

# Evaluation of Antioxidant Activity of Leaf and Bark of *Craetiva religiosa*

T Dilipan<sup>1</sup>, K Kandeepan<sup>2</sup>, S Thuvaragan<sup>3#</sup> and A Muruganathan<sup>4</sup>

<sup>1,3</sup>Unit of Allied Health Sciences, Faculty of Medicine, University of Jaffna, Sri Lanka

<sup>2,4</sup>Faculty of Medicine, University of Jaffna, Sri Lanka

<sup>#</sup>sthavaragan@univ.jfn.ac.lk

*Craetiva religiosa* (lunuvarana in sinhala and marvilanga in tamil) is used in traditional medicine for different ailments. Plant derived antioxidants are very effective to prevent the destructive processes caused by oxidative stress. The aim of this study was to evaluate in vitro anti-oxidant potential and total phenolic content of bark and leaf extracts of the *Craetiva religiosa*. Antioxidant potential of plant was determined using the Ferric Reducing Ability of Plasma (FRAP) assay. Total polyphenol content was determined by Folin-Ciocalteu colorimetric method. The FRAP values were  $357.9 \pm 17.6$  and  $373.8 \pm 28.9$   $\mu\text{mol/L}$  for ethanolic and aqueous extracts of leaves respectively and  $357.2 \pm 17.1$ ,  $317.6 \pm 32.7$   $\mu\text{mol/L}$  for ethanolic and aqueous extracts of bark. But chloroform extract showed very low activity. The total phenolic content of *Crataeva religiosa* leaf and bark were calculated from the standard gallic acid graph and expressed as mg GAE/g. The bark extract contained the highest total phenolic content (2.856 mg GAE/g) and the leaf extract contains 1.953 mg gallic acid equivalent (GAE)/g. Antioxidant capacity was prominent in the leaf and bark when those were extracted using ethanol and aqueous media, whilst it was low when extracted with chloroform. Further, aqueous and chloroform extracts of leaf showed comparatively higher activity than those of the bark. The antioxidant activity of plant extracts may be attributed to the presence of phenolic compounds. This study revealed that the leaf and bark extracts of *Crataeva religiosa* exhibited good antioxidant potential.

**Keywords:** *Crataeva religiosa*, Bark, Leaves, Phenolic content, Antioxidant