Antibacterial Screening of Combretum Hartmannianum, Acacia Seyal and Terminalia Laxiflora Wood Extracts

N Fadle¹, AA Mariod ²,³, AA Hassan⁴

¹The National Centre for Research, Environment and Natural Resources Research Institute, Khartoum, Sudan
²Faculty of Sciences and Arts-Alkamil, King Abdulaziz University, Saudi Arabia
³Department of Food Science and Technology, College of Agricultural Studies, Sudan University of Science and Technology, Khartoum North, Sudan
⁴Department of Organic Chemistry, College of Science, Sudan University of Science and Technology, Khartoum, Sudan

Combretum hartmannianum (Alhabeel) and Terminalia laxiflora (Subaq) are a genus of large trees of the flowering plant family Combretaceae which has well-documented medicinal uses in Asia and Africa. Acacia Seyal (Fabaceae) Talh, is traditionally used as chewing sticks with an antimicrobial activity against Streptococcus facials and also displays cholesterol-lowering and anti-diabetic properties.

The heartwood of the three studied plants were oven-dried, ground and extracted using methanol. The methanolic extract was sequentially fractionated with petroleum ether, chloroform and ethyl acetate. The aqueous, ethyl acetate, chloroform and petroleum ether extracts along with dry powder of wood of the plants were tested for antibacterial activity against pathogenic bacteria Salmonella, E. coli and Staphylococcus aureus.

The anti bacterial activity of the heartwood of the three plants studied was accumulated in the ethyl acetate fraction. The ethyl acetate extract of the wood of T. laxiflora and C. hartmannianum gave the highest zone of inhibition of 18 mm at a concentration of 2.5mg/ml against E. coli and Samonella, respectively. All other extracts showed moderate zones of inhibition 14 - 17 mm against all tested bacteria.

The present study has proved the potential of Combretum hartmannianum, Acacia Seyal and Terminalia Laxiflora plants to be used for antibacterial, medicinal purposes.

E-Mail: nonofadl2@gmail.com