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*Discover the European Honeyland*

**Apimondia**
*Kyiv, Ukraine 2013*

**Scientific Program**

**Beyond the Hive: Beekeeping & Global Challenges**

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Apis Mellifera Cecropia And Apis Mellifera Adami: The Neglected Subspecies Of A. Mellifera Honey Bee
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Multivariate Morphometric Analysis Of Apis Mellifera In Yili River Valley Of Xinjiang
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Morphometric Characteristics Of Bees' Apis Mellifera Adansonii In Benin
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European Dark Bee Populations In Russia
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**Symposium 3**

**Reintroduction Plan For The Endangered Sicilian Black Bee Apis Mellifera Siciliana**

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The subspecies Apis mellifera siciliana, autochthonous to the Italian island of Sicily, is threatened with extinction due to hybridization with A. m. ligustica, introduced into the island by beekeepers when commercial beekeeping became widespread (1970s). Today a small population of A. m. siciliana survives mainly on a few small islands belonging to the Eolie archipelago, thanks to the will and determination of a single beekeeper who has been breeding this race for the past 20 years.

Now a project for conservation of this subspecies is running, funded by the Sicilian Regional government and coordinated by the Honey bee and Silkworm Research Unit of the Agricultural Research Council (CRA-API). Several Sicilian institutions and beekeeper associations are involved for the 3-year course of the project.

The main goal of the project is the reintroduction of the subspecies on the main island, by distribution of large numbers of queen cells derived from pure A. m. siciliana queen mothers to beekeepers located mainly in the Western part of the island. These queen cells develop into queens that are then used for drone production the following year and whose progeny is analysed to assess contamination level of the area in which they were mated. According to the results, management suggestions are provided to involved beekeepers. A parallel aim is the establishment of protected mating stations for the pure breeding of this race on the mainland island, as currently pure breed mating is limited to conservation islands, thus not available for a larger number of beekeepers.

Last but not least, the project envisages sampling of Western Sicilian bee populations, in order to find new lineages to minimize inbreeding on the conservation islands.

**Patterns Of Single Nucleotide Polymorphism (SNP) Variation: Further Insights Into The Complex History Of The Iberian Honeybee**

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The Iberian Peninsula harbours the greatest honeybee genetic diversity and complexity in Europe. The challenge of deciphering the mechanisms underlying such complexity has led to numerous morphological and molecular marker-based surveys of the Iberian honeybee. Yet, in spite of the numerous studies, the evolutionary processes underlying patterns of Iberian honey bee genetic diversity remain poorly understood. Early phylogeographical studies of morphology and allozymes revealed the existence of a gradient extending from Africa to northern Europe, with Iberian honeybees showing intermediate phenotypes. This pattern raised the hypothesis of an African origin and a mechanism of primary intergradation for the Iberian honeybee (and the black honeybee) origin. Maternal patterns tell a different history. Mitochondrial DNA (mtDNA) surveys have revealed the co-occurrence of highly divergent lineages forming a south-northcline, a pattern that is more compatible with a recent secondary contact hypothesis. Adding to the complexity, microsatellite variation supports neither hypothesis as microsat-
Colombia: Evaluation Of Two Types Of Energy Supply For Native Stingless Bee Melipona Eburnea (Apidae: Meliponini) In Colombian Andes Mountains, South America. César Augusto Tulero Urrego (zootechina.fuagarasuga@mail.unicundi.edu.co), Andrea Castro Jimenez, Víctor Manuel Solarte Cabrera.

Brazíl: Gene Expression Patterns Underlying Adult Brain Development Of Apis Mellifera Castes. Angel Roberto Barrachik (barrachik@unifal-mg.edu.br), Heloisa H. S. Gianelli, Aline Vomero dos Reis, Márcio Tadeu de Oliveira, Lívia M. R. Moda, Joseana Vieira, Ana D. Bomtorin, Zilá L. Paulino Simões.

Slovakia: Genetic Characterization Of Slovak Carniolan Honey Bee (Apis Mellifera Carnica) Using Microsatellite Markers. Jaroslav Gasper (vcela@imafex.sk), Jan Kopernicky, Maria Bauer, Miroslav Bauer.

Russia: Genetic Concept Of Swarming. Margarita Monakhova (info@mail.bio.msun.ru).

Argentina: Genetic Differentiation Among Apis Mellifera Populations Located In Different Eco-Climatic Regions Of Argentina. Marcelo Nicolás Agra (apihalc@balcarce.inta.gov.ar), Silvia Lanzavecchia, Pablo Corva, Jorge Cladera, Maria Alejandra Palacio.

Saudi Arabia: Genetic Structure Of The Native Honeybee Of Saudi Arabia (Apis Mellifera Jemenitica) Based On Microsatellite Polymorphism. Yehya Alattal (yalattal@ksu.edu.sa), Ahmad Alghamdi, Mohamad Alsharhi.

Portugal: Genome-Wide Scans Detected Signatures Of Selection In Genes Related With Vision, Xenobiotic Metabolism, And Immunity In The Iberian Honey Bee Genome. Julio César Chaves-Galarza (jchaves@ipb.pt), Dora Henriques, John Spencer Johnston, José Carlos Rufino Amaro, Maria Alice Pinto.

Brazil: Geometric Morphometries Of Populations Of Plebeia Nigriceps On Rio Grande Do Sul, Brazil. Juliana Stephanie Galaschi Teixeira (juliana.galaschi@usp.br), Sídia Witter, Tiago Maurício Franco.

Serbia: Glutathione S-Transferase Activity As A Potential Biomarker Of Pollution Exposure In European Honey Bees (Apis Mellifera). Snežana Milovac (sneznana.milovac@ibhe.uns.ac.rs), Danijela Kojić, Tatjana Nikolić, Jelena Purač, Željko Popović, Elvira Vukašinović, Gordana Grubor-Lajšić.

Ukraine: Hibernation Conditions And Remote Control Of Bee Colonies In Cold Dormancy. Mykola Shamro (shamro_09@ukr.net).

Czech Republic: Honey Bee Morphogenesis. Jaroslav Havlík (havlik@uf.czu.cz).

Austria: Honey Bee Trophallaxis: Different Bees Different Share? Anika Loewe (karl.craisheim@uni-graz.at), Craisheim Karl.

Portugal, USA: How Many Snps Are Needed To Provide An Accurate Estimate Of Lineage C Introggression Into Black Honey Bees? Dora Henriques (dorasmh@gmail.com), Julio Chavez-Galarza, John Johnston, José Carlos Rufino, Maria Alice Pinto.

Brazil: Hygienic Africanized Honey Bees Are Better Pollen Collectors Than Non-Hygienic Africanized Honey Bees. Clycice Aparecida Da Silva Machado (lgsonca@usp.br), Lionel Seguí Gonçalves.

Russia: Influence Of Honeybees And Beekeeping On Stability And Rehabilitation Of Biocenoses. Igor Mishin (sgsh@smoltelecom.ru).