

**SKRINING BAKTERI ENDOFITIK MANGROVE *Rhizophora apiculata*
(RHIZOPHORACEAE) SEBAGAI PENGHASIL ANTIBIOTIKA**

SKRIPSI SARJANA BIOLOGI

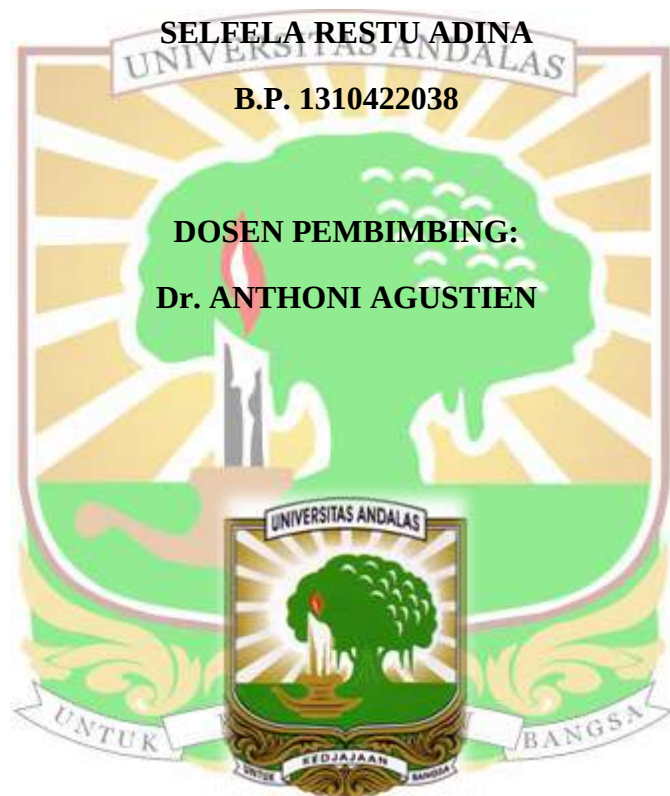
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JURUSAN BIOLOGI

FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM

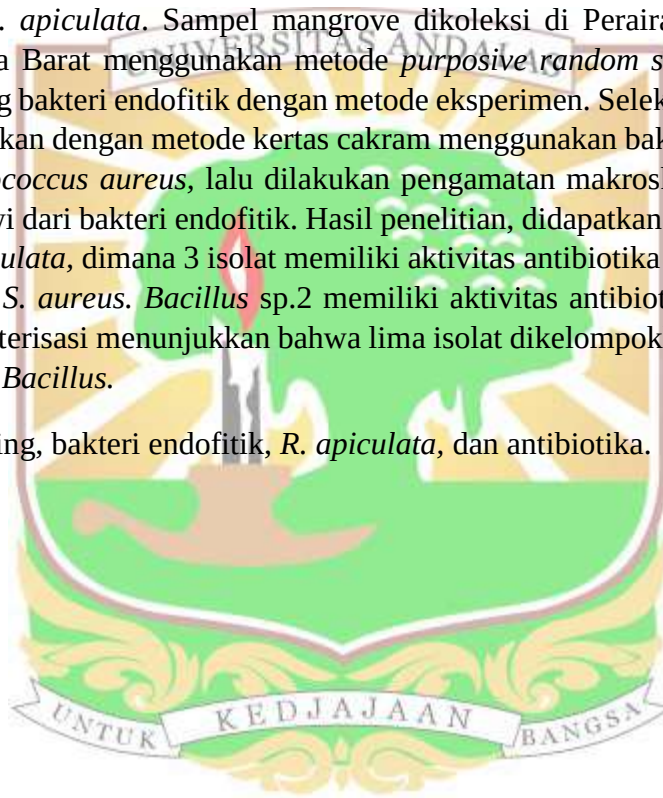
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ABSTRAK

Bakteri endofitik memiliki potensi dalam menghasilkan antibiotika dan komponen bioaktif lainnya seperti yang dihasilkan jaringan tanaman inangnya. Bakteri endofitik yang digunakan pada penelitian ini merupakan hasil isolasi dari mangrove *R. apiculata*. Penelitian ini telah dilaksanakan dari Oktober 2016 sampai Januari 2017 di Laboratorium Mikrobiologi Jurusan Teknologi Hasil Pertanian, FATETA, dan Laboratorium Mikrobiologi Jurusan Biologi, FMIPA, Universitas Andalas, Padang. Penelitian ini bertujuan untuk memperoleh isolat bakteri endofitik penghasil antibiotika yang diisolasi dari mangrove *R. apiculata*. Sampel mangrove dikoleksi di Perairan Mandeh, Pesisir Selatan, Sumatera Barat menggunakan metode *purposive random sampling*, kemudian dilakukan skrining bakteri endofitik dengan metode eksperimen. Seleksi bakteri penghasil antibiotika dilakukan dengan metode kertas cakram menggunakan bakteri uji *Escherichia coli* dan *Staphylococcus aureus*, lalu dilakukan pengamatan makroskopis, mikroskopis, dan uji biokimiawi dari bakteri endofitik. Hasil penelitian, didapatkan 5 isolat bakteri dari mangrove *R. apiculata*, dimana 3 isolat memiliki aktivitas antibiotika terhadap *E.coli* dan 1 isolat terhadap *S. aureus*. *Bacillus* sp.2 memiliki aktivitas antibiotika terhadap kedua bakteri uji. Karakterisasi menunjukkan bahwa lima isolat dikelompokkan ke dalam genus *Micrococcus* dan *Bacillus*.

Kata kunci: skrining, bakteri endofitik, *R. apiculata*, dan antibiotika.



ABSTRACT

Endophytic bacteria are potential to produce antibiotic and other bioactive compounds as plant tissue produced. This research focused on screening endophytic bacteria from mangrove *Rhizophora apiculata* (Rhizophoraceae), it was conducted at Microbiology Laboratory of Agricultural Technology Department and Microbiology Laboratory of Biology Department, Mathematics and Natural Science Faculty, Andalas University, Padang from October 2016 to Januari 2017. The plant samples were collected in Mandeh coastal area, South of Pesisir, West Sumatra by using purposive sampling method, while screening endophytic bacteria were tested through laboratory experiment. Paper disk method was used for antibiotic bacterial selection, where *Escherichia coli* and *Staphylococcus aureus* were used as indicator. Species identification was conducted through macro and microscopic and biochemical characteristics of the bacteria. Result showed that *R. apiculata* contains 5 isolates endophytes bacteria, 4 isolates were found against *E. coli*, and 1 isolate was actively against *S. aureus*, while 1 of 4 isolates that were against *E. coli* was also found against *S. aureus*. Macroscopic, microscopic and biochemical characteristics of the bacteria were concluded that these 5 isolates of antibiotic bacteria were grouped into two genus, *Micrococcus* and *Bacillus*.

Key words: Endophytes bacteria, screening, mangrove, and *R. apiculata*

