

## Efeito do óleo essencial da erva de Santa-Maria (*Chenopodium ambrosioides* Linnaeus, 1753) sobre camundongos suíços (*Mus musculus* Linnaeus, 1758) não infectados e infectados com *Plasmodium berghei* Vincke & Lips, 1948

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**Abstract.** Effect of the essential oil of Santa-Maria herb (*Chenopodium ambrosioides* Linnaeus, 1753) on swiss mices (*Mus musculus* Linnaeus, 1758) non-infected and infected with *Plasmodium berghei* Vincke & Lips, 1948. Malaria is an infectious disease caused by protozoan from the genera *Plasmodium* that affects several vertebrated species. Although its etiology was discovered by Louis Laveran in 1880, malaria is still one of the most important parasitic diseases of the world according to World Health Organization. Endemic in the tropics and subtropics, malaria causes around 1.7 million deaths per year in Africa. The increase of the cases of malaria during the last years is mainly due to the pharmacoresistancy acquired by the parasite, particularly observed to cloroquina, a drug traditionally used in prophylaxis and treatment of disease. The research for plant active extracts against *Plasmodium* has been developed in the last years. This is especially due to the discover of bioactive natural products with antiplasmodial activity. The main objectives of the present reserch were to investigate the potential activity of the essential oil of *Chenopodium ambrosioides* (Chenopodiaceae) on *Plasmodium berghei* cepa ANKA, as well as to investigate possible changes in the clinical state of the animals. Groups of Swiss outbreed female mice infected  $1 \times 10^6$  parasited erythrocytes and treated with distilled water, 1% aqueous Dimetilsulfoxide (DMSO), cloroquina (50 and 100  $\mu$ l/Kg) or different doses (12.5, 25, 50 e 100  $\mu$ l/Kg) of essential oil of *C. ambrosioides* obtained after 2 and 4 hours of hydrodestilation and emulsified with 1% aqueous DMSO. All the groups treated with cloroquina or essential oil showed decrease of parasitemy. The dose of 100  $\mu$ l/Kg of essential oil was the one that joined with cloroquina, causes higher inhibition of multiplication of the parasite without causing damage to treated mice. The essential oils obtained after 2 and 4 hours of hydrodestilation showed similar chemical composition and, in this case, expressive differences in these two oils weren't observed. The antimalaric activity of *C. ambrosioides* essential oil was corroborated by behaviour evaluations that confirmed the beneficial effect of this natural product on the clinical state of the infected mice. The absence of signs of acute toxicity of all researched drugs in the used doses in this study was also verified. These results suggests that the essential oil of *C. ambrosioides* a potential source for antimalaric compounds.

**Keywords:** Antimalaric activity, *Chenopodium ambrosioides*, essential oil, *Plasmodium berghei*.