

**Biological activity of the essential oil of *Licaria puchury-major* leaves against trypanosomatides**

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Currently the use of essential oils is more frequently as an alternative for the treatment of many diseases and to control the proliferation of vectors of etiological agents, with larvicidal, acaricidal and insecticidal effects (1). *Licaria puchury-major* (Mart.) Kosterm. (Lauraceae) is a native plant species from the Amazon region, which fruits and seeds are traditionally used against diarrhea, indigestion and leukorrhea. Neolignans isolated from the seeds exhibited antitumoral activity against human leukemic cells (2,3). Carlini et al. (4) verified that the seed essential oil, that was rich in safrole and with minor amounts of eugenol, reduced the motor activity and partially prevented convulsions in mice. Nevertheless, the essential oil of the leaves is still little studied for its possible biological effects. In this context, we verified the action of this essential oil extracted from *Licaria puchury-major* leaves against trypanosomatids that cause leishmaniasis and Chagas disease, two relevant endemic diseases to the Brazilian public health system. The plant material was collected in Ducke Reserve (Manaus, AM). The leaves were fragmented and submitted to hydrodistillation using a modified Clevenger-type apparatus (2h). The essential oil was analyzed by gas chromatography apparatus coupled to mass spectrometry (GC-MS) in an Agilent equipment (6890N, 5973N) and electron ionization mode at 70 eV. The temperature of DB-5MS column varied from 50°C to 300°C at 4°C/min. Helium was the carrier gas (1mL/min). The substances were identified by comparison of their retention indices and mass spectra with those reported in the literature (5). The essential oil was tested against promastigotes of *Leishmania amazonensis* (IFLA/BR/1967/PH8), *Leishmania infantum* (MHOM/BR/1974/PP75) and epimastigotes of *Trypanosoma cruzi* Y. The activity was determined by the rezasurin dye assay (6). The analysis of the essential oil from leaves of *L. puchury-major* indicated the presence of safrole (55.2%) as the most abundant constituent, as previously described in the literature for the seed oil (4). Other constituents of the oil of the leaves were 1,8-cineole (8.6%), sylvestrene (7.8%), eugenol (6.8%) and sabinene (6.0%). At 500 µg/mL, the essential oil added to the culture inhibited the viability of the promastigote forms of *L. amazonensis* (40%) and *L. infantum* (85%), as well as the epimastigote forms of *T. cruzi* (49%). The IC<sub>50</sub> value for *L. infantum* was 189.64 µg/mL. The results indicated that the essential oil of *L. puchury-major* leaves has an inhibitory action on the studied parasites and can be related to the oil extracted from *L. canella* leaves previously studied by our research group that also showed activity against *Leishmania* species (7). To the best of our knowledge there is no other study about the antitrypanosomal activity of this species.

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