

Phytochemical analysis of *Andrographis paniculata* and *Orthosiphon stamineus* leaf extracts for their antibacterial and antioxidant potential.

ABSTRACT

Leaves of *Andrographis paniculata* and *Orthosiphon stamineus* were extracted with water, ethanol, methanol and chloroform to assess their potential as antibacterial and antioxidant agents. High performance liquid chromatography analysis showed that the methanolic extracts of *A. paniculata* and *O. stamineus* leaves gave the highest amounts of andrographolide and rosmarinic acid, respectively. These leaf extracts exhibited antimicrobial and antioxidant activities and, at the highest concentration tested (200 mg/mL), showed greater inhibitory effects against the Gram positive bacteria *Bacillus cereus* and *Staphylococcus aureus* than 10% acetic acid. *Andrographis paniculata* and *O. stamineus* methanolic and ethanolic leaf extracts also showed the strongest antioxidant activity as compared with the other extracts tested. The bioactive compounds present in these leaf extracts have the potential to be developed into natural antibacterial and antioxidant agents that may have applications in animal and human health.

Keyword: Antibacterial and antioxidant agents; *Andrographis paniculata*; Poultry; Antibacterial properties.