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**Your Paper for ICTCRED-2022**

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Hi there,

Thank you for your Paper Submission to 'ICTCRED-2022'.

The Editor has requested that you resubmit your Paper 'Antibacterial Potential of Endophytic Fungi Isolated from Mangrove Rhizophora apiculata Blume Species at Tanjung Api-Api, South Sumatra, Indonesia' with some changes. Go to My Submissions to see any comments from the Reviewers or Editor and submit an updated version of your Paper. The Deadline for resubmitting is April 16, 2023.

Please note that your revised Paper must be a camera-ready manuscript without any highlighted changes. A summary of the changes you have made to your Paper can be included in your Response to Reviewers, which you may upload as a separate document.

**Manuscript title:****Antibacterial Potential of Endophytic Fungi Isolated from Mangrove *Rhizophora apiculata* Blume Species at Tanjung Api-Api, South Sumatra, Indonesia**

## Comment:

The manuscript is well written, and is recommended for publication. However, the English could be improved before publishing.

Please see the detail comments below:

**Abstract:**

1. To be consistent, please replace 'mushroom' with fungi
2. Please rewrite 'The respective rate of inhibition against.....' into 'The rate of inhibition against ....., respectively.'
3. Please rewrite 'the level of strength' into 'the level of inhibition'

**1.Introduction:**

1. Please rewrite '*Avicennia marina* into *A. marina*
2. Please rewrite 'a potential ingredient for antibacterial' into 'a potential antibacterial ingredient'
3. Avoid using subjective words such as 'very good'
4. Last sentence of the 1<sup>st</sup> paragraph -> replace 'include' with 'including'
5. Please pay attention on when to use 'antibacterial' and 'anti bacteria', these two have different meaning but are often mixed in this manuscript.

**2.Material and Methods**

1. "The back of the leaves had a yellowish-green color and had small black spots scattered on their surface, and the tip of the leaves was red. The bark of *R. apiculata* had a mosaic-like pattern with a dark gray color" → this doesn't show in the Figure 2.
2. Please rewrite paragraph 2.3 Morphological and physiological characterization of isolates. Some sentences are too long and not efficient.
3. Do not use dot (.) between mg and L<sup>-1</sup>. Use space instead.



Rozirwan unsri &lt;rozirwan@unsri.ac.id&gt;

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Hi there,

Thank you for your Paper Submission to 'ICTCRED-2022'. Your Submission 'Antibacterial Potential of Endophytic Fungi Isolated from Mangrove Rhizophora apiculata Blume Species at Tanjung Api-Api, South Sumatra, Indonesia' has been provisionally accepted by the Conference Editors. If your Paper is also accepted by the Publisher, you will be notified again when it enters the Production stage.

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## Antibacterial Potential of Endophytic Fungi Isolated from Mangrove *Rhizophora apiculata* Blume Species at Tanjung Api-Api, South Sumatra, Indonesia

To cite this article: Rozirwan *et al* 2023 *IOP Conf. Ser.: Earth Environ. Sci.* **1224** 012040

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# Antibacterial Potential of Endophytic Fungi Isolated from Mangrove *Rhizophora apiculata* Blume Species at Tanjung Api-Api, South Sumatra, Indonesia

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**Abstract.** Endophytes fungi are found in *Rhizophora apiculata* mangrove. They are known to produce bioactive compounds that act as an antibacterial, which can be a solution for sustainable use without destroying existing resources. This study aims to determine the types of endophytic fungi on the species of *R. apiculata* as antibacterial. The method used was the isolation and identification of endophytic fungi from the species of *R. apiculata* and the antibacterial activity test using the Kirby Bauer method. The results obtained three types of fungi from five pure isolates, namely *Aspergillus* sp., *Cladosporium* sp., and *Penicillium* sp. Three genera of endophytic fungi were found to have antibacterial activity against *Staphylococcus aureus* and *Pseudomonas aeruginosa* bacteria. The rate of inhibition against *S. aureus* and *P. aeruginosa* from *Cladosporium* sp. extract respectively were  $17.45 \pm 1.15$  mm and  $2.85 \pm 0.08$  mm, *Aspergillus* sp. was  $14.61 \pm 1.07$  mm and  $2.6 \pm 0.20$  mm, and *Penicillium* sp. was  $14.11 \pm 0.08$  mm and  $2.7 \pm 0.20$  mm. These three isolates showed inhibitory activity against both bacteria. However, the level of inhibition was stronger against *S. aureus* (gram positive) than *P. aeruginosa* (gram negative), especially by marine *Cladosporium* extract found in this study.

**Keywords:** Antibacterial Activities, Endophytic Fungi, Mangrove Species, *Rhizophora apiculata*, Tanjung Api-Api

## 1. Introduction

Mangrove communities grow in brackish waters or estuaries with a wide range of salinity (1–3). Several species such as *Rhizophora apiculata*, *Avicennia alba*, *Avicennia marina*, and *Sonneratia caseolaris* are the dominant species on the coast of South Sumatra (4,5). *R. apiculata* has been reported to contain secondary metabolites, such as flavonoids, steroids, phenol hydroquinone, and also tannins, which can be used as a potential antibacterial ingredient (6,7). Antibacterial activity of *R. apiculata* was found in the strong inhibition category (8). Bioactive compounds reported including flavonoids, steroids, alkaloids, and saponins (8,9).

