Chromatographic Analysis and Analgesic Assay of Alpazoti (*Chenopodium ambroisiodes Linn.*) Leaf Extracts

An Undergraduate Thesis
Presented to
The Division of Physical Sciences and Mathematics
College of Arts and Sciences
University of the Philippines in the Visayas
Miag-ao, Iloilo

In Partial Fulfillment
of the Requirements for the Degree
Bachelor of Science in Chemistry

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June 2007

ABSTRACT

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The leaf of alpazoti (*Chenopodium ambroisiodes Linn.*) was evaluated for its analgesic activity using the acetic acid-induced writhing assay. The aqueous extract of the leaf showed the highest bioactivity with 87.6316% reduction in the number of squirms of albino mice using 100 µg/ml dosages. The crude methanolic extract also showed a percent reduction of 76.4211%. DCM and ethyl acetate fractions both exhibited 54.6584% reduction, thus, were also potent analgesics.

Aqueous extract was subjected to further assay to determine the most effective concentration among the three concentrations, 1000 µg/ml, 100 µg/ml and 10 µg/ml against three corresponding concentrations of the mefenamic acid which served as the positive control and distilled water as the solvent control. 1000 µg/ml of the aqueous fraction reduced the acetic acid-induced writhes by 90.5983%, while 100 µg/ml and 10 µg/ml of the fraction exhibited 80.0124%, respectively.

Chromatographic analysis using TLC method showed that aqueous extract may contain terpenes, alkaloids, phenolic compounds, saponins and cardiac glycosides.

Three fractions of similar TLC profiles (A1, A2 and A3) were obtained after vacuum liquid chromatography was carried out on the aqueous fraction. Fraction A2 showed the highest analgesic activity by reducing 80.87% of the acetic acid-induced withes. Fractions A1 and A3 exhibited 37.61% and 35.00% reduction, respectively.

Using methanol:ethyl acetate (1:1) as solvent system and vanillin-sulfuric acid, Dragendorff reagent, $K_3Fe(CN)_6$- $FeCl_3$ and concentrated sulfuric acid as spray reagents, the spots in the chromatograms of fraction A2 indicated the presence of terpenes, alkaloids and cardiac glycosides. Thus, most probably, the active constituents responsible for the analgesic activity could be terpenes, alkaloids and cardiac glycosides.