RESUMO SIMPLES - ECTOPARASITOS: SISTEMÁTICA, EPIDEMIOLOGIA E CONTROLE

EFFICACY OF CURCUMA LONGA ESSENTIAL OIL AGAINST COCHLIOMYIA HOMINIVORAX LARVAE

Alyne Mendonça Lima (alynemedvet98@gmail.com)

Ramon Da Luz Bezerra (ramon.bezerraa@gmail.com)

Anna Carolina Teixeira De Jesus (annacarolinatj@ufrrj.br)

João Marcelo Moreira Homaissi (marcelo.joao0@gmail.com)

Edivan Lima Santos De Oliveira (edivan.elso@yahoo.com.br)

Manoella Dantas Medeiros (manoellaa7x@gmail.com)

Diefrey Ribeiro Campos (diefrey8@gmail.com)

Jessica D'avilla De Assis (jda.rural@gmail.com)

Thaís Ribeiro Correia Azevedo (thaisrca@gmail.com)

Luana Morais Izidoro (lumoraizi0@gmail.com)

Myiasis caused by Cochliomyia hominivorax represents one of the main health challenges in veterinary medicine, affecting several species of domestic and farm animals. The importance of this dipteran lies in the fact that it is one of the main agents of primary myiasis; its larvae are obligate parasites that feed exclusively on living vertebrate tissue and are commonly known as “botflies,” causing intense damage to hosts and significant economic losses. In this context, the development of innovative therapeutic and prophylactic alternatives

is essential, especially in view of the growing resistance to conventional insecticides. Curcuma longa essential oil has been highlighted for its biological properties, including potential antiparasitic effects, mainly attributed to the presence of compounds such as curcumin. The objective of this study was to evaluate the activity of C. longa essential oil on C. hominivorax larvae. The larvae used were obtained from the colony maintained at the Laboratory of Experimental Chemotherapy in Parasitology at the Federal Rural University of Rio de Janeiro (UFRRJ) (CEUA No. 86340220223). From the stock solution, solutions were prepared at concentrations of 10,000; 20,000; 40,000; 60,000; 80,000, and 100,000 µg/mL, in addition to the control and placebo groups. The impregnation method was used on filter paper discs with an area of 23.75 cm². The impregnation volume was 470 µL. Ten larvae per concentration were challenged in six replicates. After exposure, the samples were incubated in climate chambers with controlled temperature and humidity. The evaluation was performed 24, 48, and 72 hours after exposure. No larval mortality was observed at the concentrations tested; however, it was found that the treated larvae showed abnormal development at all concentrations, except at 10,000 µg/mL, but the number of deformed individuals was higher at concentrations of 80,000 and 100,000 µg/mL, resulting in 42 and 40 defective individuals, respectively, which indicates interference of the essential oil in the development process, even in the absence of direct death. The results demonstrate that, although the essential oil of C. longa did not cause lethality in C. hominivorax larvae, it significantly interfered with the formation of individuals, suggesting a sublethal effect with a potential impact on the parasite's life cycle. The study reinforces the relevance of investigating natural compounds as alternatives for the control of diptera of veterinary importance. This research contributes to reducing the indiscriminate use of chemicals and minimizing the development of resistance.

Palavras-chave: fly; myiasis; larvicide; herbal medicine.