

Phytochemical Screening, and Antimicrobial Evaluation of Bioactive Compounds from Red Millipede (*Trigoniulus corallinus*)

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Abstract : This study investigates the extraction, phytochemical composition, and antimicrobial activity of bioactive compounds from red millipedes using three different solvents: n-Hexane, Chloroform, and Methanol. The largest yield was obtained from the methanol extract, which had percentage yields of 0.8%, 2.2%, and 5.6%, respectively. Terpenoids and sterols were found in all extracts according to preliminary zoochemical screening, but only the methanol extract included saponins and phenols. With a maximum zone of inhibition of 9 mm at 1000 µg/ml, antimicrobial susceptibility tests revealed that the methanol extract had the strongest antibacterial activity, especially against *Escherichia coli* and *Staphylococcus aureus*. Significant activity was also shown by the n-hexane extract, although the chloroform extract had only mild antibacterial activity. Tests for minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) verified that the methanol extract was more effective than the other extracts, particularly against *S. aureus* and *S. typhi*. None of the extracts, nonetheless, showed any discernible antifungal action. The potential of red millipede extracts, especially those based on methanol, as a source of antimicrobial chemicals for use in the future is highlighted by this work.

Keywords : millipedes, defensive extraction, antibacterial, antifungal, antimicrobial, minimum inhibitory concentration (MIC), minimum bacterial concentration (MBC)

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