

# Journal of Apicultural Research

Volume 56 Number 5 2017

---

## Contents

### Ecology and Conservation

**Nesting ecology of the oil-collecting bee *Centris (Melacentris) conspersa* Mocsáry and its potential association with the cleptoparasite *Cyphomelissa diabolica* Friese (Apidae: Centridini, Ericrocidini)**

Léo Correia da Rocha-Filho, Maria Juliana Ferreira-Caliman, José Carlos Serrano, João Maria Franco de Camargo (in memoriam) and Carlos Alberto Garófalo

489

**Nesting ecology of sympatric species of wool carder bees (Hymenoptera: Megachilidae: *Anthidium*) in South America**

Nydia Vitale, Victor H Gonzalez and Diego P Vázquez

497

**The foraging behavior of a species of bumble bee (*Bombus pomorum*) that became extinct in the British Isles in the nineteenth century**

Darren Jeffers

510

### Evolution, Phylogeny, and Biogeography

**Thorough morphological and genetic evidence confirm the existence of the endemic honey bee of the Maltese Islands *Apis mellifera ruttneri*: recommendations for conservation**

Marion Zammit-Mangion, Marina Meixner, David Mifsud, Sheryl Sammut and Liberato Camilleri

514

### Hive Product Science

**The composition of bee pollen color fractions evaluated by solid-state  $^1\text{H}$  and  $^{13}\text{C}$  NMR: their macroelement content and antioxidant properties**

Katarzyna Paradowska, Agnieszka Zielińska, Marzena Kuras and Iwona Wawer

523

**The fatty acid profile of Serbian bee-collected pollen – a chemotaxonomic and nutritional approach**

Aleksandar Ž Kostić, Mirjana B Pešić, Dejana Trbović, Radivoj Petronijević, Aleksandra M Dramićanin, Dušanka M Milojković-Opsenica and Živoslav Lj Tešić

533

**Chemical characterization, antioxidant, cytotoxic and antibacterial activity of propolis extracts and isolated compounds from the Brazilian stingless bees *Melipona quadrifasciata* and *Tetragonisca angustula***

Larissa dos Santos, Sabrina Hochheim, Ariela Maína Boeder, Aline Kroger, Maíra Maciel Tomazzoli, Remi Dal Pai Neto, Marcelo Maraschin, Alessandro Guedes and Caio M M de Cordova

543

**Cyclic voltammetry and UV/Vis spectroscopy in combination with multivariate data analysis for the assessment of authenticity of poplar type propolis**

Petar Ristivojević, Jelena Trifković, Dalibor M Stanković, Aleksandra Radoičić, Dragan Manojlović and Dušanka Milojković-Opsenica

559

**Quantification of three phenolic classes and total phenolic content of propolis extracts using a single UV-vis spectrum**

Vanessa B Paula, Leticia M Estevinho and Luís GG Dias

569

(Continued on inside back cover)

(Continued from outside back cover)

<b>Chemical composition and antifungal potential of Iranian propolis against <i>Candida krusei</i> strains</b> Hojjatollah Shokri, Farzad Katiraei, Mahnaz Fatahinia and Mohammad Hassan Minooeianhaghghi	581
<b>Influence of geographic origin, plant source and polyphenolic substances on antimicrobial properties of propolis against human and honey bee pathogens</b> Daniel S Dezmirean, Liviu A Mărghitaș, Flore Chirilă, Florina Copaciu, Vasile Simonca, Otilia Bobiș and Silvio Erler	588
<b>Pathology and Parasitology</b>	
<b>Parasitization of a wild and reared population of the solitary bee <i>Osmia cornuta</i> Latr. by the parasitoid <i>Anthrax anthrax</i> Schrank (Diptera, Bombyliidae): comparison between two types of artificial nest</b> Antonio Felicioli, Sabrina Ambroselli, Giovanni Cilia and Simona Sagona	598
<b>Biochemical status of feral honey bees (<i>Apis mellifera</i>) infested with various pathogens</b> Elżbieta Łopieńska-Biernat, Rajmund Sokół, Maria Michalczyk, Krystyna Żółtowska and Robert Stryński	606
<b>Oral administration of essential oils and main components: Study on honey bee survival and <i>Nosema ceranae</i> development</b> Martín Pablo Porrini, Paula Melisa Garrido, Liesel Brenda Gende, Cármen Rossini, Laura Hermida, Jorge Augusto Marcángeli and Martín Javier Eguaras	616
<b>Pyrethroid target site resistance in Greek populations of the honey bee parasite <i>Varroa destructor</i> (Acari: Varroidae)</b> Eleftherios Alissandrakis, Aris Ilias and Anastasia Tsagkarakou	625
<b>Repeatability of measurements of removal of mite-infested brood to assess <i>Varroa</i> Sensitive Hygiene</b> Jose D Villa, Robert G Danka and Jeffrey W Harris	631
<b><i>Varroa</i> sensitive hygiene contributes to naturally selected varroa resistance in honey bees</b> Delphine Panziera, Frank van Langevelde and Tjeerd Blacquière	635
<b>Absence of small hive beetles from flowering plants</b> Bryony K Willcox, Brad G Howlett and Peter Neumann	643
<b>Pollination</b>	
<b>Do flexible pollen foraging habits of <i>Xylocopa frontalis</i> (Apidae, Xylocopini) contribute to nest management in passion fruit crops?</b> Camila Nonato Junqueira, Laíce Souza Rabelo, Esther Margarida Alves Ferreira Bastos and Solange Cristina Augusto	646
<b>Sociobiology and Behaviour</b>	
<b>The behavior of individual swarming bees of the giant honey bee (<i>Apis dorsata</i>) arriving at a nesting site: curtains, garlands and faces</b> Jerzy Woyke	653
<b>Toxicology</b>	
<b>Agricultural pesticide residues in honey and wax combs from Southeastern, Central and Northeastern Mexico</b> Cesar Valdovinos-Flores, Víctor M Alcantar-Rosales, Octavio Gaspar-Ramírez, Luz M Saldaña-Loza and José A Dorantes-Ugalde	667
<b>Reviewers 2017</b>	680