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Biodiversity of Small Mammals in Cacao Agroforests in Peruvian Amazon

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Abstract

A large proportion of the deforestation of tropical rain forests is caused by small-scale farmers. Traditional slash-and-burn systems with prolonged fallow periods are no longer feasible in most parts of the tropics. However, agroforests could have great potential to increase the productivity of farming systems and sustain continuous crop production. Cacao (*Theobroma cacao*) agroforests that maintain a high proportion of shade trees in a diverse structure is being viewed as a sustainable landuse practice. The basic hypothesis was the question if the cacao agroforests are able to support the biodiversity of small mammals in Peruvian Amazon. The main objective of this study was to assess the impacts of the forest conservation on small mammal communities by comparing tree species richness, diversity and composition between primary and secondary forests, cacao agroforests and slash-and-burn fields in San Alejandro, Peruvian Amazon. We trapped small mammals in 16, 25×25 meter plots on the four land-use systems using Sherman and Tomahawk traps during three months. 31 individuals were trapped of 14 different species. All of them were rodents or marsupials mammals. According to the species diversity indexes, the species composition of cacao agroforests is comparable with the secondary forest. From the observations a different species composition in primary forest was obvious, but the cacao agroforests seems to be a better alternative for conservation of biodiversity than traditional intensive agriculture. In this context our study forms a good scientific background for further monitoring of ecological changes in the human modified landscape of the Peruvian Amazon region.

Keywords: Amazon basin, neotropical mammals, Sherman trap, species diversity, species richness, *Theobroma cacao*, Tomahawk trap