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STUDIES ON THE CONTROL OF PHORID FLIES (DIPTERA, PHORIDAE) PARASITES OF STINGLESS BEES (APIDAE, MELIPONINI)

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One of the main cleptoparasite groups that attack stingless bees are the Phoridae, which larvae feed on the pollen stocks of the colonies, causing colonies losses, thus hindering meliponiculture. One of the main traditional control methods is the use of traps with vinegar inside the colonies. However, the use of red wine vinegar is more frequent than the use of white vinegar, since it is believed that the first capture more phorids. Another question is whether the use of these traps within the colonies could attract phorids that are in the external environment. Thus, this study aimed to compare the effectiveness of red and white wine vinegars regarding the capture of phorids, and whether the use of vinegar would attract phorids that are outside the colonies. To test the effectiveness of vinegars, two traps of each type of vinegar were placed inside infested colonies of *Melipona fasciculata* and *M. seminigra*, in the meliponary of Embrapa Amazônia Oriental, Belém/PA, Brazil, every two weeks, from April 2010 until July 2011. To test the attractiveness of the vinegar, two traps with red wine vinegar (experimental treatment) and two traps containing water (control), were placed each two weeks in empty hives not previously used, i.e. without odors of bees or from nest structures; thus the capture of flies would be due only to the vinegar, not due to bees. For the analysis of attractiveness and effectiveness of vinegars only were used female flies, which accounted for 99% of the individuals. There was no difference on the attractiveness of vinegars: in *M. fasciculata* 301 *Pseudohypocera kerteszi* females were captured in red wine vinegars and 231 in white wine vinegars (Wilcoxon matched-paired test $Z=0.77$; $N=26$; $p=0.44$) and in *M. seminigra* 60 females of *P. kerteszi* were captured in red wine vinegars and 39 in white wine vinegars ($Z=0.45$; $N=13$ e $p=0.65$). No phorid flies were captured in the empty hives (70 trials). We can conclude that these two types of vinegars are equally efficient in the capture of phorids and the traps are safe to use, since the vinegars did not attract outside phorids to the colonies.

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Palavra chave: vinegar - *Pseudohypocera kerteszi* - meliponiculture - traps - control