

EDITORIAL

II° Scientific meeting of the Italian Ascidiologists: dedicated to Professor Giuseppe Reverberi**N Parrinello***Department of Animal Biology, University of Palermo, Palermo, Italy**Accepted March 13, 2009*

Periodically the Italian ascidiologists are engaged in a meeting on Ascidian Biology. The 2008 meeting has been dedicated to the memory of Prof Giuseppe Reverberi who, in the second half of the past century, was devoted to study of ascidian developmental biology. He held (1948-1971) the chair of Zoology at the University of Palermo (Italy) where, with valid collaborators, started and strengthened the main scientific route leading to significant improvements, internationally appreciated, in embryology with an experimental approach. He dedicated his life to research and was a Master for numerous scholar generations who attained the frame of the scientific method and achieved keenness for research in animal biology. A lot of scholars and scientists, inside and outside his schooling place, appreciated his rigor in research and the valuable teaching method that also improved their human and scientific personality. Prof F De Bernardi (University of Milan, Italy), ascidian embryologist, validly retraced the Reverberi scientific activity that still nowadays is a milestone in ascidian development study.

The meeting broadened diverse fields of ascidian biology and appreciated lectures and oral communications have been presented. Due to their phylogenetic key position, ascidians have attained importance for evolutionary studies. The genome of some solitary species (*Ciona intestinalis*, *Ciona savignyi*, *Halocynthia roretzi*) has been fully or partially sequenced, analyzed and annotated and can be validated by gene expression patterns for several specific biological properties and activities.

The first session was rich in reports on development and morphogenesis including differentiation of adult sensory organs and larval papillae, developmental expression and gene organization of synapses, distribution of larval neural phenotypes, meiotic progression and fertilization, musculature differentiation and gene expression, evolution of anterior Hox regulatory elements, larval metamorphic and juvenile phases, role of nitric oxide

during the development, pigment organ formation during the embryogenesis, angiogenetic mechanism in the colonial circulatory system, and the effects of a xenobiotic on development and metamorphosis.

The next session on phylogeny and microevolution concerned the homologies between chordate invertebrates and vertebrates as revealed by the neurophysiology of swimming tadpoles, the fast evolutionary dynamics of mitochondrial genome including new data and forward genetic that unveil and characterize two *Ciona* cryptic species, and the phylogenetic conservation of CSF-related genes. Since this ascidian is a cosmopolitan representative model, cryptic species identification is of great relevance for research and comparative analysis of results involving several laboratories.

At the second day, after a plenary lecture on stem cells and chimerism in colonial ascidians (A Voskoboynik, Stanford University, USA), the lectures were mainly devoted to immunity and inflammatory response. Bioinformatic results, disclosed EST and extensive *in silico* searches have concerned immunorelevant molecules, gene expression patterns and some specific immune characteristics. Phenoloxidases, variable domain-containing chitin-binding proteins (VCBPs) genes and their expression, anaphylotoxin and specific receptors, immunomodulatory factors, hemocyte cytotoxic activity, collectin and cytokine-like cloning and genes expression, hemocytes provided with acetylcholinesterase, were the topics of the reports. Finally, some communications concerned with environmental stressors effects on embryos and hemocytes.

Several Italian research groups, that esteemed the Prof Reverberi research, attended the meeting. Besides the ascidiologists from the University of Palermo who organized the event, scientists from the Universities of Padua, Genoa, Milan, Bari, from the Stazione Zoologica "Anton Dohrn" of Naples, and from Palermo CNR, contributed in the success of the scientific happening. In particular, we were honoured for the interest and presence of the Prof. Armando Sabbadin emeritus at the Padua University and a founder of the research field on colonial ascidian allorecognition. Moreover Prof E Ottaviani, President in charge of the Italian Association of Developmental and Comparative Immunology and Editor in Chief of the open access

Corresponding author:

Nicolò Parrinello

Department of Animal Biology

University of Palermo

Via Archirafi 18, 90123 Palermo, Italy

E-mail: nicpar@unipa.it

journal "Invertebrate Survival Journal", was an appreciated guest.

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