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Comparative efficacy of entomopathogenic nematode and *Bacilus thiringiensis* against mosquitoes (Diptera: Culicidae)

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Ecological changes connected with global warming produce an essential effect on the thermal conditions of the biotopes of blood-feeding arthropods, which play a highly important role in the transmission of various pathogenic microorganisms. In recent years, much attention has been given to the study of carriers of pathogenic microorganisms which cause various infections in man and animals. Among blood-feeding arthropods as carriers of causative agents of dangerous infectious diseases, mosquitoes have major importance. Mosquitoes (Diptera: Culicidae) are the most important groups of arthropods in medical and veterinary sciences. They act as vectors of several diseases such as malaria, yellow fever, dengue, etc. The objective of this study was to evaluate the susceptibility of Entomopathogenic Nematode (EPN) species *Steinernema feltiae* and biological pesticide *Bacilus thiringiensis* (*Bt*) against mosquitoes like *Anopheles maculipennis* and *Culex pipiens molestus* in the laboratory. These biological agents are regarded as environmentally friendly, and successfully used for biological control of insect pests. Both species of mosquitoes (50 specimens of larval stage) were treated with suspension of 5000 nematodes/ml water (i.e., dose 100 nem/per insect) and *Bt* with concentration 0.1, 0.2, 0.5%. Mortality was assessed 3, 4, 5 and 6 days after treated. Effectiveness of EPNs and *Bt* ware checked as indicator of infection. It can be concluded that EPNs infection slight insecticide activity towards the larvae of the indicated mosquito's species. More effective is the action of *Bt*, the insect mortality (100%) growing with the increase of concentration 0.5%. The mosquito's larvae are most sensitive to the *Bt* toxins.

Biography

Manana Lordkipanidze has completed his PhD from Ilia State University, Institute of Zoology. She is the main investigator of entomopathogens. Her field usage biological pesticides like entomopathogenic nematodes, entomopathogenic fungi and bacteria for biological control of the major pest insects in Georgia. She has more than 70 papers in reputed journals.

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