

## Antimicrobial, Antioxidant and Cytotoxicity Properties of Some Selected Wild Edible Fruits Used Traditionally as a Source of Food

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**Abstract :** The fruit pulp extracts of twelve selected ethnobotanical wild edible fruits from Mutale local municipality in Venda (Limpopo Province, South Africa) were investigated for their antimicrobial, antioxidant and cytotoxicity activities. Methanol extracts were prepared and tested against six micro-organisms (*Salmonella typhi*, *Streptococcus pyogenes*, *Bacillus cereus*, *Klebsiella pneumoniae*, *Prevotella intermedia* and *Candida albicans*). The minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) were determined using the micro-dilution method, while for antioxidant activity the 2,2-diphenyl-1-picrylhydrazyl method was used. Of the 12 extracts tested, *Adonsonia digitata*, *Berchemia discolor*, *Manilkara mochisia*, *Xanthocercis zambesiaca*, *Landolphia kirkii* and *Garcinia livingstonei* showed antimicrobial activity, with MIC values ranging from 12.5 to 0.4 mg/ml. Gram negative bacteria were more resistant to the extracts in comparison to Gram positive bacteria. Antioxidant activity was only detected in *Adonsonia digitata* extract and the IC<sub>50</sub> (substrate concentration to produce 50% reduction) was found to be 16.18µg/ml. The cytotoxicity of the extracts that showed antimicrobial and antioxidant activities was also determined. All plant extracts tested were non-toxic against human kidney cells (HEK293), with IC<sub>50</sub> values of >400 µg/ml. The results presented in this study provide support to some traditional uses of wild edible fruits.

**Keywords :** antimicrobial, antioxidant, cytotoxicity, ethnobotanical, fruits

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