Book review

J. van den Bos, 1983. The isolating effect of greenhouses on arthropod pests: a case study on *Clepsis spectrana* (Lepidoptera: Tortricidae). Dissertation Agricultural University, Wageningen, the Netherlands. 93 pages. With 33 tables and 19 figures, reference list and summaries in English and Dutch.

In the Netherlands, protected cultivation of vegetables and ornamental plants in heated greenhouses is of utmost importance since many years. The environmental conditions in greenhouses differ in many respects from those in the open. A free exchange between populations of arthropods in and outside the greenhouses is difficult, so that a strong isolating effect on the inside fauna may occur.

In this respect, the leafroller, *Clepsis spectrana,* provides an interesting example, because it developed a separate greenhouse-adapted biotype. It causes an important pest, particularly in roses. In heated greenhouses even without an artificial light regime, this species has a continuous development also during wintertime, not interrupted by a diapause. This is in contrast with the outdoor population which has a long diapause of approximately 6 weeks in winter.

In his doctoral thesis, the author presents a comparative analysis of both biotypes of this leafroller. He starts with a detailed description of the larval development. Then other aspects follow: the relation between diapause and photoperiod; the effect of temperature on the diapause; the response of larvae of the field biotype after their introduction into heated greenhouses; an analysis of the components of the female sex pheromones in both biotypes; the possibility of hybridization of both biotypes.

The major conclusion is that field and greenhouse populations of *C. spectrana* are still conspecific. It is correct to speak of a field biotype and of a greenhouse biotype. When the biotypes are brought together, hybridization and introregression certainly will occur.

Although many questions remain open particularly about the way the divergence between the two biotypes has been effected, this dissertation presents much useful information.

A.K. Minks