ANTIBACTERIAL ACTIVITY OF RANGOON CREEPER (*Combretum indicum)* FLOWER EXTRACT AGAINST *S. aureus* AND *E. coli* BACTERIA

THESIS PROPOSAL

To fulfill the requirements of completing
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PERNYATAAN

I hereby declare that in this thesis there is no work that is been submitted to obtain a graduate degree at a university, and to the best of my knowledge, there are no such works or opinions has been written or published by someone other than the person referred to in writing in this manuscript and mentioned in the bibliography.

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ABSTRAK

ANTIBACTERIAL ACTIVITY OF RANGOON CREEPER (*Combretum Indicum*) FLOWER EXTRACT AGAINST *Staphylococcus aureus* and *Escherichia coli* bacteria (By Micaellah Joy Custodio; Advisor : Pratika Viogenta, Amelia Khairunnisa; 2023; 86 Pages)

Tanaman cegukr *(Combretum indicum*) adalah tanaman obat yang berharga di Asia tropis. Tanaman *C. indicum* mempunyai 2 variasi yaitu tipe bulat dan tipe memanjang. Bunga dan kulit kayu dikenal karena aktivitas antioksidan, antibakteri, dan sitotoksiknya. Ada sejumlah penyelidikan mengenai khasiat antibakteri spesies *C. indicum* terhadap *S. aureus* dan *E. coli*. Pengujian antibakteri menggunakan metode difusi sumur agar dengan konsentrasi ekstrak 20%, 15%, 10%, dan 5%. Kontrol positif yang digunakan adalah ciprofloxacin dan kontrol negatif yang digunakan DMSO 10%. Hasil penelitian menunjukkan bahwa ekstrak etanol bunga tanaman menjalar rangoon (*Combretum indicum*) tipe bulat dan memanjang mempunyai aktivitas antibakteri terhadap bakteri *S. aureus* dan *E. coli*. Ata konsentrasi 20% untuk tipe bulat mampu menghambat zona diameter terhadap *S. aureus* sebesar 22,3 mm, untuk tipe memanjang pada konsentrasi 20%, 15%, dan 10% mempunyai zona diameter 13,6 mm, 7,5 mm, dan 10%. 9mm. Sedangkan untuk ekstrak etanol tanaman menjalar Rangoon (*Combretum indicum*) tipe bulat terhadap bakteri *E.coli* sebesar 20%, 15%, dan 10% mampu menghambat zona diameter pada 16,3 mm, 10,2 mm, dan 8 mm sehingga dapat menghambat pertumbuhan bakteri E.coli. Dapat disimpulkan bahwa ekstrak etanol bunga *C. indicum* mempunyai aktivitas antibakteri yang bersifat bakteriostatik dan mempunyai spektrum yang luas.

Kata kunci : *Combretum indicum*., antibacterial, *Staphylococcus aureus*, *Escherichia coli*

ABSTRACT

ANTIBACTERIAL ACTIVITY OF RANGOON CREEPER (*Combretum Indicum*) FLOWER EXTRACT AGAINST *Staphylococcus aureus* and *Escherichia coli* bacteria (By Micaellah Joy Custodio; Advisor : Pratika Viogenta, Amelia Khairunnisa; 2023; 86 Pages)

Rangoon creeper (*Combretum indicum*) is a valuable medicinal plant in tropical Asia. *C. indicum* plants have 2 variations, namely the rounded type and the elongated type. Flowers and bark are known for their antioxidant, antibacterial, and cytotoxic activity. There have been a number of investigations on the antibacterial efficacies of *C. indicum* species against *S. aureus* and *E. coli*. Antibacterial testing used the agar well diffusion method with extract concentrations of 20%, 15%, 10%, and 5%. The positive control used was ciprofloxacin and the negative control used was 10% DMSO. The results of the study showed that the ethanol flower extract of the Rangoon creeper (*Combretum indicum*) round and elongated type has antibacterial activity against *S. aureus* and *E. coli* bacteria. At a concentration of 20% for the round type were able to inhibit a diameter zone against *S. aureus* at 22.3 mm, for the the elongated type at concentrations of 20%, 15%, and 10% it has 13.6 mm, 7.5 mm, and9 mm. While for the ethanol extract of the Rangoon creeper (*Combretum indicum*) rounded type against *E.coli* bacteria, 20%, 15%, and 10% were able to inhibit a diameter zone at 16.3 mm, 10.2 mm, and 8 mm Therefore it can be concluded that the ethanol extract of *C. indicum* flower has antibacterial activity that is bacteriostatic and has a broad spectrum.

Keywords : *Combretum indicum.*, antibacterial, *Staphylococcus aureus*, *Escherichia coli*

FOREWORD

The author would like to express her gratitude to God for all the strength and guidance on the thesis entitled "Antibacterial activity of Rangoon creeper (*Combretum indicum*) against *Staphylococcus aureus* and *Escherichia coli* bacteria" that have been accomplished. The author expresses her gratitude to the following:

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The author knows that there are shortcomings in writing this thesis, However, the author hopes that this thesis provides scientific information for the development of science especially in the field of microbiology and can be used as a reference for further research.

Banjarbaru, November 2023

Writer

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