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Studies on the antibacterial activity of the heamolymph of the two gastropods against selected pathogens

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The biodiversity of the environment and the associated chemical diversity constitute a practically unlimited source of new active substances in the development of bioactive products. The invertebrates offer a source of potential antibacterial drugs. Molluscs contribute the second largest invertebrate group on earth, next only to insects. Molluscs represent valuable sources of new compounds. Molluscs are highly delicious food and they are also very good source for biomedically important products. The aim of this study was to identify the presence of antibacterial activities in the haemolymph in the molluscan species of *Lissachatina fulica* and *Trachia vittata*, with reference to exposure to selected bacterial pathogens. Antibacterial assay was carried out by disc diffusion method. The reference pathogens used to test antibacterial assay were certain gram-positive (*Bacillus substilis, Staphylococcus sp., Lactobacillus sp.*) and gram-negative bacteria (*Pseudomonas aeroginosa, Escherichia coli, Salmonella sp., Proteus vulgaris, Enterobacter aerogenes*). The result of the present study clearly showed that immunised and unimmunised haemolymph of both species *Lissachatina fulica* and *Trachia vittata* were found to exhibit antibacterial activity against the selected gram-positive and gram negative bacterial pathogens. It is promising that the tested gastropods species can synthesise novel antibiotics for bacterial infections. The results signify that the hamolymph of terrestrial gastropod molluscs can be used as antibacterial agents and it requires further investigation before assessing and confirming them as antibacterial substances. It is worthy to note that the product from a natural molluscan source can be utilised for defence immune systems.

KEY WORDS:
Biodiversity, Bioactive products, Gastropods, Haemolymph, Antibacterial activity, Natural source.