Logistic Regression to Predict Termite Occurrences with Environmental Variables in Primary Forest and Oil Palm Ecosystem: The Case Study in Sabah, Malaysia

Abstract

The aim of this research was to study the relationship between presence of termite and environmental variables in primary forest and adjacent oil palm plantation located in Sabah province, Malaysia. Termite sampling was conducted with manually dug and sorted soil pits (25 cm × 25 cm × 10 cm) at a minimum extent of 64 m and lag of 2 m. Logistic regression technique was used to analyze the collected data. In general, termite species richness and relative abundances are lower in oil palm plantation in comparison with primary forest. The result showed that probability of termite occurrences in primary forest are mainly related to dead woods, trees and non-predatory ants. Likewise, probability of termite occurrences in oil palm plantation was affected with the appearance of dead woods, pruned stacked fronds, non- predatory ants and earthworms. This result indicated that pruned stacked fronds and dead woods play an important role of recovery of termite assemblages in oil palm plantation.