



Contribution to the palynological study of some bee honey samples from Yucatan, México

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Introduction

Yucatan peninsula is the main producing region of honey in Mexico. Most of gathered honey it is exported without a classification defined by its floral origin. Generally, in international markets, the honey of defined floral origin usually has better price. These circumstances along with the little information about the pollen grains content of honey produced in Yucatan, it is convenient to do studies to determine the botanical origin of these honeys, which influences in the main physical and chemical characteristics of the same. The objective of the study was to determine the content of pollen grains of samples of honey from different floral origin gathered in Yucatan.

Methodology

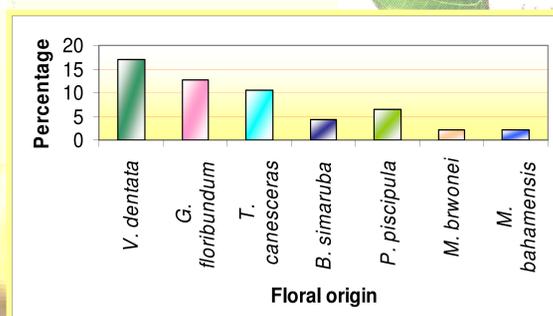
47 samples of honey of the flowerings of Tajonal (*Viguiera dentata*, Blake), Kaan chunuup (*Thouinia paucidentata*, Radlk), Tzizilché (*Gymnopodium floribundum* (Robinson) Blake), Jabin (*Piscidia piscipula* (L) Sarg), Chacáh (*Bursera simaruba* (L) Sarg), Box Catzín (*Acacia gaumeri*, Blake) and Sac Kaatsin (*Mimosa bahamensis*, Benth) were collected. Melissopalynology analysis was performed according to Louveaux et al (1978) method, the non-acetolytic method was used. For a precise identification of palynomorphs, reference pollens were collected in spring-summer. Microscopic analysis was carried out in a Leica DMR light microscope fitted to a digital camera and coupled to an analyzer of images system for morphometry of pollen grains. Two independent slides were prepared for each sample, and counted at least 500 pollen grains on each slide.

Results

Of the 47 samples of honey analyzed, in 26 of them they had a specie of pollen grains in a higher proportion to 45% (table 1), except in those of *Piscidia piscipula* in which majority pollen grains was founded between 17 and 29%. Of the 26 samples most of them fell into *Viguiera dentata* (graphic 1). In the 21 remaining samples, no species of pollen reached 45%.

Table 1. Rate ranges of species with more than 45% .

Floral origin	No. of samples	Percentage (%): Minimum-maximum	Half
<i>Viguiera dentata</i>	8	45.60 - 79.74	56.9988
<i>Gymnopodium floribundum</i>	6	51.37 - 63.14	56.5483
<i>Thouinia paucidentata</i>	5	45.78 - 78.30	61.3660
<i>Bursera simaruba</i>	2	68.39 - 71.40	69.895
<i>Piscidia piscipula</i>	3	17.32 - 29.52	22.37



Graphic 1. Distribution of the 26 samples with more than 45%

There was a variation from 6 to 18 species (table 2) per sample with previously established floral origin.

Table 2. Variation of species per sample

No. of samples	Floral origin	No. of different pollen species
8	<i>Viguiera dentata</i>	6-18
6	<i>Gymnopodium floribundum</i>	8-11
5	<i>Thouinia paucidentata</i>	8-15
2	<i>Bursera simaruba</i>	8-17
3	<i>Piscidia piscipula</i>	12-16
1	<i>Mimosa bahamensis</i>	15
1	<i>Metopium brownei</i>	11

Conclusions

We found 45% honey with pollen, although most of the vegetation in the Yucatan is wild.

Despite the distinctive characteristics conferred *Piscidia piscipula* honey, is not always reflected in the contribution of pollen?

The honeys originating from *Viguiera dentata* *Gymnopodium floribundum*, and *Bursera simaruba* *Thouinia paucidentata* can be classified as monofloral.

