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Abstract

Antibacterial Potentials of Pentacyclic Triterpenoidal Sapogenins from Bligha sapida Seed Pods

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Abstract:

Background: Bligha sapida (family Sapindaceae) is a plant widely used in ethnomedicine for the treatment of dysentery, dental decay and whitlow. Qualitative and quantitative analysis of the 50% ethanol extract of the plant (B) revealed a rich presence of saponins.

Methods: Extraction and acid hydrolysis of the crude saponins (Bs) yielded crude sapogenins (Bss) which was fractionated using various chromatographic techniques to afford five pentacyclictriterpenes (coded Bss1- Bss5) whose structures were elucidated using physical, chemical and spectroscopic data in comparison with literature data. B, Bs, Bss and Bss1- Bss5 were evaluated for their antibacterial potentials against three Gram-positive and three Gram-negative bacterial strains in comparison with Erythromycin using the agar dilution method.

Results: The isolated compounds were characterized as friedelin (Bss1), friedelinol (Bss2), -amyrin (Bss3), oleanolic acid (Bss4) and hederagenin (Bss5) respectively. The crude extract, B, crude sapogenins, Bss and isolated compounds (Bss1 - Bss4) were moderately active against all test strains, while, the crude saponins, Bs was only active against Gram-positive strains, all at different concentrations in comparison with Erythromycin

Conclusion: The results of these findings justify the strong presence of pentacyclictriterpenes in the seed pods of Bligha sapida, as well as their contributions to the antibacterial efficacy of the plant.

Keywords: Antibacterial, Bligha sapida, Ethanol extract, Sapogenins, Saponins, Seed pods, Triterpenes

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Publication of speakers:

1. AbdElmegeed, A.S.M.; Ouf, S.A.; Moussa, T.A.A.; Eltahlawi, S.M.R. Dermatophytes and other associated fungi in patients attending to some hospitals in Egypt. Braz. J. Microbiol. 2015, 46, 799–805.
2. Silva, K.V.S.; Lima, M.I.O.; Cardoso, G.N.; Santos, A.S.; Silva, G.S.; Pereira, F.O. Inhibitory effects of linalool on fungal pathogenicity of clinical isolates of Microsporumcanis and Microsporumgypseum. Mycoses 2017, 60, 387–393.
3. Lu, D.; Hartmann H.E.K. Molluginaceae. In Flora of China; Wu, Z.Y.; Raven, P.H.; Hong, D.Y. Eds.; Science Press: Beijing, China and Missouri Botanical Garden Press: St. Louis, MO, USA, 2003; Volume 5, pp. 437-439.
4. Sheu, S.Y.; Yao, C.H.; Lei, Y.C.; Kuo, T.F. Recent progress in Glinusoppositifolius research. Pharm. Biol. 2014, 52, 1079–1084.
5. AshinNargathaynarBiwantha. AshinNargathein: Pohn-pya-say-abidan (Illustrated dictionary of traditional Medicinal plants) (Myanmar version). Mingalar Press: Yangon, Myanmar, 1971; Volume 5, pp. 57-58

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