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Abstracts



*Research and Development of Natural Products
for Human Survival in the 21st Century*

Repellant Activity of *Alpinia calcarata* Volatiles for *Periplanata americana* (American cockroaches)

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Many synthetic pesticides are used for protection of agricultural crops, stored products as well as to control household pests. They have resulted in environmental problems by disturbing in local ecology due to destruction of non-target beneficial insects and development of insect resistance. The present study was aimed to identify biologically active components present in *Alpinia calcarata* volatiles to control a common household pest, american cockroach, *Periplanata americana*. A steam distillate from the freshly cut rhizome of *Alpinia calcarata* was analysed by Gas chromatography. Gas chromatography coupled with electroantennographic detection (GC-EAD) and GC-MS were carried out to detect repellant components for the cockroaches. Three peaks were shown to possess electrophysiological (EAG) activity. They were identified as 1,8-cineole (major compound), camphor and 4-caranol. The crude extract was also tested against the cockroaches and the results reveal that the crude extract was more effective than any of the compounds for adults and nymphs cockroaches.

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