B-95: Analysis of insect population censuses with overlapping generations

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The accurate analysis of insect population censuses for species with overlapping generations has always been difficult, but when generations are not completely overlapping some methods are available.

Census data for the caterpillar (*Opisina arenosella*) Walker were collected at weekly intervals, over a period of 16 months, from an infested estate in the Western Province. Preliminary analysis of the data enabled the identification of 5 distinct cohorts corresponding to 5 generations. The census data for each cohort was examined separately.

Egg hatch was estimated using the method of Dempster (1956). Estimation of larval mortality was done using a modified method of Kobayashi (1968) adopted for laboratory cultures. Using this data, a series of life tables were then constructed each responding to an indicated cohort.

A key factor analysis (Varley and Gradwell. 1960) using the K value from the respective life tables enabled the identification of egg mortality as the key-stage and ant predation and cannibalism as the key-factors for fluctuations in the *O. arenosella* population studied.