RESUMO SIMPLES - ECTOPARASITOS: SISTEMÁTICA, EPIDEMIOLOGIA E CONTROLE

ACARICIDAL POTENTIAL OF NATIVE AND NATURALIZED BRAZILIAN PLANTS IN THE CONTROL OF AMBLYOMMA SPP.

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Brazilian biodiversity represents a strategic resource for the prospection of natural compounds with ectoparasiticidal potential, with essential oils (EOs) standing out due to their previously described pharmacological activities. Among the most relevant plant species are the genera Cymbopogon and Schinus, whose EOs have been investigated for their antimicrobial, acaricidal, and repellent properties. In the context of parasitology, ticks of the genus Amblyomma are of particular importance due to their veterinary and

epidemiological relevance, as well as the need for sustainable alternatives to synthetic acaricides, which are often associated with environmental toxicity and the development of resistance. Amblyomma sculptum occurs in the Cerrado, Atlantic Forest, and Pantanal biomes and is the primary vector of Rickettsia rickettsii, the etiological agent of Brazilian spotted fever, which recorded 36,497 notifications between 2007 and 2021, with 7% confirmed cases. Amblyomma cajennense, in turn, presents predominant distribution in the Amazon and transitional areas, with an average infectivity of 7% for Rickettsia amblyommatis, detected in Amazonian ticks and with a still-emerging epidemiological significance. The aim of this study was to evaluate the acaricidal activity of the EOs of Cymbopogon martinii and Schinus terebinthifolius, cultivated and extracted in southeastern Brazil, against adult ticks of A. sculptum and A. cajennense, as well as to determine their lethal concentrations (LC_{50} and LC_{90}) by probit analysis using RStudio software. Tick mortality was assessed after 24 hours using the adult immersion test (n = 25), with five concentrations ranging from 50 to 200 µg/mL. Interspecific and sex-related variations were analyzed. The results based on the mortality of the mixed population showed that the EO of C. martinii displayed greater efficacy against A. sculptum, whereas the EO of S. terebinthifolius was more effective against A. cajennense. However, the sex-specific analysis revealed that, for A. sculptum, the EO of C. martinii presented an LC_{50} of 89.95 µg/mL and an LC_{90} of 148.19 µg/mL in females, while males showed values of 68.05 µg/mL for LC_{50} and 108.35 µg/mL for LC_{90}. For the EO of S. terebinthifolius, females displayed an LC_{50} of 75.82 µg/mL and an LC_{90} of 132.40 µg/mL, and males registered an LC_{50} of 73.54 µg/mL and an LC_{90} of 144.72 µg/mL. In the case of A. cajennense, the EO of C. martinii resulted in an LC_{50} of 53.06 µg/mL and an LC_{90} of 150.39 µg/mL in females, whereas males exhibited an LC_{50} of 61.61 µg/mL and an LC_{90} of 111.24 µg/mL. The EO of S. terebinthifolius showed, for females of A. cajennense, an LC_{50} of 96.8 µg/mL and an LC_{90} of 135.43 µg/mL, and for males, an LC_{50} of 89.78 µg/mL and an LC_{90} of 112.52 µg/mL. Taken together, these findings show that the acaricidal effects of the tested EOs exhibit both interspecific and intraspecific variation, the latter being influenced by sex. In summary, these results reinforce the strategic potential of Brazilian biodiversity as a source of bioactive compounds for the development of new alternatives for controlling ectoparasites of sanitary relevance.

Palavras-chave: prospection; essential oils; ectoparasiticidal activity; cymbopogon martinii; schinus terebinthifolius.