



Antimicrobial activity of essential oils from *Piper hispidum* and *Piper hispidinervum*

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The genus *Piper* comprises around 700 species, among 130-400 are part of the rainforest flora of the Amazon region. The essential oil from these plants presents various biological activities such as larvicide, antimicrobial, among others (1). The objective of this work was to evaluate the antimicrobial activities of the plants *Piper hispidum* and *P. hispidinervum*. The essential oils were obtained by hydrodistillation from leaf samples from both species. The essential oils were extracted using a Clevenger modified apparatus for 3 h. After extraction, the oils were evaluated for antifungal activity with the fungus *Ceratocystis paradoxa*. For antibacterial activity, it was used *Escherichia coli*, *Pseudomonas aeruginosa*, *Klebsiella pneumoniae* and *Hafnia alvei*. For the antifungal activity, it was used the disk diffusion technique. For the antibacterial activity, three techniques were used: disk diffusion, essential oil incorporation into the agar medium and broth dilution. The fungus *C. paradoxa* showed resistance to both essential oils, preventing the continuation of the antifungal study. The bactericidal assay demonstrated that only *P. hispidum* oil presented activity, revealing that its chemical composition has antimicrobial activity against all bacteria used in the study. The minimum inhibitory concentrations (MIC) obtained were 33 mg mL⁻¹ for *E. coli*, 28 mg mL⁻¹ for *P. aeruginosa*, 7 mg mL⁻¹ for *H. alvei* and 32 mg mL⁻¹ for *K. pneumoniae*. It is necessary to continue the experiments to isolate from the essential oils the compounds responsible for the activity.

1. Fazolin, M. et al. Medicinal Plants. Daya Publishing House, 2014, **3**, 423-439.

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