B171 *Guazuma ulmifolia* Lam.: microbial and chemical study

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Guazuma ulmifolia Lam., Sterculiaceae, popularly known as "mutamba" presents a wide geographical distribution, ranging from Mexico to Southern Brazil. The main interest in its microbial and chemical study is due to its use for treatment for hair loss (1). This activity can be attributed to tannins that have many pharmacological activities such anti-inflammatory, anti-oxidant, radical scavenging, anti-ulcer, anti-microbial, anti-viral and capillary protective action (2,3,4).
The material was collected in the field vicinity of Maringá, Paraná, Brazil, and after the botanical analyses, the identification confirmed the material being *Guazuma ulmifolia* Lam. var. *tomentella*. In the chemical analyses was carried out the separation of compounds from the crude extract by a column chromatography on Sephadex LH20. By the biologic point of view, observed the *in vitro* anti-bacterial activity from crude extract and semi-purified extract, by microdiluition method. In the microscopic analyses, big secretories ducts among the cells of the parenquimal tissue were detected. The result for activity against *Staphylococcus aureus* and *Bacillus subtilis* was showed by the aqueous fraction of crude extract (MIC 31.25 µg/ml, and MBC 250 µg/ml; MIC 125 µg/ml and MBC 500 µg/ml, respectively). Still, the ethyl acetate fraction presented some activity against *Escherichia coli* (MIC 250 µg/ml). Phytochemical approach proved the presence of tannins, flavonoids and saponins. From the fractionation of a crude extract of *G. ulmifolia* stem bark, with the ethyl acetate fraction, led to the isolation of two monomers (epicatechin and catechin) and one dimmer of catechin, whole characterized by spectroscopic methods by NMR (^{1}H, ^{13}C), MS and comparison with literature values.

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B172 Chemical study and microbiology and acute toxicology evaluation of the seeds extracts of *Paullinia cupana* var. *sorbilis* (Martius) Ducke, Sapindaceae (guaraná).

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Paullinia cupana var. *sorbilis*, popularly known as "guaraná", is a Brazilian plant, growing in the Amazonian area. This plant is used by the native population as a stimulant of the cerebral functions. It has been also used as component in the food and bevarage industry. The seeds of "guaraná" has a high concentration of tannins and methylxantines. From the crude extract EBPC of the seeds of "guaraná" was obtained a semi-purified extracts (EPA) and aqueous fraction (FAQ) (requeried patent). The EPA was chromatographed by CC (Sephadex–LH20) and 24 fractions were obtained. The fractions F2 and F5 were rechromatographed by CC and were obtained 3 compounds: caffeine, catechin and epicatechin. There were identified by NMR and MS spectroscopy and by comparison with the literature. The antibacterial activity of the EBPC, FAQ and EPA was carried out with *Staphylococcus aureus* (ATCC 25923), *Bacillus subtilis* (ATCC 6623), *Escherichia coli* (ATCC 25922) and *Pseudomonas aeruginosa* (ATCC 15442), through the microdilution assay with the determinate of the Minimum Inhibitory Concentration (MIC). All the extracts presented a negative effect at the concentration lower than 1000 µg/ml. The acute toxicological test was carried out with Swiss male mice. The doses of 5.0, 2.5 and 1.0 mg/kg (*p.o.*) and several doses *i.p.* (2.5, 1.5, 1.0, 0.5 and 0.1 mg/kg) (n=10/group) was administrated. The control group received water. After administration the animals were observed at the first hours and during 15 days daily. It was evaluated the week ponderal evolution and the final weight of the following organs: heart, liver, lung, kidney and spleen, after sacrifice. The LD50 were 1.659 g/kg (*p.o.*) and 0.792 g/kg (*i.p.*). In the acute test by *i.p.* was found a significative decrease of the lung weight of the animals treated with the dose of 0.5 g/kg (treatment = 0.30 ± 0.07; control = 0.40 ± 0.07). This event did not occur in any other of the tested doses. The continuation of the work is necessary to corroborate the results obtained until moment with the acute toxicological test and the determination of the responsible compound for it.

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