

## SOIL INVERTEBRATES ASSOCIATED WITH TERMITE BAIT MONITORING STATIONS

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**Abstract** Subterranean termites are wood structure destructor in both urban and agricultural sectors. Termite control comprises about 50% of the total business turnover of the pest control industry in Malaysia; which was estimated at RM40 million annually. Baiting is considered a rather new technique in Malaysian market. The system will be placed underground, surrounding the buildings for a certain period of time. Questions on attractiveness of the stations to non-targeted soil invertebrates arise. Therefore, a field study was conducted in Minden Campus, Universiti Sains Malaysia to determine invertebrates associated with termite monitoring station (Sentricon<sup>®</sup>, Dow AgroSciences, Indianapolis, Indiana). A total of 72 monitoring stations were installed in three different habitats, new buildings (< 5 years old), old buildings (>5 years old) and natural habitats. Experiment was conducted for 5 mo. and was replicated three times. All invertebrates found in the stations were collected fortnightly. All environmental parameters (habitat types, monthly rainfall, soil temperature, soil moisture, soil pH and soil organic matter) were recorded. All frequencies were arc-sine transformed and subjected to General Linear Model, Repeated Measures. In order to study the effects of different wood species, namely *Pinus* sp. (pine), *Hevea brasiliensis* (rubber), *Dyera costulata* (jelutong) and *Camponosperma aunculata* (terentang) as monitoring stakes to the distribution and abundance of soil invertebrates, another experiment was conducted for five weeks. Data was collected weekly. All frequencies were arc-sine transformed and subjected to One-way ANOVA analysis. Means were then separated using Tukey HSD ( $P < 0.05$ ). Sixteen invertebrates were found in the monitoring stations, with acarines (mites) being the most abundant ( $59.8 \pm 9.9$  % of the total of 72 stations). Other invertebrates that were also frequently found included collembolans, isopods, formicids, chilopods, diplopods and araneas. Most of these invertebrates were found to utilize the monitoring stations as their harbourages. Among the parameters that were measured, only soil pH and the interaction between soil pH and soil organic matter significantly ( $P < 0.05$ ) influenced the abundance of certain invertebrates found in the monitoring stations. There appeared to be no significant differences among the types of invertebrate found in the four wood species tested in this study.