RESEARCH FIELD:
Actuomicropaleontology

RESEARCH TOPIC:
Recent Mediterranean Sea foraminifers and climatic changes.

PARTICIPANTS:
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RESEARCH PRODUCTS:
The study of living taxa is fundamental for a correct interpretation of micropaleontological assemblages. In this aim, national and international collaborations are in progress and concern the climatic changes affecting the recent foraminiferal assemblages of the Mediterranean Sea.
The research focuses on two topics:
a) analysis of the Deep Water Corals, known as living in the Northern Atlantic, as fossils in the Middle/Upper Pliocene of the Mediterranean area. Foraminiferal assemblages of the bathyal reefs offshore Santa Maria di Leuca (Mar Ionio) (350/1200 m deep) are rich and well diversified and also yield abundant encrusting taxa, previously known only in shallower bottoms. The diffusion of these forms is therefore unconnected to the bottom depth, but strongly related to availability of coarse sediment and trophic resources, here produced by the bathyal corals.
b) analysis of foraminifers between the "alien" taxa, i.e. allochtonous species, mainly from tropical or subtropical environment, recently introduced in the Mediterranean through the Suez channel or by shipping. Their diffusion is influenced by the recent climatic warming and it is monitered by international programs, due to the possible alteration of the endemic population made by some invasive species. Alien foraminifers, mainly introduced from the Red Sea and more widespread in the Eastern Mediterranean, are interesting for the return of some taxa, such as Amphistegina, which desappeared during the climatic cooling of the Upper Pliocene/Pleistocene and is now establishing successful populations in the Levantine Basin and Aegean Sea.

LABORATORIES OF THE DST IN USE:
Micropaleontological Laboratory, SEM

RESEARCH PRODUCTS:

- Malinverno E., Taviani M., Rosso A., Violanti D., Villa I., Savini A., Vertino A., Remia A., Corselli C. (2010) - Stratigraphic framework of the Apulian deep-water coral province, Ionian Sea. Deep-Sea Research Part II-Topical Studies In Oceanography, 57: 345-359
- Rosso A., Vertino A., Di Geronimo I., Sanfilippo R., Sciuto F., Di Geronimo R., Violanti D., Corselli C., Taviani M., Mastrototaro F., Tursi A. (2010) - Hard and soft-bottom thanatofacies from the Santa Maria di Leuca deep-water coral province, Mediterranean. Deep-Sea Research Part II-Topical Studies In Oceanography, 57: 360-379.
- Zenetos A., Gofas S, Verlaque M., Cinar M., Garcia Raso E., Bianchi C.-N., Morri C., Azzurro E., Bilecenoglu M., Froglia C., Siokou I., Violanti D., Sfriso A., San Martìn G., Giangrande A., Katağan T., Ballesteros E., Ramos Espla A., Mastrototaro F., Ocaña O., Zingone A., Gambi M.-C. & Streftaris N. (2010) - Alien species in the Mediterranean Sea

by 2010. A contribution to the application of European Union's Marine Strategy Framework Directive (MSFD). Part I. Spatial distribution. Mediterranean Marine Science, 11(2): 381-493.

- Zenetos A., Gofas S., Verlaque M., Çinar M.E., Garcia Raso J.E., Bianchi C.N., Morri C., Azzurro E.,. Bilecenoglu M, Froglia C., Siokou I., Violanti D., Sfriso A., San Martìn G., Giangrande A., Katağan T., Ballesteros E., Ramos-Esplá A., Mastrototaro F., Ocaña O., Zingone A., Gambi M.C. & Streftari N. (2011). Errata to the Review Article (Medit. Mar. Sci. 11/2, 2010, 381-493): Alien species in the Mediterranean Sea by 2010. A contribution to the application of European Union's Marine Strategy Framework Directive (MSFD). Part I. Spatial distribution. Mediterranean Marine Science, 12 (2): 509-514.
- Violanti D., Rosso A., Sanfilippo R. (2012). Foraminiferi incrostanti delle tanatofacies a Coralli bianchi di Santa Maria di Leuca (Mar Ionio). Giornate di Paleontologia XII Edizione, Catania, 24-26 Maggio 2012, Riassunti: 99.
- Zenetos A., Gofas S., Morri C., Rosso A., Violanti D., Garcia Raso J.E., Çinar M.E, Almogi Labin A., Ates A.S., Azzurro E., Ballesteros E., Bianchi C.N., Bilecenoglu M, Gambi M.C., Giangrande A., Gravili C, Hyams-Kaphzan O., Karachle V., Katsanevakis S., Lipej L., Mastrototaro F., Mineur F., Pancucci-Papadopoulou M.A., Ramos-Esplá A., Salas C., San Martìn G., Sfriso A., Streftari N. & Verlaque M. (2012). Alien species in the Mediterranean Sea by 2012. A contribution to the application of European Union's Marine Strategy Framework Directive (MSFD). Part 2. Patterns in introduction trends and pathways. Mediterranean Marine Science, 13/2: 312-336.

Fig. 1 - Bathyal coral facies (Santa Maria di Leuca, Ionian Sea): coral fragment with encrusting foraminifers (Planopulvinulina dispansa e Tolypammina vagans) (mod. from Rosso et al., 2010)

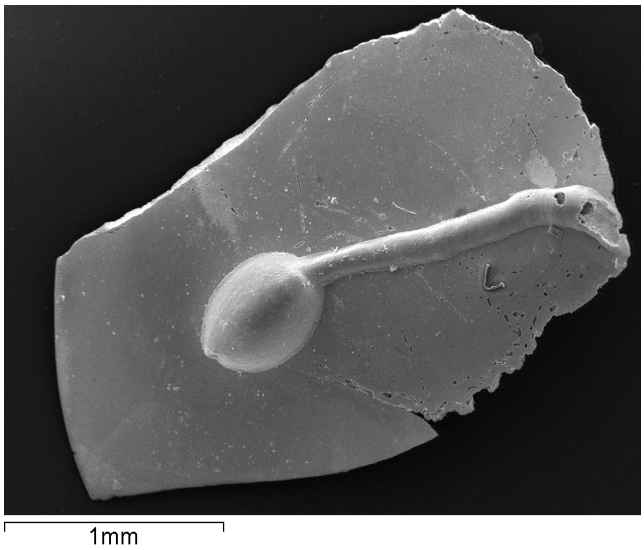

Fig. 2 - Bathyal coral facies (Santa Maria di Leuca, Ionian Sea): fragment of a mollusc shell with the encrusting foraminifer Ammolagena clavata

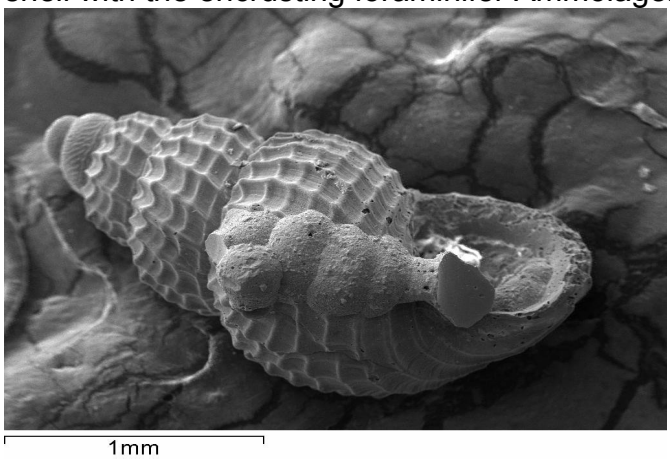

Fig. 3 - Bathyal coral facies (Santa Maria di Leuca, Ionian Sea): Gastropod shell with the encrusting foraminifer Placopsilina bradyi

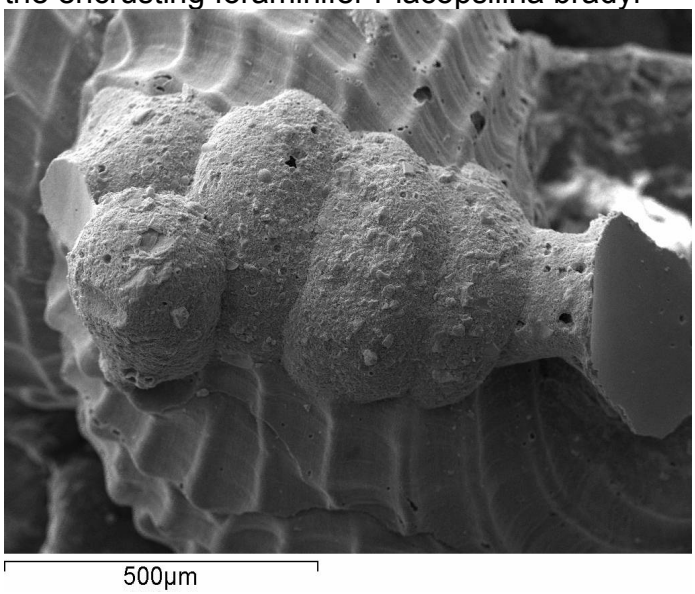

Fig. 4 - Close-up of Fig. 3, Placopsilina bradyi.

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