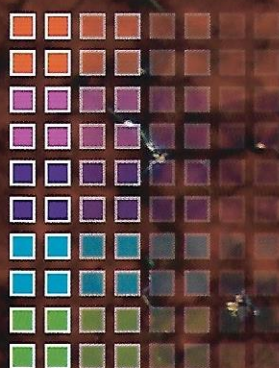




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**ANTIBACTERIAL ACTIVITY OF *ARISTEA ECKLONII* AND *PROSOPIS JULIFLORA* AGAINST MULTIDRUG-RESISTANT *ACINETOBACTER* SPP AND METHICILLIN-RESISTANT *STAPHYLOCOCCUS AUREUS***

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Emergence of multi-drug resistant (MDR) bacteria is a major health problem of global concern. This has rendered the antibiotics currently in use ineffective, and the World Health Organization recommends expediting the discovery and development of new antimicrobials. Plants are a potential source of new antibacterials. In a continuing study on screening of alien invasive plants for their antibacterial properties, the present investigation focuses on determining the minimum inhibitory concentration (MIC) of *Aristea ecklonii* Baker and *Prosopis juliflora* (Sw.) DC. extracts against clinical isolates of MDR bacteria: *Acinetobacter* spp. (three strains) and methicillin-resistant *Staphylococcus aureus* (MRSA, two strains) and three ATCC control bacteria: *S. aureus* ATCC 25923 (normal control), *S. aureus* ATCC 29213 (MIC control) and *E. coli* ATCC 25922 using disc diffusion assay and agar dilution assay. Powdered dry plant parts of *A. ecklonii* (aerial part and root) and *P. juliflora* (leaf, stem-bark and root-bark) were separately extracted into methanol: dichloromethane (1:1) at room temperature using a bottle extractor. The extracts were initially screened for antibacterial activity against a single strain each of MDR *Acinetobacter* spp. and MRSA using disc diffusion assay. The stem-bark and root-bark extracts of *P. juliflora* and the root extract of *A. ecklonii* displayed zones of inhibition against both MDR bacteria; however, the leaf extracts of the plants inhibited only MRSA. In the agar dilution assay, the MIC values for stem-bark and root-bark extracts of *P. juliflora* were 0.1 mg ml<sup>-1</sup> against both strains of MRSA and 1 mg ml<sup>-1</sup> against the three strains of MDR *Acinetobacter* spp.; the leaf extract had higher MIC values. The MIC values for aerial-part and root extracts of *A. ecklonii* were 1 mg ml<sup>-1</sup> against the three strains of MDR *Acinetobacter* spp. and one strain of MRSA; the other strain of MRSA had a lower MIC for the root extract of *A. ecklonii* (MIC 0.1 mg ml<sup>-1</sup>). The root of *A. ecklonii* and stem-bark and root-bark of *P. juliflora* appeared to contain highly potent antibacterial metabolites with a potential to be developed as formulations to effectively combat MDR bacteria.

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**Keywords:** Antibacterial, *Aristea ecklonii*, Multidrug resistance, *Prosopis juliflora*