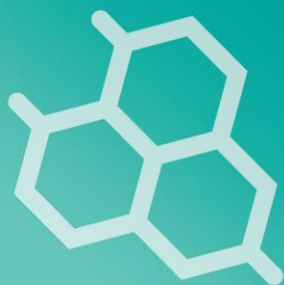


ISSN: 2663-9513 (Online)

ISSN: 2663-9505 (Print)



# South Asian Journal of **BIOLOGICAL RESEARCH**



## SCREENING OF ANTIBACTERIAL, CYTOTOXIC AND PESTICIDAL ACTIVITIES OF *ABROMA AUGUSTUM* (L.) SEEDS EXTRACT

M. Homayra Binta Sujaye<sup>1</sup>, Md. Mehedi Hasan<sup>1</sup>, Mim Islam<sup>1</sup>, Biswanath Sikdar<sup>2</sup>,  
Uzzal Kumar Acharjee<sup>1</sup>, Md Faruk Hasan<sup>2,\*</sup>

**To cite the article:** M. Homayra Binta Sujaye, Md. Mehedi Hasan, Mim Islam, Biswanath Sikdar, Uzzal Kumar Acharjee, Md Faruk Hasan\* (2023). Screening of Antibacterial, Cytotoxic and Pesticidal Activities of *Abroma Augustum* (L.) Seeds Extract, *South Asian Journal of Biological Research*, 5(1): 15-25.

**Link to this article:** <http://aiipub.com/journals/sajbr-230731-10006/>

Article QR



Journal QR



SCREENING OF ANTIBACTERIAL, CYTOTOXIC AND PESTICIDAL ACTIVITIES OF  
*ABROMA AUGUSTUM* (L.) SEEDS EXTRACT

M. Homayra Binta Sujaye<sup>1</sup>, Md. Mehedi Hasan<sup>1</sup>, Mim Islam<sup>1</sup>, Biswanath Sikdar<sup>2</sup>,  
Uzzal Kumar Acharjee<sup>1</sup>, Md Faruk Hasan<sup>2,\*</sup>

<sup>1</sup>Department of Genetic Engineering and Biotechnology, University of Rajshahi, Rajshahi  
6205, Bangladesh.

<sup>2</sup>Department of Microbiology, University of Rajshahi, Rajshahi 6205, Bangladesh.

\*Corresponding Author Email: [faruk\\_gcb@ru.ac.bd](mailto:faruk_gcb@ru.ac.bd)

**ARTICLE INFO**

**Article Type:** Research

**Received:** 23, July. 2023.

**Accepted:** 27, August. 2023.

**Published:** 30, August. 2023.

**Keywords:**

*Abroma augustum*, Seeds extract,  
Antibacterial activity, Toxicity,  
Pesticidal activities

**ABSTRACT**

*Abroma augustum* is an important medicinal plant in Bangladesh, rightly called as Ulatkambal in Bengali and Devil's cotton in English. Present study was done to assess the antibacterial, toxicity, and pesticidal activities of *A. augustum* seeds extract. The antibacterial activity of *A. augustum* was evaluated using disc diffusion method against some pathogenic bacteria. Serial dilution technique was used to determine the potency of antibacterial activity. Minimum inhibitory concentration (MIC) of *A. augustum* was also studied against tested organisms. Toxicity of *A. augustum* was determined using brine shrimp lethality bioassay method. Pesticidal activity of *A. augustum* extract was tested towards *Sitophilus oryzae* adults. In case of antibacterial screening of *A. augustum* showed highest 27 mm diameter inhibition zone against *Salmonella typhi* at the concentration of 200µg/disc. Highest MIC value was found 250 mg/ml while the lowest MIC value was found 100 mg/ml in the selected bacteria. In toxicity activity test, LC<sub>50</sub> (lethal concentration, 50%) of the extract against brine shrimp nauplii was 150µg/ml after 12h hour. In pesticidal activity, highest mortality and repellency was 70.33% and 60.3%, respectively towards *S. oryzae* adults. From the above results it can be concluded that the plant extract has moderate antibacterial activity against the tested bacteria, moderate toxicity and high pesticidal activity. The findings of the present research may be helpful for identify biological agents and drug designing for antibacterial activity.



This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).