

ANTIMICROBIAL AND ANATOMICAL SCREENING OF THE BARK OF *SALVADORA PERSICA* LINN

Sathiyaseelan V.^{1*}, Niranjan K.², Ravimannan N.²

¹Unit of Siddha Medicine, University of Jaffna

²Department of Botany, University of Jaffna

*dr.vivian@ymail.com

The main objective of the present study was to investigate the anatomical and antimicrobial properties of *Salvadora persica*. This is widely used in Siddha Ayurveda and Traditional medicine for a variety of purposes. *Salvadora persica* 'Ugha' in Tamil, and 'Pilu' in Sinhala and 'Tooth brush tree' in English. This is a small much branched erect tree, found in dry region of Sri Lanka. The bark of the above plant was collected from Elephant pass region and authenticated by the taxonomist attached to the Dept. of Ayurveda. Antimicrobial screening was done using agar well diffusion method using streptomycin as positive control and triplicates were made for each test. Anatomical screening was done with the help of stereomicroscope after staining the tangential longitudinal sections with saffranin. There is difference in the inhibition among tested bacteria. *Klebsiella* sp. (15.00 ± 1.41 mm) was highly inhibited by water extract of bark. Inhibition effect of bark extract on *Pseudomonas* sp. (13.00 ± 0.00 mm) and on *E. coli* (12.5 ± 1.73 mm) did not differ significantly and the effect was slightly less for *Proteus* sp (9.00 ± 0.00). *Bacillus* sp. was not at all inhibited by water extract of bark. Ethanol extract of bark has no effect at all on all the tested bacteria. The anatomy of the bark shows the presence of high percentage of fiber. According to the Siddha Ayurveda system of medicine the bark decoction is useful in low fever. The bark is also used as a tooth brush to strengthen the gums. Therefore the water decoction can be given in condition like cold and mild fever and it can be used in the manufacture of brush. It is interesting to note that the bark consists of uniseriate and multiseriate parenchyma (in TLS) which is a characteristic feature of this bark. This feature gives flexible property to the fiber which may be beneficial in the production of tooth brush.