

University of Hohenheim
Institute of Plant Production and Agroecology in the Tropics and
Subtropics

Agroecology Section

Professor Dr. J. Sauerborn



Diversity and Abundance of the Coccinellidae in Different
Land Use Systems of Leyte, Philippines

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by
Kristen Davies
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8 Abstract

This study involves the examination of the distribution and diversity of Coccinellidae in different land-use systems. Rice, agroforestry, secondary natural forest, rainforestation, coconut, and kaingin areas were compared to determine coccinellid distribution, diversity between the areas, and the movement patterns between habitats. Coccinellids were sampled by Malaise trap, sweeping, beating and yellow pan methods. High numbers of individuals but low diversity were found in the rice cropping area. More structurally diverse areas such as kaingin areas planted with a variety of crops, along with coconut plantations, had no coccinellids within these areas, but had a high diversity of species in the grassy border between these two habitats. The structurally diverse agroforestry area yielded low catches. No coccinellids were found in the secondary natural forest and planted rainforestation sites, leading to the conclusion that these forested areas are not suitable alternatives to primary forests. Five species were collected in total, (*Micraspis crocea*, *Epilachna transversalis*, *Coelophora inaequalis*, *Cheilomenes sexmaculata*, and one unidentified species). The most common coccinellid was *Micraspis crocea*, which made up 91% of the overall catch, and was found in all areas where coccinellids were present. The Malaise trap captured the highest number of species overall, and caught all five species, while sweeping caught only three of five species. Both beating and yellow pan traps were determined to be ineffective in capturing the species of Coccinellidae present. Coccinellids were most diverse in grassy border areas, showing the importance of border areas to maintain populations around agricultural areas. As forest clearing removes primary forest, the successive and replanted trees do not seem to be able to be a suitable replacement habitat for displaced Coccinellidae.