

## ANTS ASSOCIATED WITH CROP-LIVESTOCK-FOREST INTEGRATION SYSTEM (CLFIS) IN PONTA GROSSA, PR, BRAZIL

M.F.O. MARTINS<sup>1,2</sup>, W.R. FILHO<sup>1,3</sup>, S.R.C. PENTEADO<sup>1</sup>, M.A. NICKELE<sup>4</sup> & M.J. THOMAZINI<sup>1</sup>

<sup>1</sup>Laboratório de Entomologia, Embrapa Florestas, Estrada da Ribeira, km 111, Jardim Cristina, C. Postal 319, CEP: 83411-000, Colombo, PR, Brasil, e-mail: [milaformartins@hotmail.com](mailto:milaformartins@hotmail.com). <sup>2</sup>FUNCEMA- Fundo Nacional de Combate de Pragas Florestais. PR <sup>3</sup>EPAGRI- Empresa de Pesquisa Agropecuária e Extensão Rural de Santa Catarina, SC. <sup>4</sup>Universidade Federal do Paraná, Curitiba, PR.

The Crop-Livestock-Forest Integration Systems (CLFIS) emerge like a sustainable form to elevate the potential of agricultural productivity and, at same time, to protect the water and soil. Besides that, CLFIS amplify the nutritional cycle of soil nutrients, supply thermal comfort to the animals and, with this, reduce the production costs. Because of a relatively new activity, few studies was realized in relation to abundance of macro, meso and microfauna and the populations dynamics in CLFIS, that are important items to an adequate pest management, because, especially the insects, can damage the forest and agricultural components, reducing the efficacy of the system. The aim of this study was to identify the ants presents in different soil strata present in the CLFIS. Samples were collected in June (2012), in the “model farm” that possess a crop-livestock-forest integration with *Eucalyptus* sp. lines, owned by IAPAR (Agronomic Institute of Paraná), in Ponta Grossa, PR (25°5'11”S; 50°9'38”W, with a characteristic vegetation like “General Fields”. The utilized method was the TSBF (“Tropical Soil Biology and Fertility”), Anderson & Ingram (1993), which is the analysis of monoliths with dimensions of 25x25x30 cm, in three layers (0-10, 10-20, 20-30cm), plus the leaf litter within a square of 25x25cm. The material was screened at Order level in the field and stored in 70% alcohol. Thirty eight morphospecies belonging to five subfamilies and 21 genera were identified: Dolichoderinae (*Conomyrma*, *Forelius*, *Hypoclinea*, *Liometopum* e *Tapinoma*), Ecitoninae (*Chelioyrmex* e *Neivamyrmex*), Formicinae (*Brachymyrmex*, *Camponotus*, *Formica* e *Prenolepis*), Myrmicinae (*Acromyrmex*, *Solenopsis* e *Trachymyrmex*) e Ponerinae (*Cylindromyrmex*, *Dyscothyrea*, *Heteroponera*, *Hypoconera*, *Odontomachus*, *Pachycondila* e *Proceratium*). The genus with largest number of species was *Brachymyrmex* (seven), followed for *Camponotus* (five), *Neivamyrmex* (four) and *Heteroponera* (three), the other genuses alternated between one and two morphospecies. The genus with the largest number of collected individuals was *Brachymyrmex* (180). The stratum with the largest number of genus was 0-10 cm, followed by litter and by stratum 10-20 cm. It was not found ants in the soil level 20-30cm. New collections are needed to further elucidate the occurrence of ant species and its correlation with the strata, at different periods of the year.