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10. EVALUATION OF ANTIMICROBIAL POTENTIALITY OF A FLAVONOID ISOLATED FROM THE LEAF OF THE PLANT COLEBROOKEA OPPOSITIFOLIA

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Abstract

The flavonoid isolated from ethyl acetate fraction of methanolic extract of leaves of *Cholebrookea oppositifolia,* exhibited distinct antimicrobial activity when tested against 185 bacteria belonging to both Gram positive and Gram negative types. Minimum Inhibitory Concentration (MIC) of fraction Cop1 was determined following CLSI Guidelines. This herbal component significantly inhibited many bacterial strains at low levels; out of 55 *Staphylococcus aureus* 19 were inhibited between 50 and 100 µg/ml while 20 were inhibited at 200 µg/ml. All strains of *Bacillus* spp were inhibited at 100 µg/ml level. Ten of 27 *Escherichia coli* failed to grow between 50 and 200 µg/ml of Cop1 and 10 others were inhibited at 400 µg/ml concentration. Among 32 strains of *Shigella* and *Salmonella* many had MIC value between 100 and 200 µg/ml. Out of 50 vibrios 6 failed to grow at 50 µg/ml of Cop1; while 31 vibrios were inhibited between 100 and 200 µg/ml of extract . Strains of *Proteus* and *Pseudomonas* were less sensitive, while klebsiellae were resistant to Cop1. *In vivo* studies with this component showed that it could offer statistically significant protection ($p < 0.001$) to Swiss Albino mice challenged with 50 X Minimum Lethal Dose (MLD) of a virulent bacterium, *Salmonella enteric* serovar Typhimurium NCTC 74.