

ITHE INFLUENCE OF DENSITY OF THE POPULATION OF STICK INSECTS OF THE
CANNIBALISM PHENOMENOM

Hanna Kulińska

Key words: stick insects, cannibalism, population, density

ABSTRACT

Cannibalism is the act of one individual of a species consuming all or part of another individual of the same species as food. To consume the same species is a common ecological interaction in the animal kingdom it is observed in more than 140 species behaviour. These animals represent the following systematic units: insects, arachnids, fish, amphibians, birds and sometimes mammals. Cannibalistic behaviour may become more intensive, when the population density increases or when there is not enough food for all individuals. This phenomenon might be beneficial for those populations, which are characterized by a large number of individuals. Too many of them could lead to a food depletion or extinction of the population. During unfavourable weather conditions, it is more beneficial for the smaller group of individuals, for whom there is enough food, to survive than a large group of starving animals. Stick insects become cannibals when the density of population is too large or there appears to be a lack of food. When the following situation takes place, these insects start to bite each other's antennae and legs. Young animals have an ability of reproducing missing limbs during the process of moulting. Adult individuals, who lost them, are forced to live without them until their life ends. There are many different reasons why stick insects lose their limbs. One of them is when the process of moulting runs in an incorrect way (Błaszak 2009).

The purpose of the research conducted in laboratory conditions was to show at what density of population and an unrestricted access to food, cannibalistic behaviour of stick insects will be observed. The animals were kept in two insecticides. The volume, growing conditions and the amount of food given in both of them were the same. The only difference was the population size. The first insecticide contained 5 individuals, and in another one there were 15 of them. The results of the experiment confirmed that this type of stick insects show cannibalistic behaviour. Consuming parts of other individuals took place only in the insecticide, which contained more insects fed with correspondingly smaller amount of food per one individual compared to the less numerous population.

Hanna Kulińska, Ith Academic High School Janina Kossakowska-Debicka in Kielce

e-mail: hannakulinska068@gmail.com