avviso seminari da parte di Manuel Rigo

Submitted by Floris Mario on 16 gennaio, 2015 - 14:01 Comunicazioni agli studenti

COPE'S RULE AND THE BODY-SIZE EVOLUTION OF MARINE

Seminario

Data: Giovedì, 5 Febbraio, 2015 - 16:00 - 16:45

Aula: Aula Arduino

Relatore: Jonathan Payne

Abstract:

Cope?s Rule proposes that lineages evolve towards larger body size over time. To test this hypothesis across all marine animals, we compiled a dataset of body sizes for 17,208 genera of marine animals spanning the past 540 million years. Mean biovolume across genera has increased by a factor of 150 since the Cambrian, while minimum biovolume has decreased by less than a factor of ten and maximum biovolume has increased by more than a factor of 100,000. Neutral drift from a small initial value cannot explain this pattern. Instead, most of the size increase reflects differential diversification across classes, indicating that the pattern does not reflect a simple scaling-up of widespread and persistent selection for larger size within populations.

Afferenza: Stanford Woods Institute for the Environment

Proponente: Manuel Rigo

PATTERNS OF THE BIOTIC RECOVERY AFTER THE END-PERMIAN EXTINCTION: A CONODONT?S MULTI-SCALE PERSPECTIVE

Seminario

Data: Giovedì, 5 Febbraio, 2015 - 16:45 - 17:30

Aula: Aula Arduino

Relatore: Nicolas Goudemand

Abstract:

The end-Permian extinction was the most severe extinction in the history of animal life: it wiped out more than 90 percent of all marine species. Various scenarios have been proposed for the end-Permian event, all implying global environmental changes. The most recent advances actually suggest that this 250 million year old crisis ?may serve as an important ancient analog for twenty-first century oceans? (Payne and Clapham, 2012). Identifying the causes of the end-Permian mass extinction and controls on subsequent biotic recovery will shed light on the factors that shape biodiversity and ecosystem structure over geological time. They may also aid decision making regarding the current human-driven climate change and associated ecological impacts. Understanding the end-Permian event relies on answering the following, mutually related questions:

(1) What was the global sequence of abiotic/biotic events before, during and after the crisis?

(2) in particular, how did the environmental conditions in the oceans evolve?

(3) What were the structure and dynamics of trophic webs during this critical interval? and

(4) what can the differential responses of various groups of organisms (for instance nekton vs. benthos) tell us about the abiotic/biotic interactions at play, the causes of the crisis and the mechanisms during the recovery?

I will show how conodonts are critical to answering these questions.

Afferenza: Department of Mechanical Engineering of the Swiss Federal Institute of Technology of Zurich, Switzerland (ETHZ)

Proponente: Manuel Rigo

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