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Gc-MS Chemical Profiling and in-Vitro Biological Activities of Stem Bark Extracts of *Mallotus Philippensis* (LAM.) MÜLL. ARG. (EUPHORBIACEAE)

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ABSTRACT An ethnomedicinal plant, *Mallotus philippensis* (Lam.) Muell. Arg. (Euphorbiaceae), was analysed for chemical composition, antimicrobial, and antioxidant properties. Antimicrobial activity was evaluated by the agar well diffusion method against four pathogens (*Bacillus subtilis*, *Staphylococcus aureus*, *Pseudomonas fluorescence* and *Streptococcus mutans*), and antioxidant activities were evaluated using DPPH scavenging assay. The most abundant compounds with high area percentages were sucrose (67.43%), 1, 3-Benzenedicarboxylic acid, bis (2-ethylhexyl) ester (15.96%) and Amlexanox (8.08%) reported in Gas Chromatography Mass Spectrometry (GC-MS) analysis. Bioassay of the antimicrobial activity of the methanol and aqueous bark extracts showed concentration dependent activity with the zone of inhibition ranging from 8-23 mm at various concentrations. The methanol extract of *M. philippensis* was the most effective, with the lowest IC₅₀ value of 35.84±1.28 µg/mL, indicating strong antioxidant activity while petroleum ether and aqueous extracts showed moderate activity with IC₅₀ values of 64.24±1.45 µg/mL and 75.42±1.64 respectively.