

Selected secondary metabolites and antimicrobial activity in *Cissus Oliveri* L.

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This study investigated the presence of eight selected secondary metabolites (SM) and antimicrobial activity of *Cissus oliveri* plant parts namely; leaf, stem and root against selected bacterial and fungal species. Results revealed that all plant parts possess alkaloids, flavonoids, phenols and tannins. With an exception of tannins, the quantity of other SM varied significantly between the plant parts studied. The largest amount was found in the leaf than in other parts i.e. Alkaloids (6.47 ± 0.41 mg/g DW), Phenols (4.85 ± 0.90 mg/g DW) and flavonoids (0.76 ± 0.08 mg/g DW). Antimicrobial activity of crude extracts from the plant parts were tested against four bacterial species and two fungal species. All extracts showed potent in vitro antimicrobial activity against all the tested bacteria. The antimicrobial activity was higher in ethanol extracts from leaf (LE) followed by ethanol extracts from root (RE) with microbial growth Inhibition Zone Diameter (IZD) of 20.50 ± 1.00 mm and 19.30 ± 0.30 mm respectively, against *S. aureus* at 25 mg/ml. On the other hand only the water extracts from leaf (LW) inhibited growth of fungal species *C. albicans* while *A. niger* was resistant to all extracts. The minimum inhibitory concentration (MIC) of the plant extracts ranged from 6.25 to 12.5 mg/ml. Both LW and LE extracts demonstrated the lowest MIC value of 6.25 mg/ml against *B. subtilis* and *S. aureus*. This observation suggests that antimicrobial activity is linked with concentration of SM in different parts of *C. oliveri* and it puts forward possibility of designing and developing potentially active antimicrobial agents from this plant.