

Evolution of bacterial growth in *Melipona bicolor* honeys after one year of storage

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INTRODUCTION & AIM

Guaraipo (*Melipona bicolor*) is a sting-less bee distributed throughout south and southeast Brazil, which is known for its honey production; however, it is not currently the target of much research [1-2]. There are not many citations in the literature about the microbial activity of honey after storage, so the aim of this study is to elucidate this point by comparing the microbial condition of the product produced by sting-less bees after both 8 and 17 months of storage under refrigeration (4°C).

METHOD

The total and thermotolerant coliforms, mesophilic aerobic microorganisms, as well as yeasts and molds, were quantified in three honey samples collected in forest areas in the metropolitan region of Curitiba (Figure 1).

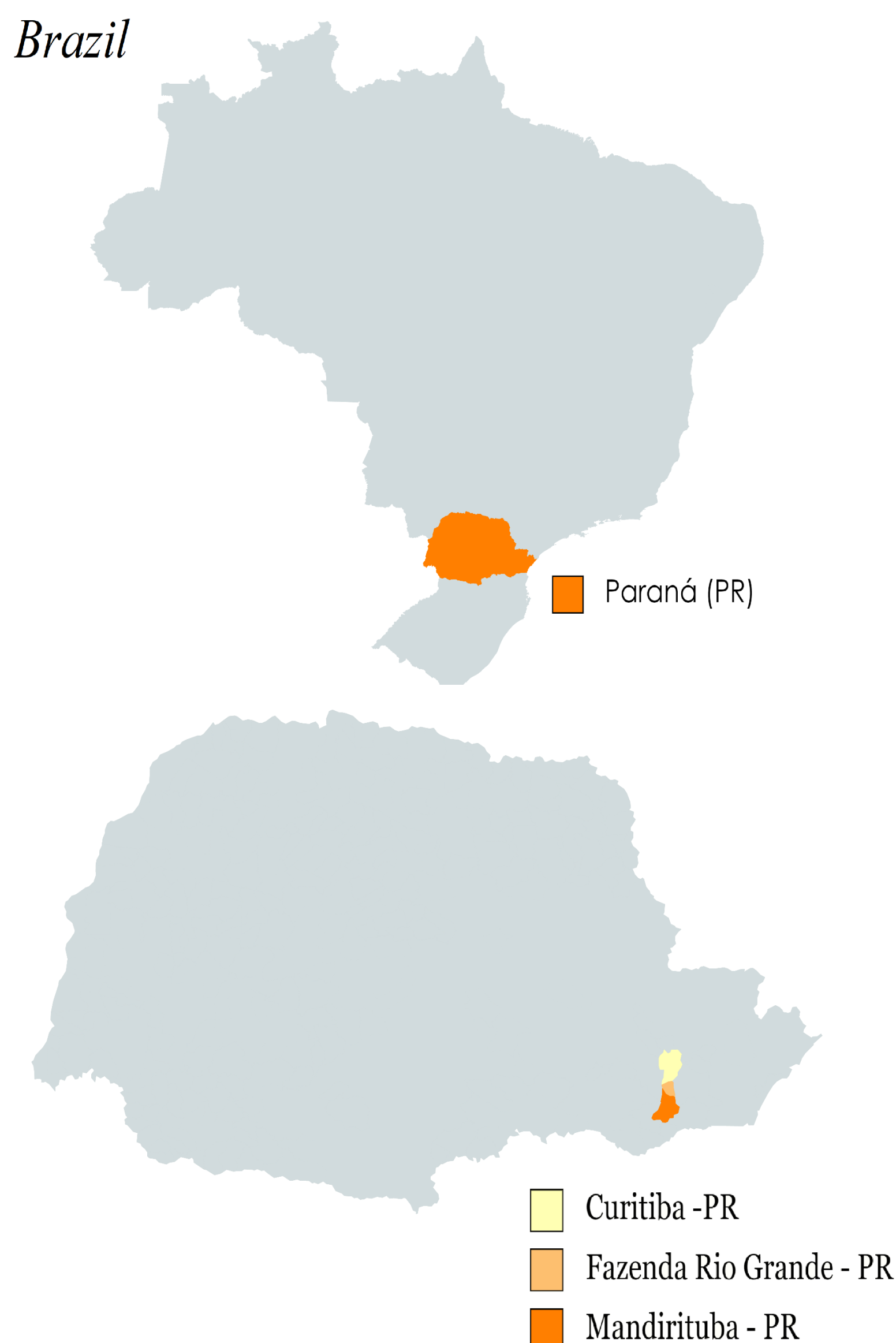


Figure 1. Map showing the location of the state of Paraná in Brazil and highlighting the cities where the collections were made.

RESULTS & DISCUSSION

No growth of total or thermotolerant coliforms was noted; however, it was possible to observe a decrease in mesophilic aerobes in the sample over the course of their storage, as shown in Table 1.

Table 1. Microbial counts in honey samples

Microorganism	8 months CFU/mL	17 months CFU/mL
Mesophilic aerobes	2.46–4.08	1.00–1.30 or no growth
Yeasts and Molds	1.78–2.43	≤ 1 or no growth

CONCLUSION

Although mesophilic, yeast, and mold growth were observed in the first instance, we can conclude that after storage for a year in refrigerated conditions, there was a decrease in the bacterial growth found in sting-less bee's honey.

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