



ANTIMICROBIAL POTENTIAL OF ETHANOLIC EXTRACTS AND HEXANIC FRACTIONS OF *EUGENIA PYRIFORMIS* AND *TAMARINDUS INDICA*

Vanessa Raquel Greatti; Rodrigo Sorrechia; Luis Estêvão Salvagnini; Bárbara Regina Kapp; Lucas B. Cristovão; Rosemeire Cristina Linhari Rodrigues Pietro

School of Pharmaceutical Sciences, Unesp, Univ Paulista, Araraquara, Brasil;
vanessagreatti@hotmail.com

The plants are rich in constituents and can be an alternative for treatment of infections. Brazil is a country with a very diverse flora, possessing an estimated value over 20% of the total number of species on the planet [1]. The antimicrobial activity of extracts and essential oils of medicinal plants has been proven in several studies [2]. Extracts from *Eugenia pyriformis* Cambess and *Tamarindus indica* L. leaves have shown activity against some microorganisms [2,3]. There is a great importance to study the properties of plants, so that new substances are discovered and investigated providing new effective drugs. The aim of this study was to evaluate the antibacterial and antifungal activity of ethanolic extract and hexanic fractions of *E. pyriformis* and *T. indica* leaves. The plants were collected in June 2015, in the Farm “Forza Itália”, Cabrália Paulista / SP. The leaves were dried in a circulating air heater at 40 ° C for six days, crushed in a knife mill and then were macerated with ethanol absolute for seven days. To obtain the hexanic fractions a liquid/liquid partition of the ethanolic extracts were performed. The extracts and fractions were evaluated in the range of 5.0 mg/ml to 4.8 µg/ml. Positive and negative growth controls, as well as ampicillin and amphotericin B at concentrations of 6.25 µg/mL to 0.05 µg/mL and 16 µg/mL to 0.06 µg/mL, respectively, were also tested. The evaluation of antimicrobial activity used ATCC strains of *Staphylococcus aureus* (25923), *Escherichia coli* (25922), *Candida albicans* (90028), *Candida krusei* (6258), *Candida parapsilosis* (22019) and *Candida tropicalis* (750). MIC (Minimum Inhibitory Concentration), MBC (Minimal Bactericidal Concentration) and MFC (Minimum Fungicide Concentration) of extracts and fractions using 96-well microplates were evaluated [4,5]. The best results were obtained to both ethanolic extracts for all microorganisms tested, and for yeasts, the lower MIC and MFC values were obtained for *C. parapsilosis*. The best antibacterial activity was against *S. aureus* for both extracts. The hexanic fractions showed less activity than the extracts on the bacteria and yeast tested. In conclusion the extracts of the plants studied are very promising and further studies are needed for a better understanding of active substances responsible for such activity.

References

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