

ANTIBACTERIAL ACTIVITY OF *COSCIUM FENESTRATUM* AND *BERBERIS CEYLANICA* -A COMPARATIVE STUDY**V. Sathiyaseelan^{1*} and K. Niranjan²**¹Unit of Siddha Medicine, University of Jaffna, Sri Lanka²Department of Botany, University of Jaffna, Sri Lanka

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As many infections are resistant to synthetic drugs, an alternate therapy is much needed. Decoctions of *Coscinum fenestratum* (Family: Menispermaceae, Sinhala: Veniwel, Tamil: Maramanjai) and an endemic plant in Sri Lanka *Berberis ceylanica* (Family: Berberidaceae, Sinhala: Dharuharithra, Tamil: Mudkhala,) were prepared separately by boiling one part of the above mature plant stems with four parts of water until the volume was reduced to quarter of the initial volume. The filtered decoctions were kept in the refrigerator until use. *In-vitro* screening of the above two decoctions for antibacterial activity was carried out with *Bacillus subtilis*, *Bacillus coagulans*, *Proteus vulgaris*, *Escherichia coli*, *Staphylococcus aureus*, *Klebsiella sp.*, *Pseudomonas aeruginosa*, *Serratia sp.* and Streptomycin, using agar well diffusion method in triplicate. The results (diameter of the zone of inhibition in cm which includes the well diameter of 6 mm) were subjected to one-way ANOVA followed by LSD test. Streptomycin showed higher inhibition than both decoctions for *B. subtilis*, *B. coagulans*, *P. aeruginosa*, *Klebsiella sp.* and *Serratia sp.* However, *C. fenestratum* showed higher inhibition than Streptomycin for *E. coli*, (2.50 ± 0.10), *P. vulgaris* (3.00 ± 0.10) and *S. aureus* (2.43 ± 0.23). When the antibacterial effect of *C. fenestratum* was compared with *B. ceylanica*, *C. fenestratum* showed greater inhibition which differed significantly ($p < 0.05$) for all tested bacteria except *Klebsiella sp.* (1.43 ± 0.06 for both decoctions). Decoction of *B. ceylanica* did not show any activity against *Pseudomonas*, however, inhibition was observed for *E. coli* (2.33 ± 0.06), *P. vulgaris* (2.37 ± 0.06) and *S. aureus* (2.00 ± 0.00). Though *C. fenestratum* decoction is commonly used for infections, obtaining a mature stem takes as much as 100 years and it is an imported and expensive commodity in Sri Lanka. The current study revealed that the decoction of mature stem of *B. ceylanica* (harvested after 5 years) can be used as a substitute for *C. fenestratum*. The public should be made aware of the use of *B. ceylanica* in preventing infections, for treatment of fever and tetanus, as well as the possibility of its cultivation in areas of high elevation.