

ABSTRACT

ANTIMICROBIAL ACTIVITY TEST OF 96% ETHANOL EXTRACT FROM LEAVES AND BARK OF MANGROVE (*Rhizophora Apiculata*) AGAINST *Staphylococcus Aureus*, *Streptococcus Pyogenes*, *Pseudomonas Aeruginosa*, AND *Candida Albicans*

By

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Background: The use of plants as medicine has been practiced since ancient times and is supported by the belief in the minimal side effects it induces. One of these plants is the mangrove (*Rhizophora apiculata*). The leaves and bark of the mangrove (*Rhizophora apiculata*) are believed to contain antimicrobial activities due to the presence of secondary metabolite compounds. This research aimed to determine the antimicrobial activity of 96% ethanol extract from the leaves and bark of the mangrove (*Rhizophora apiculata*) against the growth of *Staphylococcus aureus*, *Streptococcus pyogenes*, *Pseudomonas aeruginosa*, and *Candida albicans*.

Method: This research was laboratory experimental research to determine the antimicrobial effects of ethanol extracts from leaves and bark of mangrove (*Rhizophora apiculata*) using the maceration extraction method at concentrations of 1.6%, 3.2%, 6.25%, 12.5%, and 25% against the microorganisms *Staphylococcus aureus*, *Streptococcus pyogenes*, *Pseudomonas aeruginosa*, and *Candida albicans*.

Results: The results of the conducted indicate the presence of antimicrobial activity in the 96% ethanol extract from the leaves and bark of mangrove (*Rhizophora apiculata*) at concentrations of 1.6%, 3.2%, 6.25%, 12.5%, and 25% against the microorganisms *Staphylococcus aureus* and *Streptococcus pyogenes*, with the formation of inhibition zones exhibiting better results in the 96% ethanol extract from the bark of mangrove. However, it was not effective in inhibiting the growth of *Pseudomonas aeruginosa* and *Candida albicans*.

Conclusion: The 96% ethanol extract from the leaves and bark of mangrove (*Rhizophora apiculata*) exhibited antimicrobial activity against the growth of *Staphylococcus aureus* and *Streptococcus pyogenes*, but not against *Pseudomonas aeruginosa* and *Candida albicans*.

Keywords: Traditional Medicine, *Rhizophora apiculata*, Antimicrobial, Inhibition Zone

ABSTRAK

UJI AKTIVITAS ANTIMIKROBA EKSTRAK ETANOL 96% DAUN DAN KULIT BATANG BAKAU (*Rhizophora Apiculata*) TERHADAP *Staphylococcus Aureus*, *Streptococcus Pyogenes*, *Pseudomonas Aeruginosa*, DAN *Candida Albicans*

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Latar Belakang: Penggunaan tanaman sebagai obat tradisional telah dilakukan sejak zaman dahulu dan didukung oleh keyakinan minimnya efek samping yang ditimbulkan. Satu diantara tanaman tersebut yakni tanaman bakau (*Rhizophora apiculata*). Daun dan kulit batang bakau (*Rhizophora apiculata*) dipercaya mengandung aktivitas antimikroba karna kandungan senyawa metabolit sekunder. Penelitian ini bertujuan untuk mengetahui aktivitas antimikroba ekstrak etanol 96% daun dan kulit batang bakau (*Rhizophora apiculata*) terhadap pertumbuhan *Staphylococcus aureus*, *Streptococcus pyogenes*, *Pseudomonas aeruginosa*, dan *Candida albicans*.

Metode: Penelitian ini adalah penelitian eksperimental laboratorium untuk mengetahui efek antimikroba dari ekstrak etanol daun dan kulit batang bakau (*Rhizophora apiculata*) dengan metode ekstraksi maserasi pada konsentrasi 1,6%, 3,2%, 6,25%, 12,5%, 25% terhadap mikroba *Staphylococcus aureus*, *Streptococcus pyogenes*, *Pseudomonas aeruginosa*, dan *Candida albicans*.

Hasil: Hasil penelitian menunjukkan adanya aktivitas antimikroba ekstrak etanol 96% daun dan kulit batang bakau (*Rhizophora apiculata*) pada konsentrasi 1,6%, 3,2%, 6,25%, 12,5% dan 25% terhadap mikroba *Staphylococcus aureus* dan *Streptococcus pyogenes* dengan diameter zona hambat yang terbentuk lebih baik pada ekstrak etanol 96% kulit batang bakau. Namun tidak dapat menghambat mikroba *Pseudomonas aeruginosa*, dan *Candida albicans*.

Kesimpulan: Terdapat aktivitas antimikroba ekstrak etanol 96% daun dan kulit batang bakau (*Rhizophora apiculata*) terhadap pertumbuhan *Staphylococcus aureus* dan *Streptococcus pyogenes*, namun tidak pada *Pseudomonas aeruginosa*, dan *Candida albicans*.

Kata Kunci: Obat Tradisional, *Rhizophora apiculata*, Antimikroba, Zona Hambat