

## ABSTRACT

The petroleum ether, chloroform, methanol and aqueous extracts of *Galium aparine*, *Veronica agrestis*, *Geranium rotundifolium* and stem, leaf and root portion of *Reinwardtia indica* were screened for their *in vitro* anti-microbial, antioxidant, anthelmintic activities and X-ray diffraction analysis. Antimicrobial activity was determined by using disk diffusion assay. Petroleum ether extract of *Geranium rotundifolium* had shown significant antimicrobial activity against *Staphylococcus aureus*. The susceptibility of the microorganisms to the extracts of the plants was compared with each other and with selected antibiotics. Total phenolic content of extracts from selected plants were determined.  $\beta$ -carotene bleaching assay and Folin-Ciocalteu reagent were used to determine total antioxidant activity and total phenols of plant extracts. Antioxidant activity and total phenolic content speckled among plants used. Petroleum ether extract of *Geranium rotundifolium* had the highest antioxidant for reducing DPPH (86.71 %) and total phenolic content was highest in aqueous extract of root portion of *R. indica* (415.14  $\mu\text{g}$  of gallic acid equivalent to 1 g of extract). *Reinwardtia indica* had shown best anthelmintic results against *Haemonchus contortus* using adult motility assay and comparing with the standard medicine, levamisole. X-ray diffraction analysis of crystals obtained from plant extracts revealed  $S_8$  structure. The results provided evidence that the studied plant might indeed be potential sources of natural antioxidants, antimicrobial agents and anthelmintics.