

Evoluzione
2015



DIPARTIMENTO
SCIENZE BIOLOGICHE,
GEOLOGICHE E AMBIENTALI
BIGEA



VI congress of the Italian Society for Evolutionary Biology - Bologna August 31 - September 3, 2015

Bologna, August 31st – September 3rd 2015

Evoluzione 2015

*6° Congress of the Italian Society of
Evolutionary Biology
SIBE-ISEB*

Conference program

Monday, August 31st

- 14:00-14:20 *Conference opening and welcome*
- Symposium 1** **Evolution of Genomes and Genomic Conflicts**
Chair: Marco Passamonti
- 14:20 – 15:00 **William F. Martin.** Endosymbiotic origin and differential loss of eukaryotic genes.
Invited speaker
- 15:00 – 15:20 **Michele Castelli.** Insights on the evolution of the bacterial endosymbiont *Holospora caryophila* from the genome sequence.
- 15:20 – 15:40 **Rupinder Kaur.** Investigating the genotypic and phenotypic basis of continental specific *Drosophila-Wolbachia* endosymbiotic system.
- 15:40 – 16:00 **Fabrizio Ghiselli.** The Doubly Uniparental Inheritance: a model system for studying evolutionary and functional genomics of mitochondria.
- 16:00 – 16:20 **Liliana Milani.** Mitochondrial activity in gametes and transmission of viable mtDNA.
- 16:20 – 16:40 **Saverio Vicario.** Evidence for purifying selection of mtDNA mutations during human oogenesis.
- 16:40 – 17:00 **Federico Plazzi.** 100 of these genomes: Bivalve mitogenomics hits triple digits.
Coffee break
- 17:20 – 17:40 **Andrea Luchetti.** Recombine and survive: evolutionary history of the V highly conserved domain in the mammalian genome after the V-SINE superfamily extinction.
- 17:40 – 18:00 **Livia Bonandin.** Reproductive biology versus transposable elements load: the role of host reproductive strategy in the study of R2 dynamics in *Bacillus* stick insects (Phasmida, Bacillidae).
- 18:00 – 18:20 **Chiara Pontremoli.** Adaptive evolution underlies the species-specific binding of *P. falciparum* RH5 to human basigin.
- 18:20 – 18:40 **Emiliano Trucchi.** Epigenetic divergence and parallel adaptation in *Heliosperma pusillum* (Caryophyllaceae).
- 18:40 – 19:00 **Francesca Dumas.** Interstitial telomeric sequences distribution in eight Neotropical primates (Platyrrhinae) by (TTAGGG)_n probe mapping: interstitial location and their possible role in evolution

Tuesday, September 1st

Symposium 2

Evolutionary Research in Museums.

Chair: Franco Andreone

08:40 – 09:20
Invited speaker

Angelica Crottini, Franco Andreone. When traditional museological tools meet new cutting-edge applications: our experience with the study of species diversification patterns, taxonomy and conservation of Madagascar herpetofauna.

09:20 – 09:40

Leonardo Latella. The tale of specimen: what and when natural history collections can tell us about evolution.

09:40 – 10:00

Elena Canadelli. The “Extinction” project: valorisation of museum natural history collections as a tool to link research, outreach and conservation.

10:00 – 10:20

Giovanni Forcina. Unravelling the biogeography of secretive taxa by museum collections: the untold story of the black francolin (*Francolinus francolinus*, Phasianidae) in the Mediterranean.

Coffee break

10:40 – 11:00

Agostino Leone. Restoring the history of sawfish in the Mediterranean from museum exhibits.

11:00 – 11:20

Francesco Massari. Unlocking the evolutionary history of the mighty bluefin tuna using novel paleogenetic techniques and ancient tuna remains.

Symposium 3

Phylogenetics, Biogeography and Phylogeography

Chairs: Gabriele Gentile, Saverio Vicario

11:20 – 12:00
Invited speaker

Alexandre Antonelli. The evolution of neotropical mega-diversity.

12:00 – 12:20

Laura Parducci. Inferring past tree distribution in Nordic environments from ancient DNA.

12:20 – 12:40

Daniela Lucente. The role of local refugia and paleoclimatic history in the phylogeography of a cold-tolerant species: the European cave salamander *Hydromantes strinatii*

12:40 – 13:00

Fausto Tinti. Molecular markers, natural history and evolution in sharks and rays.

Lunch

14:40 – 15:00

Giulia Fassio. Unexpected biodiversity of epizoic gastropod genus *Marseniopsis* (Velutinidae) within a phylogenetic framework for the family.

15:00 – 15:20

Mukesh Thakur. Problem bear translocation: is it effective management practice to mitigate bear-human conflicts in Dachigam landscape, Jammu and Kashmir, India?

15:20 – 15:40

Matteo Vecchi. A backbone phylogeny for invertebrates: the case and problems of eutardigrades (Tardigrada)

15:40 – 16:00

Massimo Bernardi. Species between conservation and evolution.

Symposium 4

Evolution of phenotypes and Organismal Biology

Chairs: Omar Rota Stabelli, Lino Ometto

- 16:20 – 17:00
Invited speaker **Benjamin Proud'Homme.** Regulatory evolution and the diversification of pigmentation patterns in *Drosophila*.
- 17:00 – 17:20 **Silvia Paolucci.** Maternal effect on offspring size in seed harvester ants.
- 17:20 – 17:40 **Federica Costantini.** Genetic connectivity along depth gradient and implications for phenotypic plasticity in a gorgonian species.
- 17:40 – 18:00 **Ilaria Giovannini.** The phenotypic plasticity in life history traits of an Antarctic water bear as a strategy to cope with extreme environmental conditions.
- 18:00 – 18:20 **Sukanya Ramasamy.** The role of olfaction in the making of a pest - a genomic analysis.
- 19:30 – 22:00 *The Evolution of the Aperitif. Zoology Museum, via Selmi 3.*

Wednesday, September 2nd

Symposium 5

Population Genetics and Genomics

Chairs: Giorgio Bertorelle, Paolo Ajmone Marsan

- 09:00 – 09:40
Invited speaker **Konrad Lohse.** Inferring population histories from genomes.
- 09:40 – 10:00 **Carlo Pecoraro.** The application of 2b-RAD approach for investigating the genomic population structure of yellowfin tuna (*Thunnus albacares*) at the global scale.
- 10:00 – 10:20 **Pierpaolo Maisano Delser.** Population genomics of *C. melanopterus* using target gene capture data: demographic inferences and conservation perspectives.
- 10:20 – 10:40 **Luca Calderoni.** Regressive evolution in Somalian cavefish *Phreatichthys andruzzii*: loss of selective constraint on opsin genes.
Coffee break
- 11:00 – 11:20 **Livia Di Giambattista.** Population genetics, ecology, and evolution of the troglomorphic isopod *Androniscus dentiger* from the Frasassi cave system.
- 11:20 – 11:40 **Stefano Mona.** On the role played by the carrying capacity and the ancestral population size during a range expansion.
- 11:40 – 12:00 **Mukesh Thakur.** Hearing hangul calls for survival: conservation genetics and demographic history of the last surviving population of red deer in India.
- 12:00 – 12:20 **Sara Knight.** Quantifying separation and similarity in a *Saccharomyces cerevisiae* metapopulation.
- 12:20 – 12:40 **Giorgio Bertorelle.** The evolution of the small and isolated population of Apennine brown bears (*Ursus arctos marsicanus*): a whole-genomes perspective.

Lunch

Symposium 6

Evolutionary Applications

Chair: *Giorgio Binelli*

- 14:20 – 15:00
Invited speaker **Berthold Heinze.** Genetic analysis and real world problems in ecology and forestry.
- 15:00 – 15:20 **Vincent Piou.** Importance of the phoretic phase in the reproduction of *Varroa destructor*: ectoparasite of the honey bee (*Apis mellifera*).
- 15:20 – 15:40 **Omar Rota Stabelli.** Evolution and genomics quickly provide with useful clues for insect pest management: the case of *Drosophila suzukii*.
- 15:40 – 16:00 **Isabella Vanetti.** Taxonomy and genetic diversity of anodontine mussels in Lake Maggiore.
- 16:00 – 16:20 **Caterina Maria Antognazza.** Genetics survey of European barbel (*Barbus barbus*) populations in England and Wales: implication for future restocking management.
- 16:20 – 16:40 **Emanuele Fasola.** Frogs' microbiome from metal polluted and metal non-polluted sites.
- 16:40 – 17:00 **Anna Sandionigi.** Next-gen monitoring strategies. A warning system for EXPO2015.
- 17:00 – 17:20 **Giacinto Libertini.** Evolutionary classification of diseases and similar conditions.

SIBE Lecture

- 17:40 – 18:20 **Pietro Omodeo.** Every evolutionary step is an addition of information to an already existing system.
- 18:20 – 19:40 *SIBE Members Meeting*
- 21:00 – 24:00 *Social Dinner*

Thursday, September 3rd

Symposium 7

New Frontiers in Evolutionary Anthropology*

Chair: *Silvia Ghirotto*

* *Co-hosted with the Italian Anthropological Association*

- 09:30 – 10:30
Invited speaker **Eske Willerslev.** How we settled the world and developed our culture.
- 10:30 – 10:45 **Francesca Tassi.** Early modern human dispersal from Africa: genomic evidence for multiple waves of migration.
- 10:45 – 11:00 **Daniele Gibelli.** Identification of missing children: a quantitative approach to the

analysis of facial morphology.

- 11:00 – 11:15 **Elisabetta Cilli** Discovering past gut microbiomes through NGS analysis: the mummies of Roccapelago (MO).
- 11:15 – 11:30 *Discussion*
Coffee break
- 11:45 – 12:00 **Cristina Giuliani.** DNA methylation variability along the Italian peninsula: an evolutionary perspective reveals implications for human health and diseases.
- 12:00 – 12:15 **Elena Fiorin.** The significance of microfossils recovered from dental calculus for anthropological analysis.
- 12:15 – 12:30 **Michela Leonardi.** Testing for the influence of lifestyle on genetic diversity through time.
- 12:30 – 12:45 *Discussion*

Posters

<i>n.</i>	<i>Author</i>	<i>Title</i>	<i>Symposium</i>
1.	Stefano Bettinazzi	The complete female- and male-transmitted mitochondrial genome of <i>Meretrix lamarckii</i> (Bivalvia: Veneridae)	1
2.	Davide Guerra	The tangled triangle among ORFans, mitochondrial inheritance, and sex determination: mtDNA evolution at the root of Paleoheterodonta (Bivalvia)	1
3.	Alessandro Laurenzi	A study of Sex-Bias' effects on evolution and sex determination	1
4.	Andrea Pecci	Endogenized mitochondrial gene expressed in the germ line	1
5.	Valentina Peona	Comparison of the transposable elements dynamics among taxa with different rates of speciation	1
6.	Claudia Scavariello	First case of R2 non-LTR retrotransposon horizontal transfer: data from <i>Bacillus</i> stick-insects genome (Insecta Phasmida).	1
7.	Michela Pacifico	Successful sequencing of Huntington's disease CAG microsatellite orthologs from museum collection specimens	2
8.	Daniela Minelli	Understanding the rise of modern elasmobranchs and predator-prey interactions in ancient coral reef food web: an example of research in scientific museums.	2
9.	Saverio Vicario	Across the shifting baselines - measuring change in biodiversity in the sea benthos of the Kattegat across 70 years and different sampling technology	2
10.	Federica Costantini	Between Scylla and Charybdis: differential genetic patterns in Eastern and Western Mediterranean <i>Patella caerulea</i> populations	3
11.	Samanta Michellini	<i>Bifidobacterium</i> spp. from non human primates: a source of novel species	3
12.	Vito Scicchitano	Phylogeography and colony structure of dry-wood dwelling termites of the genus <i>Kalotermes</i> (Isoptera, Kalotermitidae) in Southern Europe	3
13.	Saverio Vicario	Predictive dating of the Plum pox virus evolution indicates a recent appearance of main recombinant strains.	3
14.	Gianluca Zuffi	Definition of three distinct taxa within the <i>Barbus</i> species complex	3
15.	Elisabetta Versace	Olfactory responses in <i>Drosophila suzukii</i> and <i>Drosophila melanogaster</i> : a comparative study	4
16.	Andrea Benazzo	Using ABC and microsatellite data to detect multiple introductions of invasive species from a single source	5
17.	Lino Ometto	Genome sequencing galore: what, how and why	5
18.	Elisa Bellucci	The process of domestication in common bean	6
19.	Giorgio Binelli	Genetic survey of the <i>Cistus albidus</i> populations in Western Mediterranean	6
20.	Andrea Brunelli	Maternal history of Southeast Asia and Oceania	7
21.	Roberta Rosa Susca	Y-chromosome and mtDNA diversity in the context of Eurasian language diversity	7

22.	Filippo Barbanera	Molecular phylogeography of the smooth-coated otter (<i>Lutrogale perspicillata</i> , Mustelidae) for its conservation in the Mesopotamian marshes of Iraq	8
23.	Michele Cesari	Brown marmorated stink bugs are invading Europe: potential pathways of origin of the alien pest populations of <i>Halysmodon halys</i> (Heteroptera, Pentatomidae)	8
24.	Cristina Crava	The taste of <i>Drosophila suzukii</i> : phylogeny and evolution of its gustatory receptors	8
25.	Silvia Fuselli	The study of MHC variation and evolution in the Alpine chamois: from targeted Sanger sequencing to portable nanopore technology (MinION)	8
26.	Mariangela Iannello	A transcriptome annotation pipeline for non-model organisms	8
27.	Costanza Piccoli	Wikipedia: with great power comes great (evolutionary) responsibility	8
