B201 Anti-trypanosoma activity of extract obtained from plant *Piper umbellatum*

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The use of medicinal plants in the world, especially in South America, contributes significantly to primary health care. Many plants are used in Brazil in the form of crude extracts, infusions or plasters to treat common infections without any scientific evidence of efficacy. Chagas' disease affects about 18 million people and is responsible for the death of 45,000 patients every year (1). For the treatment of Chagas' disease, alternative drugs are necessary with more trypanosomicidal power and less incidence of toxic side effects. In this study extract of plant "Pariparoba" (*Piper umbellatum*) was screened for its anti-protozoan activity in epimastigote form of *Trypanosoma cruzi* "Y" strain. For this purpose the cells were cultivated in LIT medium (2) containing 10% foetal bovine serum at 28ºC with 10 to 1000 µg/ml of crude extract. Cell growth was determined by counting the parasites with a Neubauer hemocytometer. A dose dependent inhibition of the protozoan proliferation was observed. After 120 h of incubation, growth inhibition percentages of the cells were 28.8%, 85.3%, 94.2%, and 98.4% in the concentrations 10.0, 100.0, 500.0, and 1000.0 µg/ml of crude extract of "Pariparoba", respectively. These results demonstrated that this plant contains active principles against *T. cruzi* justifying the search for the study of plants extracts used in folk medicine of the treatment of tropical disease caused by protozoa.

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B202 Effect of crude extract and fractions of "barbatimão" (*Stryphnodendron adstringens*) on growth and ultrastructure of *Herpetomonas samuelpessoai*

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Stryphnodendron adstringens (Martius) Coville, popularly known as "barbatimão", is a medicinal plant used in the treatment of leukorrhoea, diarrhoea, and also as an anti-inflammatory and cicatrizant agent (1). We report the influence of crude extract and fractions of "barbatimão" on growth of *H. samuelpessoai* cultivated in a defined medium at 28ºC. For this purpose, 100.0 to 5000.0 µg/ml of crude extract or 1000.0 µg/ml (fractions F3.1 to F3.12) were added to the medium. Cell growth was estimated by counting in a Neubauer's chamber. For study of the influence of "barbatimão" in protozoan's ultrastructure, cells treated with crude extract were fixed in 2.5% glutaraldehyde. Postfixation was carried out in 1% osmium tetroxide plus 0.8% potassium ferrocyanide and 5 mM $CaCl_2$, dehydrated in acetone, and samples were embedded in Epon. Ultrathin sections were observed in a Zeiss CEM-900 electron microscope. After 72 h of incubation, growth inhibition percentages of the cells were 17.8%, 48.3%, 73.3%, and 99.7% in the concentrations 100.0, 500.0, 1000.0, and 5000.0 µg/ml of crude extract of "barbatimão", respectively. The fractions F3.9 and F3.12 showed significant higher inhibition activity when compared with crude extract in the same concentration, with 96.7% and 97.8% growth inhibition, respectively. If compared with untreated cells of *H. samuelpessoai*, the cells treated with "barbatimão" extract showed several morphological changes in the parasite's ultrastructure. In these cells, a markedly mitochondrial swelling were observed. These results indicate that crude extract and fractions of "barbatimão" have a progressive inhibitory activity on the growth of *H. samuelpessoai* and determine some ultrastructural mitochondrial alteration.

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