THE ANTIBACTERIAL ACTIVITY OF *PORTULACA OLERACEA*, L. (PURSLANE) AGAINST SELECTED TEST BACTERIA

A Thesis

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University of San Carlos

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In Partial Fulfillment

of the Requirements for the Degree

Master of Science in Biology

by

Marilyn Young-Tiu

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APPROVAL SHEET

This Thesis entitled "THE ANTIBACTERIAL ACTIVITY OF *PORTULACA OLERACEA*, L (PURSLANE) AGAINST SELECTED BACTERIA" prepared and submitted by MARILYN YOUNG TIU in partial fulfillment of the requirements for the degree of MASTER OF SCIENCE IN BIOLOGY has been examined and is recommended for acceptance and approval for ORAL EXAMINATION

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ANTONIO E. BATOMALAQUE, M.S.
Adviser

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Member

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Adviser

SALUD M. GABRERA, M.S.
Member

NERIZA C. ARCHE, M.S.
Member

Accepted and approved in partial fulfillment of the requirements for the degree of MASTER OF SCIENCE IN BIOLOGY

Comprehensive Examination PASSED July 18, 1987

MONTANA C SANIEL, Ph D
Dean, Graduate School

March 20, 1996
Date of Oral Examination

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MALYN

ABSTRACT

The study dealt with the determination of the antibacterial activity of the aqueous and alcohol-free extracts of the stem, leaves and roots of *Portulaca oleracea*, (Purslane) against four test bacteria using the disk diffusion method It included the determination of the minimum inhibitory concentration (MIC), the minimum bactericidal concentration (MBC) and the effects of temperature, pH and light on the antibacterial activity

The aqueous and alcohol-free extracts of the stem and the leaves exhibited antibacterial activities against *Bacillus subtilis*, *Escherichia coli* and *Staphylococcus aureus* *Pseudomonas aeruginosa* was resistant Both the aqueous and the alcohol-free extracts of the roots did not show any antibacterial activity

Using the turbidimetric and plate assay methods, the minimum inhibitory concentration of the leaf extract was determined to be 40% and the minimum bactericidal concentration, 50%

Antibacterial activity of the extracts were found to be adversely affected when stored at 40°C or when exposed to light for more than two weeks Storage at pH 3 improves the biological stability of the extract

Since the extracts were found to be half as active as tetracycline, it is recommended that clinical studies be made for the use of the extracts for mild to moderate cases of infection

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