

RESEARCH HIGHLIGHTS

Effect of Sanitation on Level of Cockroach Invasion in Food Pantries

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Cockroaches are pests that are hated by everyone due to their creepiness. American cockroach scientifically known as "*Periplaneta americana*" is considered as the most common household cockroach which persists in buildings and human residential areas.

Cockroaches are nocturnal insects and opt for dark and moist surroundings. Humid areas and moist surroundings are the perfect microhabitats for pathogens. Therefore, it is suspected that cockroach picks these pathogens up while crawling from such places.

Cockroaches are known to be linked with many pathogens including helminths ova and protozoan cysts. Moreover, apart from them, microscopic ectoparasites (mites) are considered as significant pathogens that can be potentially carried by cockroaches. However, despite these facts, very few investigations have been performed to discover the relationship between cockroaches as well as mites transmission¹.

Mites are a potential threat to human health that causes serious diseases in humans like scabies and scrub typhus². It is reported that mites can also cause respiratory ailments such as asthma, dermatitis as well as rhinitis and allergic reactions³.

Considering these facts, researchers decided to conduct a new study for identification of the occurrence of mites carried by cockroaches from two food stalls as well as two restaurants in Malaysia. For this purpose, 179 cockroaches from the species of "*Periplaneta americana*" were caught and processed for the identification of mites. Afterward, the mites were observed under light microscope⁴.

During this study, out of 179 tested insects, 102 cockroaches were found to carry mites. However, the percentage of mites' occurrence was higher in the food stalls in comparison with the restaurants⁴.

This experiment provided the first microscopy evidence which exhibits that the cockroaches potentially serve as mechanical vectors for mites. In absence of proper control of these insect pests, they can pose the transmission of vector-borne diseases and health risks including severe allergies and itchiness, particularly to children when the cockroach snuck up to human residential areas like houses or apartments as they carry a huge number of mites.

Conclusively, scientists suggested a detailed investigation by collecting more cockroaches from a different area to study the prevalence of mites. Moreover, awareness among food premises workers should be raised to encourage proper hygiene practice such as improving the sanitary of the market's place as well as disinfecting the kitchen area to control the cockroaches' infestations and mites' invasion.

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