Evaluation of the antibacterial activity of crude hydroalcoholic extract from *Vitex megapotamica* (Lamiaceae)

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**Keywords:** *Vitex megapotamica*.

**Introduction:** *Vitex megapotamica* (Spreng.) Moldenke is a tree popularly known as tarumã. Phytochemical analysis of the leaves revealed the presence of some compounds such as, phenols and tannins, catechins, saponins, steroids and triterpenoids. However, it’s known that some of these secondary metabolites probably can have antimicrobial activity (BRUM, T.F., Rev. Saú. – UFSM, v. 37, p. 57, 2011; BRANDT, A.P., Rev. Bras. Farmacog. v.19, p. 388, 2009).

**Experimental part:** Extracts were obtained by maceration of leaves and bark with 70% ethanol solution. The minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) were performed using serial microdilution method in Mueller Hinton broth against the strains of *Proteus mirabilis* - ATCC 25933, *Salmonella enterica* subs. Enterica – ATCC 19430, *Escherichia coli* – ATCC 25922, *Pseudomonas aeruginosa* – ATCC 27853, *Shigella flexneri* – ATCC 12022, *Bacillus cereus* – ATCC 11778, *Staphylococcus aureus* – ATCC 25923, *Staphylococcus epidermidis* – ATCC 12228 and *Enterococcus faecalis* - ATCC 29212.

**Results / Discussion:** The MIC of the extract from the bark was 5.7 mg/mL on *P. mirabilis* and *E. faecalis*; 2.85 mg/mL on *S. epidermidis*; 1.42 mg/mL on *B. cereus* and *S. aureus* and MBC of 1.42 mg/mL on *S. aureus*; however, the extract from the leaves had a MIC of 5.62 mg/mL on *P. mirabilis* and *S. flexneri*; 2.81 mg/mL on *B. cereus*; 1.40 mg/mL on *S. aureus*; 0.35 mg/mL on *S. epidermidis* and MBC of 5.62 mg/mL on *P. mirabilis*, *S. flexneri* and *S. aureus*; 2.81 mg/mL on *B. cereus* and 1.40 mg/mL on *S. epidermidis*. The other bacteria were not susceptible to the extracts at the tested concentrations. The best results were obtained of the extract from the leaves; it is believed that the antimicrobial effect can be caused by the presence of one or more metabolites present in the plant.

**Conclusion:** The extracts showed significant antibacterial activity against some specific strains, however, it’s important to research which are the metabolites that cause this effect, and test them individually for a better evaluation of activity of the active principles.

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