# EFFECT OF TEMPERATURE AND FOOD CONCENTRATION ON DURATION OF EMBRYONIC DEVELOPMENT OF TWO TROPICAL CLADOCERAN SPECIES DIAPHANASOMA EXCISUM AND MOINA MICRURA

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A knowledge of the effects of environmental factors on life cycle characteristics of cladocerans are important in estimating their production in field settings. This study examines the relationships between temperature and food concentration on duration of embryonic development ($D_e$) of two species of cladocerans. The food concentrations and temperatures examined were 1.0, 0.5, 0.1, 0.05 mg carbon $l^{-1}$ and 22° 27° and 32° C respectively.

In both species, at all food levels a decrease in $D_e$ was evident with increase in temperature. This relationship can be well described by the equation $Y=aX^b$ (Y = $D_e$ in hrs, : X = temp. in 'C; a & b = constants). Furthermore in Diaphanosoma excisum no significant difference either in slope or in elevation of regressions at different food levels was seen. As such in this case the relationship between $D_e$ with temperature at any food level can be represented by In Y = 11.2332 - 2.3486 In X. In contrast with Moina micrura a significant difference in the elevation or slope was evident only at the lowest food level. Hence in this species except at extreme low food levels the relationship between $D_e$ and temperature can be represented by In Y = 11.1861 - 2.3554 In X. The relationship between D and food level was found to be significant only at 27'C in both species.

In conclusion the above two equations can be used in evaluating production of the two species in a field setting of known food level.