# COMPARATIVE STUDY OF *IN VITRO* ANTIBACTERIAL ACTIVITY OF *Eugenia caryophyllus* ALCOHOLIC EXTRACTS AND AQUEOUS EXTRACTS AGAINST DIFFERENT BACTERIA

**NUR HAYANI BINTI MUHAMMAD PUDZILAH**

**Final Year Project Report Submitted in**
**Partial Fulfillment of the Requirements for the**
**Degree of Bachelor of Sciences (Hons.) Biology**
**In the Faculty of Applied Sciences**
**Universiti Teknologi Mara**

**JANUARY 2017**

This Final Year Project entitled **"Comparative Study Of *In Vitro* Antibacterial Activity Of *Eugenia caryophyl*lus Alcoholic Extracts And Aqueous Extracts Against Different Bacteria"** was submitted by Nur Hayani binti Muhammad Pudzilah, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Biology, in the Faculty of Applied Sciences, and was approved by

_____
Nurulhuda binti Ismail
Supervisor
B.Sc. (Hons) Biology
Faculty of Applied Sciences
UiTM Negeri Sembilan
Kampus Kuala Pilah
Pekan Parit Tinggi
72000 Kuala Pilah
Negeri Sembilan

_____
Ilyanie Hj Yaacob
Project Coordinator
B.Sc. (Hons) Biology
Faculty of Applied Science
UiTM Negeri Sembilan
Kampus Kuala Pilah
Pekan Parit Tinggi
72000 Kuala Pilah
Negeri Sembilan

_____
Dr. Nor'aishah Abu Shah
Head of Programme
B.Sc. (Hons) of Biology
Faculty of Applied Science
UiTM Negeri Sembilan
Kampus Kuala Pilah
Pekan Parit Tinggi
72000 Kuala Pilah
Negeri Sembilan

Date: _____

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## ABSTRACT

### COMPARATIVE STUDY OF *IN VITRO* ANTIBACTERIAL ACTIVITY OF *Eugenia caryophyllus* ALCOHOLIC EXTRACTS AND AQUEOUS EXTRACTS AGAINST DIFFERENT BACTERIA

Nowadays, bacteria were more resistant towards antibiotic and antiseptic due to increasing use of drugs, this situation causes worry and limit the preventive measure that decreasing the efficiency of conventional medicine. Therefore, it is crucial to continue searching for new antibacterial agents from natural sources such as medicinal plants. Clove or its botanical name (*Eugenia caryophyllus*) is one of the medicinal plant or spices that can be proven as effective antibacterial agent. The alcoholic and aqueous extracts of *Eugenia caryophyllus* shows good activity against *Staphylococcus aureus, Serratia sp., Shigella sp., Proteus sp.* and *E. coli* at various concentrations of 100%, 75%, 50% and 25% using disc diffusion method. Alcoholic extract was greatly dominant on aqueous extract in inhibiting the tested bacteria. For phytochemical screening, the results for both of extracts have showed presence of flavonoid, sterols, saponins and reducing components except for aqueous extracts, it showed absence of saponins. As conclusion, according to the good efficacy of *Eugenia caryophyllus* extracts on the tested microorganisms, it has antibacterial effects and could be used as a therapeutic agent and therefore, it appears to be a potent antibacterial agents that could be considered as a medicinal plant. However, further studies, including identification and purification of the active compounds, will need to be pursued.