



Hygienic behavior of the local Honey bee *Apis mellifera intermissa* in Algeria

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Introduction

Honey bee hygienic behavior has been recognized as an important mode of resistance to American foulbrood disease (Spivak and Gilliam, 1998) chalkbrood (Dadej and Delaplane, 2000), sacbrood (Szabo and Szabo, 2000). It has been demonstrated that hygienic bees detect and remove pupae infested with the parasitic mite, *Varroa destructor* (Spivak and Reuter, 2001).

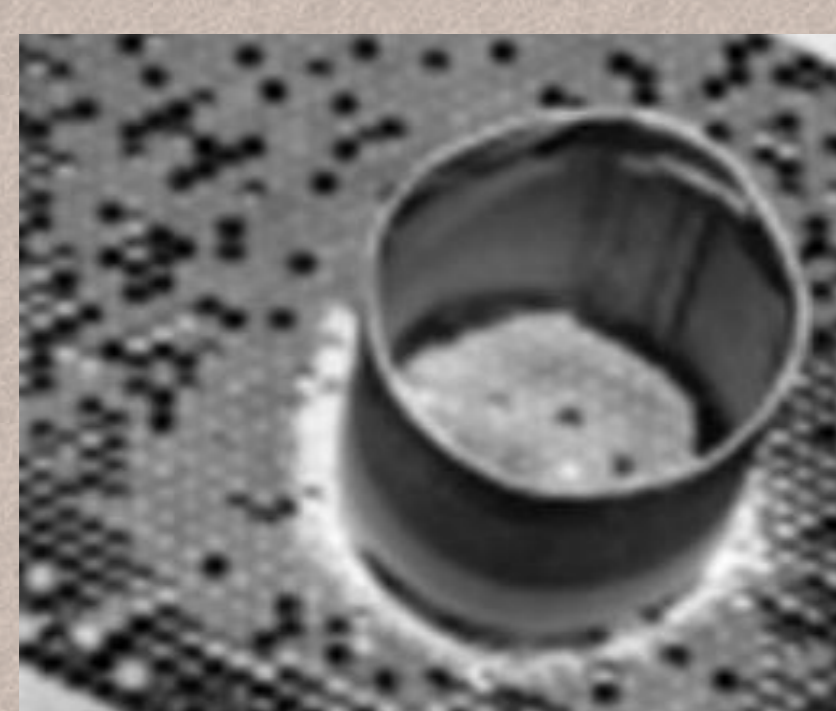
Objective

The present study was conducted to quantify the hygienic behavior of *Apis mellifera intermissa*, The results of this study are of importance for future selection of mite-tolerant

Materials et methods

The study was conducted during September and March 2010, 20 *Apis mellifera intermissa* colonies equalized colonies with a one year old queen. The degree of hygienic behavior was determined by method of Spivar and Gilliam (1998)

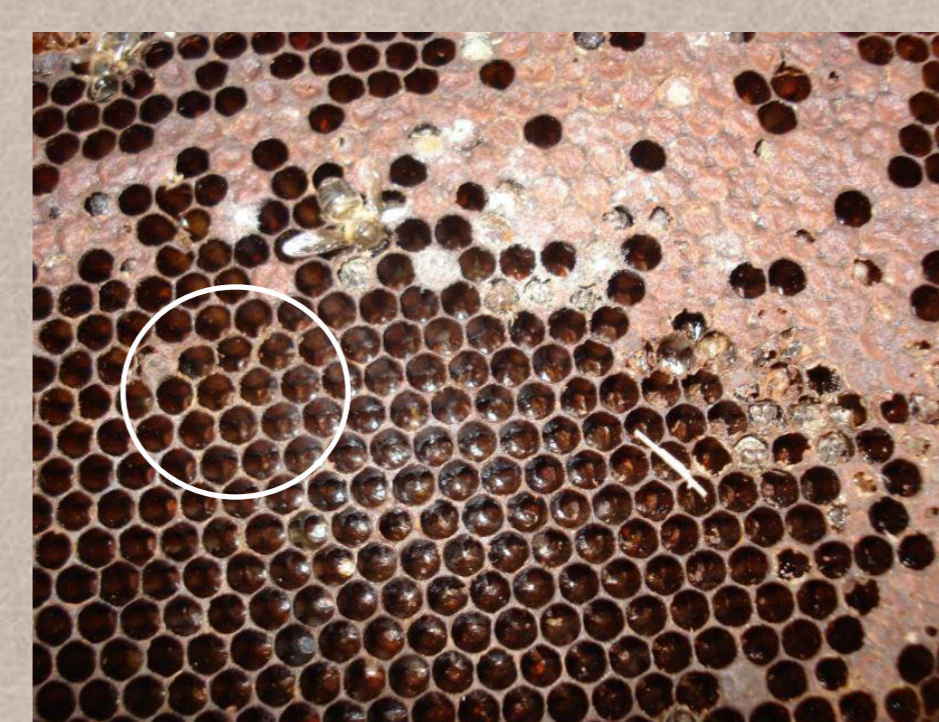
freeze killed brood assay (Spivak and Gilliam, 1998) was conducted by removing a 5 cm by 8 cm square sections of comb containing approximately 100 cells of capped brood from each colony. The sections were placed in a freezer for approximately 18 hours, and then the brood was thawed and placed back into the frame from which it was removed.



Liquid nitrogen field assay for hygienic behaviour



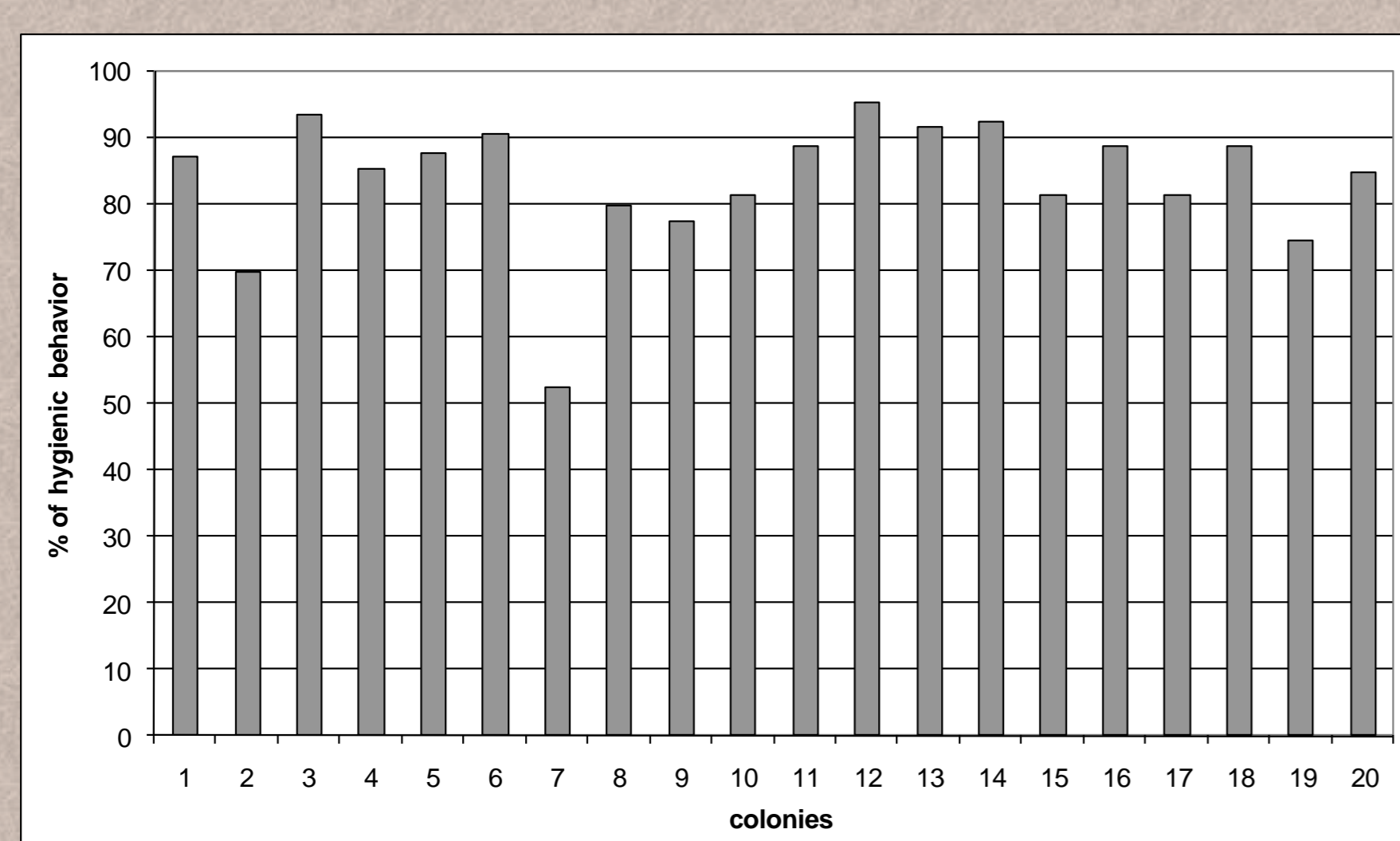
Control of field assay for hygienic behaviour



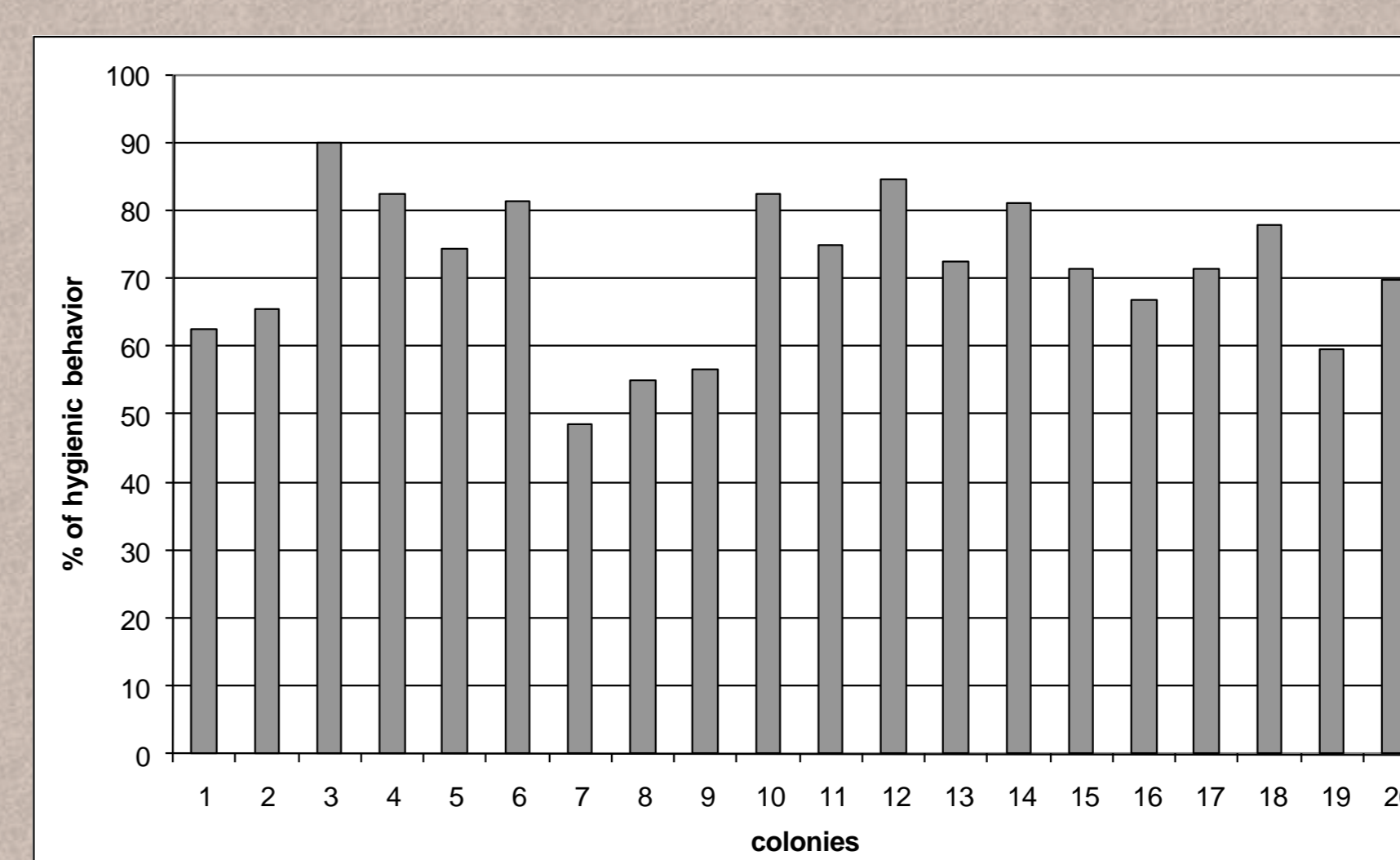
Results of liquid nitrogen field assay for hygienic behaviour

Results and discussion

Hygienic behavior is more intense during the month of March or the total hygienic behavior is 84, 5% against 71.45% during the month of September. An active evacuation of dead brood much more intense in the midst of honeydew. September results show that more than half of the colonies are considered hygienic.



Hygienic behavior during the month of March



Hygienic behavior during the month of September

Conclusion

Further studies are needed to confirm these results, and to other studies on the hygienic behavior of honeybees towards brood infested with *Varroa*, especially to compare the hygienic behavior of honey bee colonies between *Apis mellifera intermissa* and / or *sahariensis*

References

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