

Phytochemical and anti-microbial potential of *Mallotus mollissimus* and *Solanum erianthum* extracts

ABSTRACT

Mallotus mollissimus (*M. mollissimus*) and *Solanum erianthum* (*S. erianthum*) plants have been reported to possess medicinal properties and have been effectively used by indigenous communities. However, the precise compositional and anti-microbial properties of these plants remain unclear. Hence, this study aims to investigate the qualitative phytochemicals and anti-microbial properties of the extract from *M. mollissimus* and *S. erianthum*. Anti-microbial activities and phytochemical studies were carried out using crude methanolic extract, chloroform fractions and selected chromatography fractions of *M. mollissimus* and *S. erianthum*. Anti-microbial activities targeting Gram-positive and Gram-negative bacteria were performed using the disk diffusion method at 100 mg/mL. *M. mollissimus* have superior anti-microbial activities as compared to *S. erianthum* where *Streptococcus pneumoniae* were inhibited by CE.F3 fraction of *M. mollissimus* with an average inhibition diameter of $7.0 \text{ mm} \pm 0.48$. We qualitatively determined the alkaloids, steroids, and cardiac glycosides in both plant extracts using biochemical assays. Interestingly, flavonoids, terpenoids, and tannins were found in *M. mollissimus*, which were correlated to the inhibition of *Streptococcus pneumoniae*. These findings indicate that *M. mollissimus* and *S. erianthum* contains large phytochemicals which give rise to anti-microbial effects.