ABSTRACT

Phytochemical Analysis and Antibacterial Activity of the Kenyan Wild Orchids

Polycarp Chagona, Nancy Kwamboka, Humphrey Gaya, Huxley Makonde, Aggrey Adem, Kenneth Osano, Fanuel Kawaka

The current study evaluated the antibacterial activity of dichloromethane and methanol (DCM-MeOH) extracts of four Kenyan orchid species against three selected bacterial strains. Extracts of E1 (Ansellia Africana), E2 (Trydactylescottelli), E3 (Polystachyabella) and E4 (Liparis bowkeri) were screened for antibacterial activity against staphylococcus aureus, Bacillus subtilis and Pseudomonas aeruginosa using agar disc diffusion. Ampicillin was included as a positive control. Qualitative analysis revealed the presence of flavonoids, saponins, alkaloids, tannins, terpenoids, steroids and glycosides. Trydactyle scottelli and Polystachyabella extracts revealed a more substantial presence of tannins and steroids, respectively, compared to others. All extracts showed varying levels of antibacterial activity against the test bacteria. However, Polystachyabella and Liparis bowkeri against Bacillus subtilis and Ansellia Africana against Pseudomonas aeruginosa exhibited higher activities similar to that of Ampicillin. The study further showed that the DCM-MeOH extracts of the four orchids contain potential compounds that should be screened for conventional management of bacterial infections.

Keywords: Qualitative, infections, extracts, compounds, management.