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## ABSTRACT

### TOXICITY EVALUATION AND WOUND HEALING PROPERTIES OF *Ageratum conyzoides* Linn.

This study was conducted to evaluate the acute toxicity and wound healing properties of *Ageratum conyzoides* stem and root methanolic extract. *Ageratum conyzoides* is branched, covered with fine white hair, aromatic herb and can grow to approximately 1 m in height. It has been used widely in many countries especially in the tropical region since ancient times as a remedy for various diseases such as burns and wounds, bacterial infection, hemostatic effect and other skin diseases. In this study, *Ageratum conyzoides* was collected from Sabandil village, Papar, Sabah. The crude methanolic extract of *Ageratum conyzoides* stem and root were evaluated for its acute toxicity at the concentration of 0.1 g/L (10% m/v) using the method of Fish Acute Toxicity based on OECD guideline 203. The crude methanolic extract of stem and root *Ageratum conyzoides* were also used to evaluate the wound healing properties through blood coagulation activity using blood sample obtained from rat by cardiac puncture and antibacterial activity screening against gram-positive wound pathogenic bacteria, *Staphylococcus aureus* (ATCC 25923) and gram-negative wound pathogenic bacteria, *Pseudomonas aeruginosa* (ATCC 27853). *In vitro* bacterial screening was conducted using disc diffusion technique according to the Kirby Bauer method and each disc loaded with 30  $\mu$ L of crude methanolic extract of stem and root *Ageratum conyzoides*. The result obtained from acute toxicity evaluation does show the methanolic extract of stem and root of *Ageratum conyzoides* at concentration 10% m/v were nontoxic as no mortality and abnormalities of activities of fishes were observed during the course of treatment for 96 hours of exposure. Evaluation of wound healing properties of stem and root *Ageratum conyzoides* through blood coagulation activity evaluation showed the decrease of coagulation time compared to the control. While, the mean zone of inhibition produced by the crude methanolic extract of stem and root *Ageratum conyzoides* against tested bacteria were found to be 21.33 mm, 24.33 mm for stem methanolic extract against *Staphylococcus aureus* and *Pseudomonas aeruginosa* respectively. As for the root methanolic extract against *Staphylococcus aureus* and *Pseudomonas aeruginosa* the inhibition zone were 24.00 mm and 23.33 mm respectively. Therefore, from this study, it is suggested that methanolic extract of *Ageratum conyzoides* stem and root are nontoxic and possess wound healing properties as it fastens the blood coagulation time and has antibacterial activity. Further study of *Ageratum conyzoides* should be conducted since it has the potential as a therapeutic for wound treatment.