution of copepod population were made in relation to physico-chemical factors of water in 2 ponds, namely Neeraviaddy pond and Sivankovil pond in Jaffna for 12 months from January to December 1991.

Five different species were recorded in each pond including 2 cyclopoid species - *Mesocyclops leuckarti* and *Microcyclops varicans;* 2 calanoid species - *Phyllodiaptomus annae* and *Neodiaptomus schmackeri* and 1 harpacticoid species - *Cletocamptus albuquerquensis* in Neeraviaddy pond; and 1 cyclopoid species - *Mesocyclops leuckarti* and 4 calanoid species - *Phyllodiaptomus annae, Neodiaptomus schmackeri, Rhinediaptomus indicus* and *Paradiaptomus greeni* in Sivankovil pond. In both ponds the species *Phyllodiaptomus annae* was the most dominant one and next, *Mesocyclops leuckarti.*

Total population densities of copepods peaked in March in Neeraviaddy pond and in June at Sivankovil pond. In both ponds the species *Mesocyclops leuckarti* showed a negative correlation with nitrate content of water and *Phyllodiaptomus annae* showed a positive correlation with transparency of water. They showed more variation in the other factors between ponds.

It was concluded that the population density of copepods is favoured by warm months and the findings of the multiple correlation co-efficients revealed that total density of copepods and most of the individual species were influenced by the combined effects of physico-chemical factors.