Nomuraea rileyi: a plausible fungi selectively controlling lepidopteron, Paraponyx stratiotata L. damaging queen palm (Livistona rotundifolia L.).

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Abstract

Queen Palm (Livistona rotundifolia) is cultivated extensively for both local and foreign ornamental markets with the desired characteristics of even and ever green, pest and disease free healthy palm and quality leaves. The root borer, Paraponyx stratiotata (Lepidoptera) is recently encountered on young palm roots and damaging them within. They emerged as a new pest on L. rotundifolia grown in all the area. Different entomopathogens were evaluated and determined the potential of Nomuroea rileyi selectively due to its greater infective ability. Field collected root borer larvae were reared and N. rileyi was evaluated both in-vitro and in net house conditions. Treatments comprising Beauveria bassiana, Metarhizium anisopliae, Trichoderma sp., N. rileyi, a standard check with 3% Carbofuran and water as a control were evaluated in potted seedlings (3 months old) of queen palms. Among the entomopathogens tested, N. rileyi was found more effective and recorded the best of 61% mortality. Subsequent experiment had been conducted with commercial bio-products alone or in combination with local isolates as treatments; N. rileyi, B. bassiana, M. anisopliae, B. bassiana + M. anisopliae, N. rileyi + M. anisopliae, N. rileyi+ B. bassiana, and water as a control were evaluated. Among these treatments N. rileyi was alone more effective than in combination with or other entomopathogens alone. In vitro study revealed LD50 of N. rileyi as best spore load of 1 x 10(8) spores/ml compare to other treatments. This proves the potential of N. rileyi on P. stratiotata. The application of N. rileyi had claimed not only to reduce the incidence of root damage but also to sustain the growth and vigor of the L. rotundifolia to most fit for exporting.

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