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First international meeting APIS SILVATICA

The western honey bee in nature. Pantelleria May 16-20, 2022

Inviting scientists and activists studying free-living colonies of *Apis mellifera*, their relationship to other pollinators, managed colonies and ecosystems.

- [Scientific Committee](#)

The conference will take place at the Cossyra Hotel, in contrada Mursia, Pantelleria, with a limit of **100 participants in attendance**, and will be videotransmitted on the Internet, with the sending of **links reserved for a maximum of 200 online participants**.

Each day will involve **presentations** by leading researchers, a **poster session** to showcase relevant projects and studies around the world and **round table discussions** to define the contents of *The Pantelleria Declaration*.

Participation in the conference will include an **excursion** in the Parco Nazionale Isola di Pantelleria, including visits to organic farms, free-living honey bee colonies and sites of historical interest and natural beauty.

The last day of the meeting will be held in Italian, all the other days in English.

- [Conference program](#)
- [Registration for the conference](#)
- [Participation fees for the conference](#)
- [Oral communications and poster session](#)

For the **secretariat of the Conference**, **transport and accommodation on the island**, refer to the **Pantelleria Island Tour Operator** at the following link:

- www.pantelleriaisland.it/apis-silvatica.html

To register your interest and for further details please email:

- apis_silvatica@parconazionalepantelleria.it



(photo by PN Isola di Pantelleria)



Unmanaged colony of *Apis mellifera* settled inside a natural cavity in the volcanic stone in Pantelleria
(photo by Paolo Fontana)

http://www.parconazionalepantelleria.it/international_meeting_apis_silvatica.php

ISOLA DI PANTELLERIA PARCO NAZIONALE

Natural landscape Rural landscape Living the Park Managing Body English

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First international meeting APIS SILVATICA - Scientific Committee

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- Valeria Malagnini (Fondazione Edmund Mach)
- Paolo Fontana (Fondazione Edmund Mach)
- Gabriella Lo Verde (Università di Palermo)
- Tommaso La Mantia (Università di Palermo)

Committee

- Sonia Anelli (Parco Nazionale Isola di Pantelleria)
- Andrea Bidditu (Parco Nazionale Isola di Pantelleria)
- Luciano di Martino (Parco Nazionale della Maiella)
- Ignazio Floris (Accademia Nazionale di Entomologia, Università di Sassari)
- Cecilia Costa
- Laura Bortolotti (CREA-AA)
- Nicola Tormen
- Enrico Ruzzier (World Biodiversity Association)
- Antonio Felicoli (CTSTAA, Università di Pisa, CiRAA)
- Gennaro Di Prisco (CNR)
- Fani Hatjina
- Riccardo Jannoni (Apimondia)
- Joann Sy (Pollinis)
- Giacomo Ciriello
- Nicola Bradbear (Bees for Development)
- Monica Vercelli (Istituto Superiore per la Protezione e la Ricerca Ambientale - ISPRA)
- Valter Bellucci (Istituto Superiore per la Protezione e la Ricerca Ambientale - ISPRA)

APIS SILVATICA
PANTELLERIA 16-20 MAY 2022

(photo by PN Isola di Pantelleria)

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Link ka e-repozitorijumu Biološkog fakulteta, Univerzitet u Beogradu: <https://biore.bio.bg.ac.rs/handle/123456789/4894>

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Proceedings of the First international meeting
APIS SILVATICA The western honey bee in nature
Pantelleria May 16-20, 2022

LJUBIŠA STANISAVLJEVIĆ, JOVANA BILA DUBAIĆ, SLAĐAN SIMONOVIĆ, MILAN PLEČAŠ, SLOBODAN
DAVIDOVIĆ, MARIJA TANASKOVIĆ & ALEKSANDAR ČETKOVIĆ

EXTRAORDINARY INCIDENCE AND PERSISTENCE OF FERAL HONEY BEES IN URBAN
ENVIRONMENTS OF BELGRADE (SERBIA)

*Incidenza straordinaria e persistenza di api mellifere ferali negli ambienti urbani di
Belgrado (Serbia)*

In the modern world managed bee species are necessary for the stability and sustainability of food production, of which the western honey bee (*Apis mellifera*) is the best known and the single most important species (Kevan, 2007). Wild honey bees have largely become extinct throughout Europe since the 1980s, following the introduction of the ectoparasitic mite *Varroa destructor* and various pathogens associated with it (Crane, 1999). The honey bee has been the subject of extensive research around the world for decades, particularly in terms of preserving the health and stability of their colonies under these new pressures. In that period, the importance of rare, accidentally surviving wild and feral colonies of honey bees was largely neglected. However, several recent studies (e.g., Le Conte et al., 2007) report on the growing number of colonies that have successfully survived the *Varroa* mite infestation without usual chemical treatments.

Unlike in other studies on unmanaged colonies, we presented a special case of the free-living population of honey bee in a large and highly populated urban environment of Belgrade, the capital of Serbia (Southeast Europe). During the period 2011–2017, we collected a large set of observational data (>1,300 records) from the apparently dense wild/feral honey bee population. Large share of these records can not be spatially related to the existence of managed apiaries, which are very rare in the core of downtown Belgrade. We hypothesized that numerous unmanaged bee colonies and the high frequency of swarms indicate a stable, self-sustaining wild population, and not the regular influx of swarms from the managed apiaries situated more peripherally. Also, we elaborated on various plausible explanations for this extraordinary finding.

By geospatial analysis of different categories of occurrence (colonies and swarms observed in different habitats and micro-situations) in relation to the parameters of urban environments suitability for honey bees, we evaluated the patterns of distribution and long-term survival of feral colonies under urban conditions. The results indicate an extremely high and stable population density and unusually long persistence of feral colonies, which is a rare phenomenon on a global scale (Bila Dubaić et al., 2021). Previous isolated cases of unmanaged colony survival (unknown in urban conditions) triggered great scientific attention: understanding the factors behind these survival cases may contribute to the efforts on improving the managed honey bee health. Therefore, our results contribute to ongoing initiatives to support naturally selected resistance mechanisms against *Varroa* mites, and hopefully reduce the currently growing incidence of colony die-offs.

The collecting of data was based on opportunistic citizen science, which we hereby evaluate as a highly prospective approach in the study of wild/feral bees in urban areas. We believe that specifically designed citizen science projects, based on our experiences, could be implemented with a great success in other countries with similar highly urbanised circumstances; in particular, investigations should be focused on environments with comparable potentials for the unnoticed existence of unmanaged honey bees (Bila Dubaić et al., 2021).

Despite the growing global trend of urban beekeeping, little is known about the impact of urbanization on the genetic diversity of honey bees. In particular, we investigated and performed genetic analysis of 82 individual bee genomes in a portion of a sample of feral and managed honey bee colonies distributed throughout this large city, including highly urbanised areas. We established the existence of a high genetic differentiation between these two groups. Also, the comparison of mitochondrial and microsatellite DNA of bees sampled in Belgrade and in rural parts of Serbia showed that colonies of wild/feral bees have different patterns of genetic diversity. It can be concluded that urbanisation can be a positive driver of the genetic diversity of wild honey bees nesting in a highly urbanised and densely populated areas.

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International meeting

APIS SILVATICA

First edition - **Pantelleria 2022:**
The western honey bee's place in Nature

UPDATED MEETING PROGRAM:

Monday May 16, 2022

Afternoon: 16.00-20.00 **Conference participants arrival and registration**

Evening: 20.30-23.00 **Social Dinner**

Day 1, Tuesday May 17, 2022

Morning (9,30-13,00)

Topic: **Unmanaged colonies of *Apis mellifera***

Chairmans: **Fabrice Requier** and **Ljubiša Stanisavljevic**

10,00-10,30 Meeting opening and customary greetings

10,30-10,40 **Jeff Pettis** (President of APIMONDIA) **opening of the conference**

10,40-11,00 Pr. I.: *Apis mellifera* in nature (**Paolo Fontana**, Edmund Mach Foundation, Italy)

Time	SPEAKER	Affiliation	Title
11,00-11,20	Malagnini Valeria	Edmund Mach Foundation (ITALY)	Honey bees in Pantelleria
11,20-11,40	A. Felicioli & I. Floris	University of Pisa; University of Sassari (Italy)	Antagonism between flies and bees
11,40-12,00	Ljubiša Stanisavljevic	University of Belgrade (Serbia)	Unprecedented Density and Persistence of Feral Honey Bees in Urban Environments

			of a Large SE-European City (Belgrade, Serbia)
12,00-12,20	Z. Lipinski	Institute of Animal Reproduction and Food Research of the Polish Academy of Sciences (Poland)	Swarming, absconding, migration and related phenomena in unmanaged honeybees (<i>Apis mellifera</i>)
12,20-12,40	Jeff Pettis	President of APIMONDIA	Wild and managed <i>Apis</i> in Groix island (France)
12,40-13,00	Stefano Reale	Istituto Zooprofilattico Sperimentale della Sicilia (Italy)	Molecular profiles to estimate the genetic variability in the Sicilian honeybee population

Coffee break corner: Bar open from 10.00 to 12.00 am

Afternoon (14,00-17,00):

Topic: **The conservation of *Apis mellifera* subspecies**

Chairmans: **Joann Sy** and **Paolo Fontana**

14,30-15,00 Pr. I.: Genetic research on *Apis mellifera* ssp. (**Per Kryger**, Aarhus University, Denmark)

Time	SPEAKER	Affiliation	Title
15,00-15,20	Fani Hatjina	Institute of Animal Science (Greece)	Preservation and selection of local Greek honey bees in the island of Gavdos/ SafeAgroBee project
15,20-15,40	Tjeerd Blacquiere	Natural Beekeeping Trust	Darwin Black Box protocol in the Netherlands and a reflection on the threat of artificial selection and man-mediated movement of colonies on the genetic diversity of honeybees

15,40-16,00	Cecilia Costa	Council for Agricultural Research and Economics (Italy)	Robust local populations: lessons learned
16,00-16,20	Hayatu Usman Dukku	Abubakar Tafawa Balewa University (Nigeria)	The conservation of local honey bee populations: The African perspective
16,20-16,40	Nicolas Laarman	POLLINIS (France)	Gene modified bee: a false solution for beekeeping and conservation
16,40-17,00	Antonio Nanetti	Council for Agricultural Research and Economics (Italy)	The project MediBees

Coffee break corner: Bar open from 3.30 to 5.30 pm

18,00-19,00 – First round table for the definition of a collegial document for the protection of the unmanaged colonies of *Apis mellifera* (**Pantelleria Declaration**) – Chairman Paolo Fontana

Day 2, **Wednesday 18 May 2022**

Morning (9,30-13,00)

Topic: **Interaction between managed and unmanaged bees, and wild bees**

Chairmans: **Antonio Felicioli** and **Jeff Pettis**

10,00-10,30 Pr. I.: Interaction honey bee vs. other bees (**Laura Bortolotti**, Council for Agricultural Research and Economics, Italy)

Time	SPEAKER	Affiliation	Title
10,30-10,50	Francesca Coppola	University of Pisa (Italy)	Interspecific trophic breakdown of the pollen source between wild and managed bees
10,50-11,10	Giovanni Cilia	Council for Agricultural Research and Economics (Italy)	Honey bee pathogen spillover to wild pollinators in North Italy

11,10-11,30	Ingolf Steffan-Dewenter	University of Würzburg (Germany)	Resource use and colony performance of honey bees in forest landscapes
11,30-11,50	F. Cappa, R. Cervo & A. Cini	University of Florence (Italy)	Antagonistic interactions between wild bees, managed honey bee colonies and wasps
11,50-12,10	Monica Vercelli, Antonio Felicioli, Marino Quaranta, Rafael De Silveira Bueno, Tommaso La Mantia & Gabriella Lo Verde	Ispra (Italy); University of Pisa (Italy); Council for Agricultural Research and Economics (Italy)University of Palermo (Italy)	How many managed honey bee colonies in a semiarid island? The case study of Lampedusa.
12,10-12,30			

Coffee break corner: Bar open from 10.00 to 12.00 am

Afternoon (14,30-17,00)

Topic: **The value and the conservation of *Apis mellifera* unmanaged colonies**

Chairmans: **Valeria Malagnini** and **Delphine Panziera**

14,30-15,00 Pr. I.: Honey bees surviving *Varroa destructor* infestations in the World: lessons we can take (**Yves le Conte**, French National Institute for Agriculture, Food, and Environment)

Time	SPEAKER/TOPIC	Affiliation	Title
15,00-15,20	N. G. Meloni & I. Floris	University of Vienna (Austria); University of Sassari (Italy)	Wild, Domesticated, Native: Humans-Bees Relationship in Cultural Anthropology
15,20-15,40	Fanny Mondet	French National Institute for Agriculture, Food, and Environment (France)	Molecular basis for the resistance to varroa

15,40-16,00	Delphine Panziera	Wageningen University & Research (Netherlands)	Small rewilding project using nest boxes in The Netherlands and the (naturally-selected) mechanisms involved in resistance to Varroa
16,00-16,20	Ginevra Celani, Anna Berti Suman, Antonello Iannacci, Simone Bergonzoli & Danny Clice	Resilient Bee APS	Citizen science for the monitoring of Italian unmanaged honey bees: implementation of measurement protocols and “bee guardians” management systems.
16,20-17,00	G. Meloni & M. Leimstättner	University of Vienna (Austria)	The Journey of the Bees – Nomadic Beekeeping in Europe (Movie)

Coffee break corner: Bar open from 3.30 to 5.30 pm

18,00-19,00 – Second round table for the definition of a collegial document for the protection of the unmanaged colonies of *Apis mellifera* (**Pantelleria Declaration**) – Chairman [Fani Hatjina](#)

Day 3, Thursday 19 May 2022

Morning (10,00-13,10):

Topic: **Monitoring wild pollinators and wild *Apis mellifera***

Chairman: **Monica Vercelli/Marino Quaranta**

09,30-10,00 **welcome coffee**

10,00-10,30 Pr. I.: Red list - state of play - bees and other pollinators (**Marino Quaranta**, Council for Agricultural Research and Economics, Italy)

Time	SPEAKER	Affiliation	Title
10,30-10,50	Paolo Fontana	Edmund Mach Foundation (Italy)	Mapping and monitoring Western honey bee unmanaged colonies
10,50-11,10	Arrigo Moro	Honey Bee Watch Team (Italy)	Honey Bee Watch: An International Scientific Initiative for the Protection of Surviving Colonies

11,10-11,30	Fabrice Requier	French National Research Institute for Sustainable Development (France)	Wild-living honey bees in Europe: colony density, survival rate and conservation plans
11,30-11,50	Simone Flaminio	Council for Agricultural Research and Economics (Italy)	Beewatching citizen science on bees
11,50-12,10	Manuela Giovanetti	Council for Agricultural Research and Economics (Italy)	BeeNet wild bee monitoring
12,10-12,30	Andree Cappellari & Valeria Malagnini	University of Padua (Italy) Edmund Mach Foundation (Italy)	The effect of seasonality and landscape composition on pollen
12,30-12,50	Gianfranco Caoduro & Nicola Tormen	World Biodiversity Association (Italy)	From natural beekeeping to the San Michele all'Adige Declaration to the Domus mellifera project: from beekeeping to biodiversity.

Coffee break corner: Bar open from 10.00 to 12.00 am

Afternoon (14,30-18,30)

Topic: The protection of unmanaged colonies of *Apis mellifera* and of other bees - Chairman: **Gennaro Di Prisco**

14,30-15,00 Pr. I.: Italian and EU legislation for the protection of bees (**Noa Simon Delso & Piotr Medrzycki**, Beelife, Belgium; Council for Agricultural Research and Economics, Italy)

Time	SPEAKER/TOPIC	Affiliation	Title
15,00-15,20	Chiara Benedetta Boni	University of Pisa (Italy)	Threats for wild bumblebees conservation on three islands of Tuscan Archipelago National Park

15,20-15,40	Anna Gajda, Ewa Mazur & Bartłomiej Molasy	Warsaw Agricultural University (Poland)	Research on the causes of death of honey bee colonies (<i>Apis mellifera</i> L.) inhabiting log hives in the Klodzka Valley - Case study
15,40-16,00	Fani Hatjina, Sjef Van der Steen & INSIGNIA consortium	INSIGNIA -EU consortium	Biomonitoring of environmental pollutants
16,00-16,20	Ilaria Negri	Università Cattolica del Sacro Cuore, Piacenza (Italy)	Airborne particulate matter: a potential threat to pollinators
16,20-16,40	Keith Browne	National University of Dublin (Ireland)	Protecting honey bees on the island of Ireland: Our journey from discovery to legislation
16,40-17,00	Karen Power, Tecla Toscano, Gennaro Altamura, Patrizio Catalano, Manuela Martano & Paola Maiolino	CERVENE, Dep. of Veterinary Medicine and Animal Productions (Italy); Ist. Zooprofilattico Sperimentale del Mezzogiorno (Italy); Dip. prevenzione asl Na2Nord (Italy)	<i>Vespa orientalis</i> : a possible vector for honeybee pathogens
17,00-17,20	Antonio Nanetti	Council for Agricultural Research and Economics (Italy)	Beepath

Coffee break corner: Bar open from 3.30 to 5.30 pm

17,30-18,30 - Final round table for the definition of a collegial document for the protection of the unmanaged colonies of *Apis mellifera* (**Pantelleria Declaration**) - Chairman: Monica Vercelli

Day 4, Friday 20 May 2022

Morning (9,30,00-13,00)

Topic: **World bee day**

9,30-11,00 Celebration of world bee day (**Authorities**)
M. **Giarratano** (Ecological Transition Ministry)
Salvatore **Gabriele** (Pantelleria Island National Park - President)
Toni **Scilla** (Sicilian Region - Agricultural Assessor)
Vincenzo **Campo** (Pantelleria Municipalità - Mayor)

Signature of the **Pantelleria Declaration** (document for the protection of the unmanaged colonies of *Apis mellifera*)

Topic: **Informative session on the meeting topics**

Chairman: **Ignazio Floris/Sonia Anelli**

Time	SPEAKER/TOPIC		
11,00-11,15	S. Anelli & A. Biddittu	Pantelleria National Park	La gestione delle api: il punto di vista del Parco Nazionale Isola di Pantelleria
11,15-11,30	L. Di Martino	Maiella National Park	Monitoring and conservation of pollinators in the territory of the Maiella National Park
11,30-12,45	M. Perrone	Cinque Terre National Park	
11,45-12,05	I. Floris & N. G. Meloni	University of Sassari (Italy); University of Vienna (Austria)	Le interazioni dell'uomo con le api. Testimonianze e racconti di un'isola del Mediterraneo (Sardegna, Italia)/Man's interactions with honey bees. Evidence and tales of a Mediterranean island (Sardinia, Italy).
12,05-12,25	I. Floris & A. Felicioli	University of Sassari (Italy); University of Pisa (Italy)	Birds in relation to honey bees/Uccelli in relazione alle api
12,25-12,45	M. Pusceddu & A. Satta	University of Sassari (Italy)	La medicina sociale dall'ape da miele sino all'uomo/Social medication: from honey bee to humankind
12,45-13,00	Probably Alessia Rotta	Environment Commission Chamber of Deputies	Una legge per la tutela degli apoidei antofili / Law for conservation of apoidea anthophila

Coffee break corner: Bar open from 10.00 to 12.00 am