BOOK OF ABSTRACTS

5TH MEETING OF YOUNG RESEARCHERS OF UNIVERSITY OF PORTO

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CREDITS

Livro de Resumos IJUP'12

5º Encontro
de Investigação
Jovem da U.Porto

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Design
Tiago Campeã
Rui Mendonça

Impressão e acabamentos
Invulgar – artes gráficas

Tiragem
1300 exemplares

Depósito Legal
340336/12

ISBN
978-989-8265-82-1

Exploring Argentine honey and propolis

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In recent years there has been a renewed interest in the study of honey and propolis composition and biological properties. The use of these matrices in the treatment and prevention of numerous diseases has been documented [1]. This beneficial role is partially attributed to their antibacterial activity. In addition, part of the therapeutic properties of honeybee products is due to their antioxidant capacity. This also justifies honey effectiveness against deteriorative oxidation reaction of food [2].

In the present study interest was focused on the determination of the botanical origin and phenolic composition and on the evaluation of the antioxidant and antibacterial capacity of honey and propolis collected from Jujuy province in Argentina. Pollen spectrum was determined following melissopalynological methods. Phenolic compounds were analyzed by HPLC-DAD. Antioxidant activity was assessed against DPPH, nitric oxide and superoxide radicals by scavenging microassays.

The results obtained revealed that *Baccharis* sp. was predominant in both honey and propolis samples, representing 76 and 23% of the pollen spectrum, respectively.

Regarding phenolic compounds, hydroxycinnamic acids and flavonoids were found, propolis showing highest diversity and content comparatively to honey.

Concentration-dependent antioxidant effect was noticed: propolis proved to be the most active against DPPH, while honey revealed higher capacity against nitric oxide and superoxide radicals.

Both extracts showed better activity against Gram-positive (*Staphylococcus aureus*, *Staphylococcus epidermidis*, *Bacillus cereus*, *Enterococcus faecalis* and *Micrococcus luteus*) than Gram-negative (*Salmonella typhimurium*, *Proteus mirabilis*, *Escherichia coli* and *Pseudomonas aeruginosa*) bacteria.

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