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In-vitro anti-fungal activity of different extracts of leaf of *Vateria copallifera*

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Introduction: The increased prevalence of fungal infections is attributable to an increase in the number of immunocompromised hosts. Bioactive compounds present in the plants are used as models for the synthesis of medicinal compounds. *Vateria copallifera* is an endemic plant in Sri Lanka which has been used to treat various ailments in Ayurvedic medicine. As per our knowledge, the anti-fungal activity of this plant has not been investigated so far.

Objective: To evaluate the anti-fungal activity of different extracts of leaf of V. copallifera against *Candida albicans* and *Aspergillus niger*.

Methodology: The leaves of the plant were collected from the Kalutara district of Sri Lanka and shade-dried and powdered. The powder was macerated with methanol and acetone separately for two days. Solvents were removed from the filtrate using a rotary evaporator under reduced pressure. Anti-fungal activity of the extracts of leaf was determined against *A. niger* and *C. albicans* using agar well diffusion technique by employing itraconazole and fluconazole as standard. The diameter of the zone of inhibition of different extracts was measured and the data were examined by Analysis of Variance (ANOVA) followed by Tukey's test at 5% significance level.

Results: Mean values of zones of inhibition against *A. niger* for the methanol and acetone extract of leaf at concentrations of 100 mg/mL were 17.00 ± 2.78 mm and 19.33 ± 1.15 mm, respectively. Whereas the Itraconazole at the concentration of 1 mg/mL was found to be 30.00 ± 5.00 mm. The mean values of inhibition zones against *C. albicans* for the methanol and acetone extract of leaf was 20.50 ± 2.00 mm and 15.50 ± 1.80 mm, respectively. Whereas Fluconazole at the concentration 1 mg/mL was found to be 14.33 ± 0.57 mm. Among the different extracts of leaf, the acetone extract showed the highest activity against *A. niger* and the methanol extract showed the highest activity against *C. albicans*

Conclusion: All the extracts of leaf of *V. copallifera,* exhibited anti-fungal activity against *A. niger* and *C. albicans.* Further, these extracts could be used to screen the specific bioactive compounds which are responsible for their antifungal activity.

Keywords: *Vateria copallifera,* leaf, anti-fungal activity, *Candida albicans and Aspergillus niger*