



Report of the MedSudMed-10 Oceanographic and Ichthyoplankton Survey

Straits of Sicily, Western Libyan continental shelf
(Benghazi – Egyptian border)

15 – 30 July 2010



***MedSudMed Component on “Small Pelagic Fish: Stock
Identification and Oceanographic Processes Influencing their
abundance and distribution”***

Type of survey: Oceanographic – ichthyoplankton
Country and region: Libya, FAO GFCM Geographical Sub-area 21
Research vessel: R/V Urania (Italy)
Survey number/date: MedSudMed Oceanographic and Ichthyoplankton
 Number of days: 16

General objectives:

- - delineation of the spawning areas of the target species;
- study of the correlation between mesoscale physical structures and the distribution and abundance of small pelagic fish eggs and larvae and zooplankton in the study area;
- measurement of physical parameters with a multiparametric probe;
- analysis of sediments.

The survey was organized with the aim of collecting data in the eastern part of the Libyan continental shelf. The survey is a follow-up to the first two MedSudMed surveys that covered the western and central parts of the Libyan waters. The overall objective was to get a regional representation of transport patterns of small pelagic fish eggs and larvae and to identify the oceanographic features that are responsible for retention areas.

Survey main itinerary:

Sail	Port	Dock	Port	Activity
15 July '10	Siracusa (Italy)	19 July '10	Misurata (Libya)	Transfer Sampling
19 July '10	Misurata (Libya)	21 July '10	Tripoli (Libya)	Transfer Sampling
21 July '10	Tripoli (Libya)	27 July '10	Tobruk (Libya)	Sampling
27 July '10	Tobruk (Libya)	30 July '08	Palermo (Italy)	Sampling Transfer and Disembarking

Cruises leader: Dr Angelo Bonanno, IAMC-CNR, Mazara del Vallo, Italy

Participating institutes:

- Istituto per l'Ambiente Marino Costiero (IAMC – CNR), U.O.S. di Capo Granitola, Italy;
- Marine Biology Research Centre (MBRC), Tajoura, Libya;
- Istituto per l'Ambiente Marino Costiero (IAMC – CNR), Naples section, Italy;
- Istituto per l'Ambiente Marino Costiero (IAMC – CNR), Messina section, Italy;
- FAO MedSudMed Project

Experts on board:

- | | |
|----------------------|--------------------------------|
| 1) Angelo Bonanno | IAMC-CNR Capo Granitola, Italy |
| 2) Paola Rumolo | CNR-IAMC Napoli |
| 3) Simona Genovese | IAMC-CNR Capo Granitola, Italy |
| 4) Salem Zgozi | MBRC Tripoli, Libya |
| 5) Monica Calabrò | IAMC-CNR Capo Granitola, Italy |
| 6) Marianna Del Core | IAMC-CNR Napoli |

7) Marco Barra	IAMC-CNR Napoli
8) Francesco Filiciotto	IAMC-CNR Capo Granitola, Italy
9) Maria Rita Amico	IAMC-CNR Capo Granitola, Italy
10) Germana Borsetta	IAMC-CNR Capo Granitola, Italy
11) Giovanni Giacalone	IAMC-CNR Mazara del Vallo, Italy
12) Akram El Turki	MBRC Tripoli, Libya
13) Massimo De Luca	IAMC-CNR Mazara del Vallo, Italy
14) Salvatore Mangano	IAMC-CNR Mazara del Vallo, Italy
15) Mohamed Hamza	MBRC Tripoli, Libya
16) Maria Bonsignore	IAMC-CNR Capo Granitola, Italy
17) Osama Uheshi	MBRC Tripoli, Libya
18) Mahmoud Bara	MBRC Tripoli, Libya
19) Mohamed Assugayer	MBRC Tripoli, Libya
20) Ali Kalefa	Tripoli, Libya

Summary of activities:

In total, the following samples were collected:

- 39 ichthyoplankton samples
- 7 zooplankton samples
- 10 fitoplankton samples
- 120 anchovy larvae preserved individually in liquid nitrogen
- 20 Sediments samples (samples in plastic bags)
- 44 CTD casts and ADCP profiles
- 9 waters samples (trace metals)
- 29 water samples (nutrients)
- 24 waters samples (isotops)
- Continuous acoustic data
- Continuous sodar data
- Meteorological data.

The sampling design was built to integrate the data collected during the first MedSudMed-06 and MedSudMed-10 Oceanographic-Ichthyoplankton surveys (August 2006 and July 2008 respectively). The main study area was the area from Bengazi up to the Libyan-Egyptian boarder, included between parallels 32°and 36°and meridians 17°and 25°. Sampling was also carried out along a transect between Capo Passero (Sicily, Italy) and Misurata (Libya), a second transect between Capo Passero (Sicily, Italy) and Crete (Grece), and a coastal area of the Mediterranean Sea along the west coast of Libya.

Sample/data processing: Sample and data processing is currently ongoing.

Summary of results

A description of the activities carried out at sea has been produced. The results of the data processing are not available yet. An outline of the larvae occurrence and abundance in the study area will be produced. Differences with respect to the outcomes of the previous surveys will be highlighted and possible hypotheses will be formulated to explain such differences (if any).

A description of oceanographic and sediments characteristics, phytoplankton composition, and presence of organic matters, nutrients, and trace elements will also be provided.

Follow up:

The results of the three MedSudMed oceanographic ichthyoplankton surveys carried out respectively in 2006, 2008 and 2010 will be compared. The overall outcomes of the surveys will be

discussed in the framework of the MedSudMed Working Group on Small Pelagic Fisheries Resources and presented to the relevant FAO-GFCM meetings.

Report status: A preliminary report describing the study area, the sampling scheme (including position of sampling stations) and the narrative of the survey has been circulated during the 8th MedSudMed Coordination Committee (Mazara del Vallo-Capo Granitola, Italy, 16-18 May 2011) Draft available at the MedSudMed Project, reference: MedSudMed CC9/Info 08. Report of the MedSudMed 2010 Ichthyoplankton and Oceanographic Survey in the Libyan continental shelf 15 – 27 July 2010.

Constraints/comments: The survey gave the possibility to continue the monitoring of eggs and larvae abundance and distribution in Libyan waters initiated in 2006. The results obtained illustrate how cooperation was successfully established between the participating Institutes. The step forward is to focus on specific topics that can be explored in the future if there is any interest in this sense.