

**EFFECTIVENESS OF WATER HYACINTH  
(*Eichhornia crassipes*) LEAVES EXTRACT AS AN  
ALTERNATIVE INSECTICIDE TOWARDS FIRE ANTS  
(*Solenopsis invicta*)**

**MIRRAH 'AFIFAH BINTI NAZRI**

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This Final Year Project Report entitled “**Effectiveness of Water Hyacinth (*Eichhornia crassipes*) Leaves Extract as an Alternative Insecticide Towards Fire Ants (*Solenopsis invicta*)**” was submitted by Mirrah ‘Afifah Binti Nazri, in partial fulfilment of the requirements for the Degree of Bachelor of Science (Hons.) Biology, in the Faculty of Applied Science and was approved by



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Syazuani Mohd Shariff  
Supervisor  
Faculty of Applied Science  
Universiti Teknologi MARA  
72000 Kuala Pilah  
Negeri Sembilan



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Siti Norazura Jamal  
Coordinator FSG661 AS201  
Faculty of Applied Science  
Universiti Teknologi MARA  
72000 Kuala Pilah  
Negeri Sembilan



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Dr. Aslizah Mohd Aris  
Head School of Biology  
Faculty of Applied Science  
Universiti Teknologi MARA  
72000 Kuala Pilah  
Negeri Sembilan

Date: \_\_\_\_\_

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## ABSTRACT

### **EFFECTIVENESS OF WATER HYACINTH (*Eichhornia crassipes*) LEAVES AS AN ALTERNATIVE INSECTICIDE TOWARDS FIRE ANTS (*Solenopsis invicta*)**

Insects are animals that are crucial components of almost all lands and fresh water ecosystems. In order to kill or repel the insects, especially for farmers and households, they will use insecticides that usually are synthetic or commercialized insecticide. Insecticides are chemical or biological origins that are used to control the insects that can damage plant and animal products in a variety of agricultural, silvicultural and domestic activities. In this study, water hyacinth (*Eichhornia crassipes*) plant was used to determine their effectiveness and potential as an alternative insecticide towards ants (*Solenopsis invicta*) and to identify the effectiveness of the water hyacinth leaves extraction with different concentrations. The sample was extracted by using maceration technique with distilled water as it solvent. The leaves extract was divided into three different concentrations such as 10%, 30% and 50%. The extract samples were tested against the ants by sprayed them with 1 mL of extract concentration. Based on the result obtained, 50% of water hyacinth leaves extract concentration was the best concentration as it caused the higher mortality rate of ants. There were also shown significant differences among different concentration of water hyacinth leaves extract which was  $p = 0.004$  in causing mortality to the ants after treatment application. As conclusion, the results obtained from the study indicated that water hyacinth leaves have insecticidal property and hence can be used in the control of ants. This study can contribute to the new plant sources for making a new plant-based material insecticide.