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Phytochemical and antimicrobial activity of bioactive compound extracted from *Embelia schimperi* Vatke against human pathogens**Tesfaye Wolde and Tamiru Demsis**
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Background & Aim: *Embelia schimperi* is among medicinal Myrsinaceae plants found in Ethiopia which find a wide range of application in ethno-pharmacology as antimicrobials and antihelmintic. It has been used for the treatment of intestinal parasites especially tapeworm infestations for centuries in Ethiopia. However, there is lack of scientific based evidences regarding the efficacy and phytochemical analysis of this plant despite its frequent use as an antihelmintic. This study has therefore evaluated the efficacy and phytochemical analysis of *E. schimperi* thereby generating relevant preclinical information.

Methods: The berries of *E. schimperi* were extracted with cold methanol, n-haxene, ethanol, petroleum ether. The antihelmintic activity was evaluated on the earthworm *Pheretima posthuma* collected due to its anatomical and physiological resemblance with the intestinal round worm parasites of human. Antibacterial activity was carried out with the pure compounds against *Staphylococcus aureus* and *Salmonella* Typhi. Antihelmintic tests were determined at a concentration of 25 mg/ml, 50 mg/ml, 100 mg/ml, 200 mg/ml of each sample which was applied on sucrose treated Whatman No. 1 filter paper. In the control experiments, the filter papers had sucrose only.

Results: The crude extracts showed nematicidal activity against the earth worms. The paralysis causing concentration within 30 minutes of the crude extracts and Albendazole were 50 mg/ml and 25 mg/ml respectively. Whereas the nematicidal concentration required within 30 minute for the crude extracts and Albendazole were 100 mg/ml and 25 mg/ml. The crude extracts showed nearly similar activities against all the tested bacteria in the study. From zone inhibition diameters of compounds EST-MT and EST-ET were compared on *S. Typhi* and *S. aureus*, both compounds were showed activity on *S. aureus* nearly in similar way. These compounds were reasonably active against *S. Typhi* and *S. aureus* it makes an appropriate candidate for further investigation in control of these multi-drug resistant bacteria.

Conclusion: Antibacterial activities vary with the test organisms, plant material and the solvents used. Thus, the result ascertains the value of plant used in the study could be of considerable interest to the development of new antimicrobial drugs.

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