

Tadu Z., Djieto-Lordon C., Fomena A., **Babin R.**, Yede, Mahiane G. 2009. Influence of insecticide treatment on ant diversity in tropical agroforest system: the case of Cameroonian cocoa farms. Sixteenth Annual Conference of Bioscience « Bioscience and Food Security », 3-5 December 2009, University of Yaoundé I, Yaoundé, Cameroon [Abstract].

In order to understand the influence of anthropogenic disturbance on ant communities in tropical region; we conducted a study in southern Cameroonian cocoa farm. The survey aim to assess the influence of phytosanitary treatment on ant diversity and recolonization process of cocoa farm by ant species. During two consecutive years 2006-2007 and 2007-2008 ants sampling was performed using Chemical Knock-down technique in six traditional cocoa farms located in tree localities under different agro ecological environmental condition. Ant diversity was assessing using Shannon index of diversity and Sorensen index of similarity. After treatment: (1) the most abundant and most diverse sub-families were Formicinae and Myrmicinae; (2) at a local scale, with a small exception, specific richness of ant increase in plantations whereas diversity decrease; (3) at a regional scale, the specific richness increase and remain high both in forest (S= 46) and transitional (S= 46) areas compare to savannah (S= 42); diversity increase in transitional area whereas in forest and savannah diversities slide; (4) we have collected 10, 13 and 26 news ant species respectively in Bokito, Obala and Ngomedzap. Among the news establish species, *Dorylus (Anoma) nigricans* (Illiger) workers collected at Ngomedzap were the most abundant (36,36 %) and most frequent (53 %) on the tree; whereas among formerly establish species *Oecophylla longinoda* (Latreille) and *Crematogaster gabonensis* (Mary) were the most abundant respectively in Bokito (55,63 %) and Obala (31,48 %). Our result suggests formally that Phytosanitary treatment may affect ant diversity and favorise the establishment of some species like army ant *D. (Anoma) nigricans* (I.). In spite of the treatment certain ant species like *O. longinoda* (L.) and some species belonged to *Crematogaster* genus according to their nesting behavior may resist against treatment. This Knowledge may help to develop an integrate pest management program combine benefic ant species and selective insecticide spraying to protect tropical crops against scale insect.