



## **Modern benthic foraminifera distribution in the Gela slope area (Strait of Sicily, Italy) and possible impact of recent slope failure**

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We present the preliminary results of the modern distribution of the benthic foraminifera in the Channel of Sicily (off Gela, 200-1000m w.d.) and in Malta escarpment (200-3000m w.d.). These areas are investigated within EC project HERMES to verify the possible impact on the biodiversity of two recent slope failures (the NW slides characterised by pressure ridges and the SE slides by blocks). The study of the slope failures was carried out with a multidisciplinary approach as seismic stratigraphy and sediment cores were available. The stratigraphic record of the cores (based on foraminifera micropaleontology, lithology, isotope stratigraphy, radiocarbon datings as well as magnetic properties) suggests that the age of the most recent failures is younger than 3.5 kyrs B.P. The foraminifera study has been carried out on samples collected by means of a box corer, subsequently subsampled with short tubes (or liners) to obtain sediment samples 0.5/1cm thick for the uppermost part. The sediment samples were treated with Bengal Rose to detect the living (=stained) assemblage, then results are presented as living and total (living + dead foraminifera) assemblage. Moreover, CTD data are available for each investigated site as well as the oxygen profile in the first centimetres of the sediment of the box cores. The preliminary results of this study are here summarised: 1) strong differences are present between samples collected in the slide scars (e.g. no living specimens and general bad preservation state of the microfauna in the SE slide scar), 2) the distal areas of the two slides present assemblage similar to the ones of the samples collected off the slides areas (samples

assumed not affected by the failures and then representative of “normal” condition), 3) in general the samples of the NW slides are quite similar to the ones off the slide, 4) the samples of the SE slides are dominated by organically cemented agglutinants (in particular high abundance of tubular agglutinant specie) in the living as well as in the total assemblage, 5) in both the areas (Gela and Malta) infaunal forams such as *Brizalina* spp and *Bulimina marginata* are present only in the shallowest samples while oxic species, such as *Cibicides* spp/*Cibicidoides* spp and *Buccella* spp are present only in the deepest samples, and this is confirmed also by oxygen penetration depths in the sediment. These results seem to indicate that the SE slide represents an area somewhat still affected by sediment transport in comparison with the NW slide area.

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