

Subcommission on Neogene Stratigraphy  
Workshop  
Erice (Sicily, Italy), September 30, 1997

A workshop of the Subcommission was organized within the framework of the "Neogene Mediterranean Paleoceanography Conference" that took place in Sicily from September 24 to 30. The Conference was co-organized by the Societa' Geologica Italiana and by ESCO (European Consortium for Ocean Drilling Program) as a (preliminary) summary of the results of the two ODP Legs (160 and 161) recently carried out in the Mediterranean.

The SNS workshop was announced to all voting and corresponding members last February, together with the questionnaire whose results are reported in this issue.

The workshop was attended by all the SNS members participating in the Erice conference (Rio, Van Couvering, Iaccarino, Vai, Sprovieri, Raffi, Hilgen, Castradori) and by more than thirty other scientists, as reported in the Attached "List of Participants".

The main results are summarized here below, according to the agenda followed during the workshop:

- 1) Global Standard Chronostratigraphic Scale of the Neogene: State of the art;
- 2) the Messinian/Tortonian boundary;
- 3) the Miocene/Pliocene boundary;
- 4) others.

1) Domenico Rio (Chairman) introduced the main structure and task of the Subcommission to all the non-members participating in the workshop. Then, he briefly outlined the fundamentals of the Standard Chronostratigraphic Scale, the concept of Global Standard Stratotype-section and Point (GSSP), and the present state of Neogene chronostratigraphy.

Subsequently, Davide Castradori (Secretary) illustrated the present status of the controversy on the Pliocene/Pleistocene boundary, informing that a postal ballot within all the members of the Neogene and Quaternary Subcommissions is presently being organized by the Secretary General of the International Commission on Stratigraphy. SNS is cooperating actively with ICS in this respect.

He then presented the results of the questionnaire launched within the voting and corresponding members of SNS whose results are fully reported in this issue.

2) Gian Battista Vai (SNS voting member) exhaustively illustrated the present status of the research on the potential sections for the location of the GSSP of the Messinian Stage outcropping in the Romagna Apennine (Italy).

The sections (Monte del Casino and Monte Tondo) have a very good biostratigraphy (nannofossils and foraminifers), cyclostratigraphy and isotopic stratigraphy, but at present lack a reliable magnetostratigraphy. There are also quite a number of ash layers intercalated in the sections, even if so far they did not provide very accurate radiometric datings.

Vai remarked as these sections are closer to historical localities and type areas with respect to those located in Crete, fulfilling, in his opinion, the concept of historical priority.

Frits Hilgen (SNS corresponding members) illustrated in detail the sections outcropping in Crete (Faneromeni, Kastelli, Potamida), Sicily (Giblisceci), Gavdos (Metochia), Italy (Monte del Casino), and Morocco (Oued Akrech). He went into precise description of the present status of available data on these sections, concluding that most of them have a very good potential as boundary stratotype section. Considering all the parameters that should be taken into account (particularly, magnetostratigraphy, biostratigraphy, cyclostratigraphy, astrochronology), the Faneromeni section (Crete) can be possibly considered as the best candidate, even if the Potamida and Oued Akrech sections are good possibilities as well.

The discussion was then opened leading quite a lot of very useful suggestions and remarks (among them, those by Van Couvering, Sprovieri, Sierro, De Kaenel, Raffi, Cita, Iaccarino), focusing in particular on the definition of the so-called *Globorotalia conomiozea* group with respect to *G. conomiozea* s.s., and on the stratigraphic level of their first occurrence and first regular occurrence.

It was finally agreed by all participants that a GSSP fixed in a stratigraphic level close to the First regular occurrence of the *G. conomiozea* group (which includes *Globorotalia miotumida*) can improve the reliability in the recognition of this event and facilitate its traceability outside the Mediterranean area.

It was also decided that an agreement on which section is the most suitable is to be reached before the postal ballot within SNS, that will then be focused on a single section to be accepted or rejected.

3) The discussion on the Miocene/Pliocene boundary started by considering the result of the postal ballot (reported in this issue). It is now clear that the great majority of the members of the Subcommission is in favour of a position of the boundary coincident with the

re-establishment of open marine conditions in the Mediterranean, that is with the base of the first layer of the Trubi formation (cycle 1 of Hilgen and co-workers and Sprovieri and co-workers). In fact, only two members were in favour of a position approximately corresponding with the base of the Gilbert (Chron C3r) (the well known and documented Benson's hypothesis).

The problem is now: how to prepare a postal ballot on this boundary? Is it better to conform strictly to the result of the questionnaire and ask directly a vote on the Eraclea Minoa section (as proposed by Hilgen and Langereis, 1994)? Or is it better to make a ballot on the Eraclea Minoa section and the Moroccan section (Oued Akrech)? This matter will be decided soon, following also a discussion with Benson and co-workers at the RCMNS meeting that will be held in Catania (Italy) in November.

4) Hilgen illustrated the encouraging results obtained in the lower part of the Gibliscemi section (Sicily, Italy) that is, so far, the only candidate section for the GSSP of the Tortonian Stage. The Gibliscemi section has a very good biostratigraphy (foraminifers and nannofossils) and a very clear sedimentary cyclicity that has been tied by the "Dutch group" to the astronomical curve (insolation at 65°N of Laskar, 1993), thus resulting in a very precise astrochronology of the section. Problems are due to the tectonic disturbances (also highlighted by Sprovieri) and to the lack of reliable magnetostratigraphy. To conclude, this a potential section for the GSSP of the Tortonian Stage that will be compared to all the others that may possibly be brought to our attention by the scientific community.

Erice (Italy), 30/9/97

Subcommission on  
Mesozoic Stratigraphy  
WORKSHOP

List of participants

Rodolfo Pavia

John A. Van Couvering

Marie Leenhardt

Fritz Hilger

Marie Leenhardt

William B.F. Ryan

Calvin Pease

Juelle Capotondi

Friedhelm Ver

Wout Kruggsman

Eric de laeud

Juan A. ~~W~~ ~~W~~ ~~W~~

W. Schwarz

Agate D. ~~W~~

Rosemarie Menisvaldo

Patrizia Ziveri

Cy ~~W~~ Orlando

Francis ~~W~~

~~W~~

Habelle Raft  
Lina ~~W~~

Luigi ~~W~~

Mawa ~~W~~

Donald ~~W~~

Manuel ~~W~~

Fco Tower ~~W~~

Bernard ~~W~~

Milena ~~W~~

Maria ~~W~~

Franco ~~W~~

Gianfranco ~~W~~

Joris ~~W~~

Vanni ~~W~~

Andrea ~~W~~

Juan ~~W~~

Lyn ~~W~~

Sandra ~~W~~

Euro ~~W~~

Metabene ~~W~~

Domene ~~W~~

David ~~W~~