



GENERAL FISHERIES COMMISSION FOR THE
MEDITERRANEAN

COMMISSION GÉNÉRALE DES PÊCHES POUR
LA MÉDITERRANÉE



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WORKSHOP ON TRAWL SURVEY BASED MONITORING FISHERY SYSTEM IN THE MEDITERRANEAN

Rome, Italy, 26-28 March 2007

BOTTOM TRAWL SURVEYS PERFORMED IN THE MEDITERRANEAN SEA

COUNTRY: Italy

GSA: GSA 17

Overview of the survey

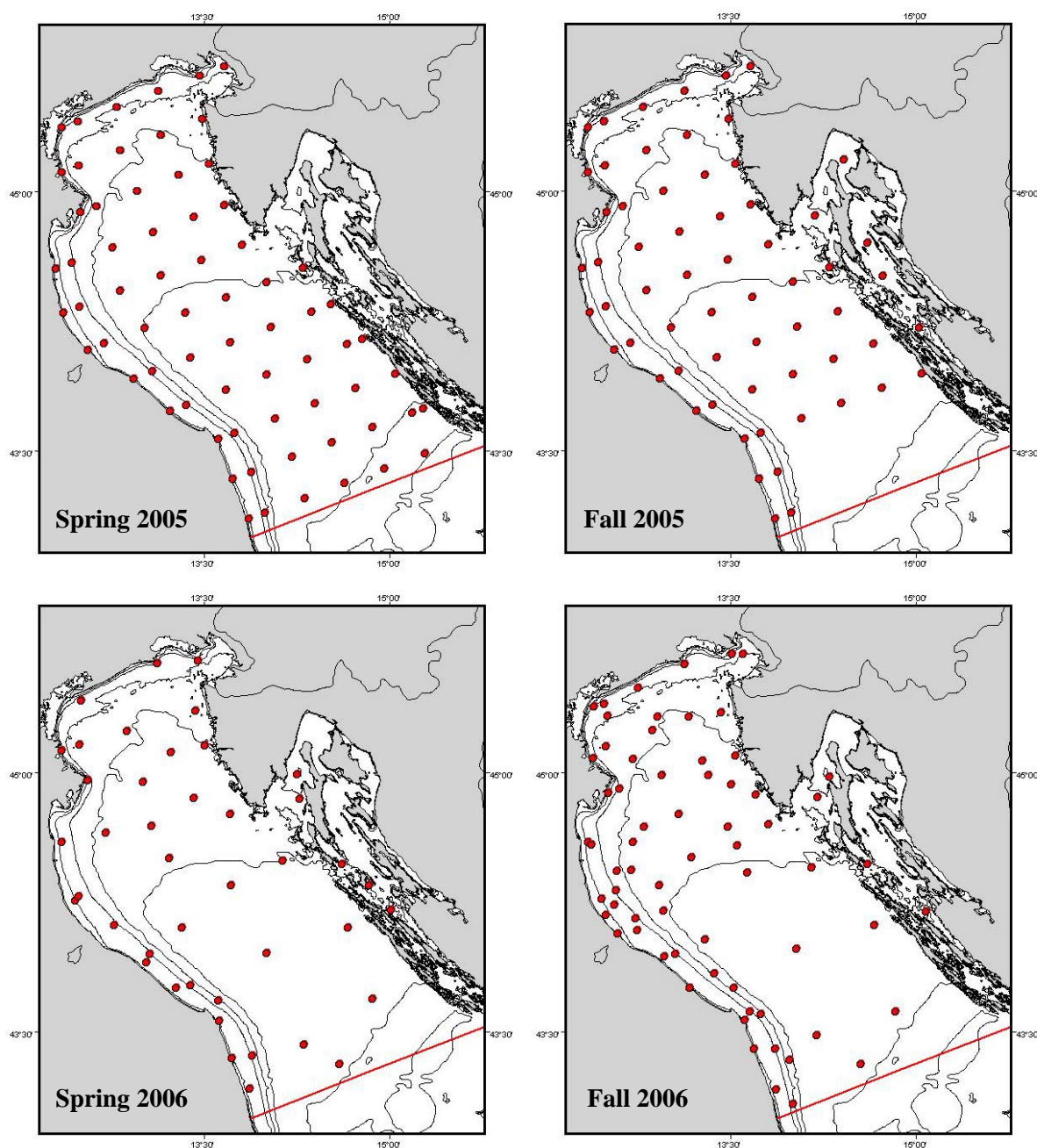
Survey title	<i>Stock assessment of Solea solea in the Central and Northern Adriatic Sea</i>	Survey code	SOLEMON
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Country	<i>Italy - Croatia</i>	Institute in charge	<i>CNR-ISMAR Ancona (Italy) ICRAM Chioggia (Italy) IOF Split (Croatia)</i>
Area	<i>GFCM GSA No 17</i>	Period	<i>Spring 05, Fall 05, Spring 06, Fall 06</i>

Main objective	General objectives of the survey. Types of information collected during the survey
Complementary objective	<i>Stock assessment and spatial distribution of other benthic species, such as other flat fish (<i>S. rhombus</i>, <i>P.maxima</i>, <i>C. linguatula</i>, <i>P. flesus</i>, <i>A. laterna</i>, <i>A. thori</i>, etc.), <i>Sepia officinalis</i>, <i>Chelidonichthys lucernus</i>, <i>Pecten jacobaeus</i>, etc.</i>
Gear details	<i>Rapido trawls made of an iron frame provided with 5. The rapido trawls were standardized between the Operative Units. They were 3.5 m wide, weighed 225 kg each one and had a 48-mm codend mesh size (stretched). The towing speed during surveys was 5.5 knots.</i>
Area	<i>Central and Northern Adriatic Sea (southern limit: the northern limit of the Pomo Pit) Depth ranges: - spring 2005: 6.1(min) – 156.2 (max) - fall 2005: 4.6 (min) – 80.4 (max) - spring 2006: 5.8 (min) – 94.6 (max) - fall 2006: 6.8 (min) – 95.0 (max)</i>
Sampling design	<i>Spring 2005: systematic sampling (67 sampling stations) Fall 2005: systematic sampling (62 sampling stations) Spring 2006: random stratified* sampling (42 sampling stations) Fall 2006: random stratified* sampling (67 sampling stations) * = 4 strata were identified: 1) 0-30 m depth; 2) 30-50 m; 3) >50 m; 4) channels among Croatians Islands.</i>
Species recorded	<i>- all fish, all cephalopods, crustaceans of commercial interest, <i>Pecten jacobaeus</i>, <i>Aequipecten opercularis</i>, <i>Chlamys glabra</i>, -subsamples of discard (species included in the subsamples were determined at the lowest taxonomic level)</i>

Data management	<i>Database AdriaMed Trawl Information System (ATrIS)</i>
Quality control	<i>The surveys were carried out simultaneously by two Operative Units (O.U. 1 operated from the northern limit of the Pomo Pit to the mouth of Po River and O.U. 2 at north of the mouth of Po River) using the same gears and the same towing speed (5.5 knots). A DST Logic Temperature and Depth Recorder collecting depth and temperature at 1- min. intervals was installed on each rapido trawl. Use of these recorders and fixed mouth of the gear allowed to know exactly the area explored by each rapido trawl.</i>

Position of hauls



Overview of the series

Period	Vessels O.U. 1 – O.U. 2	Type of vessel (R/V or C/V)	Gear	No. Tows planned	No. Valid hauls	Comments
23-05-05 / 02-06-05	Midway – E. Tanfa	C/V	Rapido trawls	68	67	4 rapido trawls

26-10-05 / 10-11-05	Midway – E. Tanfa	C/V	Rapido trawls	62	62	towed at each haul 4 rapido trawls
14-16-06 / 24-06-06	Joacchi – E. Tanfa	C/V	Rapido trawls	42	42	towed at each haul 4 rapido trawls
26-10-06 / 10-11-06	Joacchi – E. Tanfa	C/V	Rapido trawls	67	67	towed at each haul 4 rapido trawls

COUNTRY: Italy

GSA: GSA 11

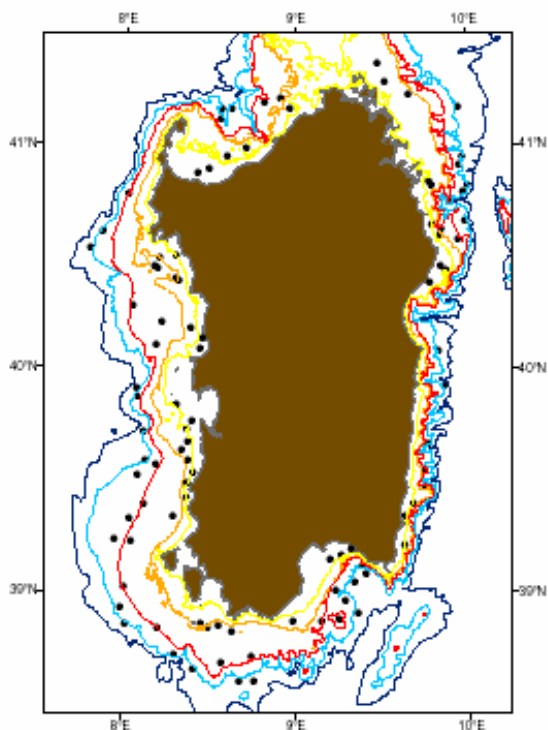
Overview of the survey

Survey title	<i>Mediterranean International Trawl Survey</i>	Survey code	<i>MEDITS</i>
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Country	ITALY	Institute in charge	DBAE-UNICA
Area	<i>GFCM GSA N 11o</i>	Period	<i>Season of the survey</i>

Main objective	General objectives of the survey. Types of information collected during the survey
Complementary objective	<i>Possible additional work</i>
Gear details	<i>Describe the gear. If possible, add a plan of the sampling gear and its rigging</i>
Area	<i>Describe in detail the area, including minimum and maximum depth</i>
Sampling design	<i>Describe the number of hauls and the method used to select the sampling locations</i>
Species recorded	<i>Indicate the number and main groups of species recorded (e.g. all fish, crustaceans, etc.)</i>
Data management	<i>Describe the data storage method</i>
Quality control	<i>Indicate the types of quality control applied to the survey (on protocol application, gear design, data, etc.)</i>

Position of hauls (Medits 2006)



Overview of the series

Period	Vessel	Type of vessel (R/V or C/V)	Gear	No. Tows planned	No. Valid hauls	Comments
June-August 1994	Nuovo Splendore	C/V	GOC73	123	118	
May-July 1995	Nuovo Splendore	C/V	GOC73	123	107	
June-August 1996	Nuovo Splendore	C/V	GOC73	123	125	
June-August 1997	Nuovo Splendore	C/V	GOC73	123	126	
May-July 1998	Nuovo Splendore	C/V	GOC73	123	123	
May-July 1999	Nuovo Splendore	C/V	GOC73	123	123	
May-July 2000	Nuovo Splendore	C/V	GOC73	123	121	
June-July 2001	Nuovo Splendore	C/V	GOC73	123	122	
July-August 2002	Nuovo Splendore	C/V	GOC73	99	99	
June-July 2003	Nuovo Splendore II	C/V	GOC73	99	99	
June-July 2004	Gisella	C/V	GOC73	99	95	
June-July 2005	Gisella	C/V	GOC73	99	97	
June-July 2006	Gisella	C/V	GOC73	99	98	

COUNTRY: Morocco

GSA: 3

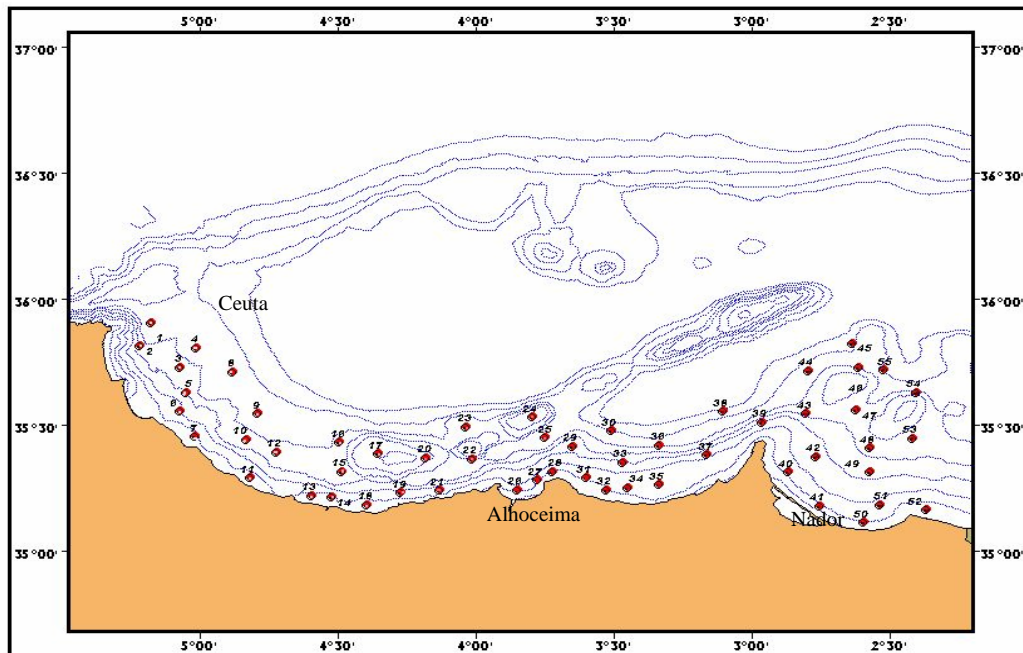
Survey title	Prospection par chalutage de fond des ressources demersales de la Méditerranée marocaine	Survey code	MED1206
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Country	Maroc	Institute in charge	Institut National de Recherche Halieutique
Area	3	Period	Du 09/12/2006 au 16/12/2006

Main objective	<p>Les objectifs de la campagne sont (i) l'estimation des indices d'abondance des principales ressources exploitées dans la région ; (ii) la détermination de la répartition spatiale de ces ressources ; (iii) l'étude des compositions démographiques et le suivi des paramètres biologiques pour les principales espèces.</p> <p>Pour chaque trait de chalut, des données techniques sont collectées comme les positions géographiques de filage et de virage, l'heure et la durée de pêche, le cap, la vitesse de chalutage, la longueur de câble largué, etc. La vitesse de chalutage est fixée à 3 nœuds.</p> <p>Les captures sont triées, pesées et comptées par espèce et par trait de chalut. Le comptage est soit total pour des captures faibles ou estimé à partir du poids de 50 individus quand les captures sont trop abondantes.</p> <p>Les mensurations en tailles sont prises au cm inférieur de la longueur totale pour les poissons. Pour les mollusques, c'est la longueur de manteau qui est prélevée au mm. La longueur céphalothoracique est prélevée pour la crevette rose.</p>
Gear details	<p>L'engin de pêche utilisé est un chalut du fond de conception locale dénommé le chalut à crevette dont la longueur totale est de 57 m et le cul est de 20 mm de maillage (voir schéma en annexe).</p>
Area	<p>La prospection par chalutage de fond a concerné la partie de la mer d'Alboran adjacente à la côte marocaine qui s'étend de Saidia à l'Est jusqu'à Ceuta à l'Ouest. Cette zone, étalée sur environ 512 km, présente un certain nombre d'irrégularités liées à la morphologie de la côte et à la bathymétrie. Les fonds sont à dominance vaseuse.</p> <p>Le long de la côte, l'aspect du plateau continental se modifie sensiblement. Il est plus étroit à l'Ouest d'Al Hoceima et relativement peu étendu à l'Est. En effet, à l'Ouest d'Al-Hoceima, l'isobathe de 300 m se trouve généralement à 6 miles de la côte. Au delà de cette profondeur, la pente a tendance à s'adoucir, la ligne de 800 m est située à 28 miles de la côtes. A l'Est d'Al-Hoceima,</p>

	<p>l'isobathe de 300 m se situe à 20 miles et la ligne de 800 m se trouve à 56 miles.</p> <p>Du fait de sa proximité du détroit de Gibraltar, cette zone est caractérisée par un hydrodynamisme particulier dû au contact avec les eaux de l'océan Atlantique : l'eau de la Méditerranée, chaude et salée, sort en profondeur, alors que l'eau de l'Atlantique, froide et moins salée, entre en surface. Lors de son parcours dans la mer d'Alboran, le jet d'eau Atlantique provoque deux tourbillons anticycloniques.</p>
Sampling design	<p>Au total, 53 stations de chalutage ont été réalisées de la côte (21 m) jusqu'à 675 m de profondeur. Les traits du chalut sont réalisés uniquement durant le jour pour une durée fixée à 30 min pour les stations situées dans des profondeurs qui sont inférieurs à 200 m et 1 heure pour les stations qui sont au delà de 200 m.</p> <p>Les prospections ont été réalisées par le navire de recherche de l'INRH « Charif Al Idrissi ». Elles ont été effectuées selon un réseau d'échantillonnage composé de 55 stations préalablement choisies et repérées au moyen d'un GPS différentiel à bord du bateau. Le choix des positions des stations de chalutage s'est fait aléatoirement pour chaque strate de profondeur.</p>
Species recorded	<p>Au total, 112 espèces ont été répertoriées durant cette campagne dont 83 poissons, 11 crustacés et 11 céphalopodes.</p>
Data management	<p>Au laboratoire humide, les données collectées sont enregistrées sur des fiches préparées spécialement pour cet usage. Ces données sont saisie, ultérieurement sur outil informatique sous format access.</p>
Quality control	<p>Une fois les données collectées sont saisie sur support informatique, une vérification se fait par une autre personne pour corriger les fautes éventuelle de saisie.</p>

Position of hauls



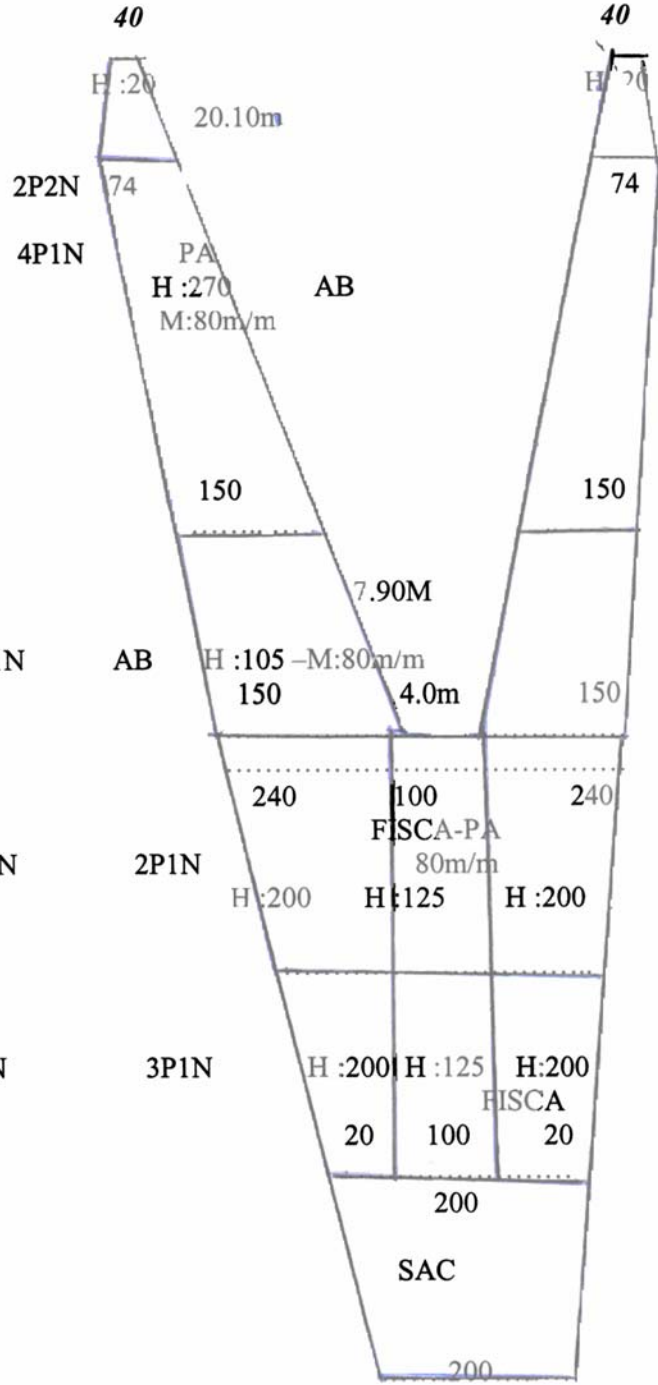
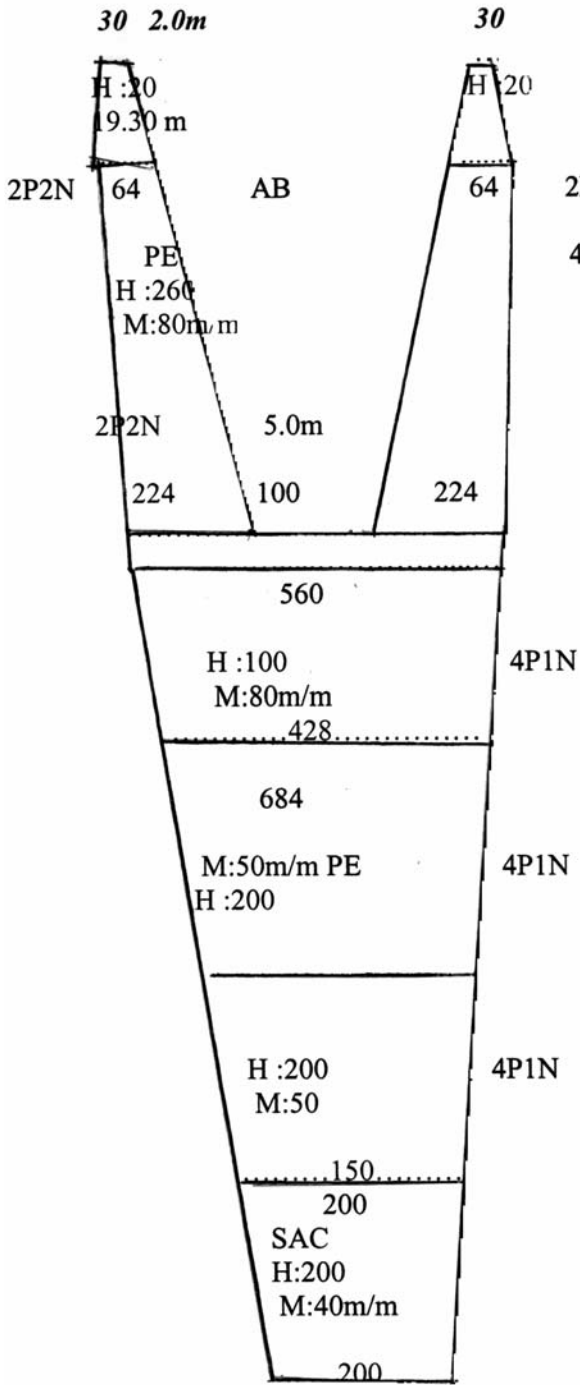
Réseau d'échantillonnage dans la zone comprise entre Saidia et Ceuta

Overview of the series

Period	Vessel	Type of vessel (R/V or C/V)	Gear	No. Tows planned	No. Valid hauls	Comments
Du 09/12/2006 au 16/12/2006	CHARIF ALIDRISSI	Navire de recherche	Chalut à crevette	55	53	Deux stations ont été annulées à cause de déchirures du chalut ou de l'envasement des panneaux.
Du 19/03/2006 au 29/03/2006	CHARIF ALIDRISSI	Navire de recherche	Chalut à crevette	55	53	Deux stations ont été annulées à cause de déchirures du chalut.

NAVIRE : CHARIF AL IDRISSI

CHALUT A CREVETTE



COUNTRY: Montenegro

GSA: GSA 18

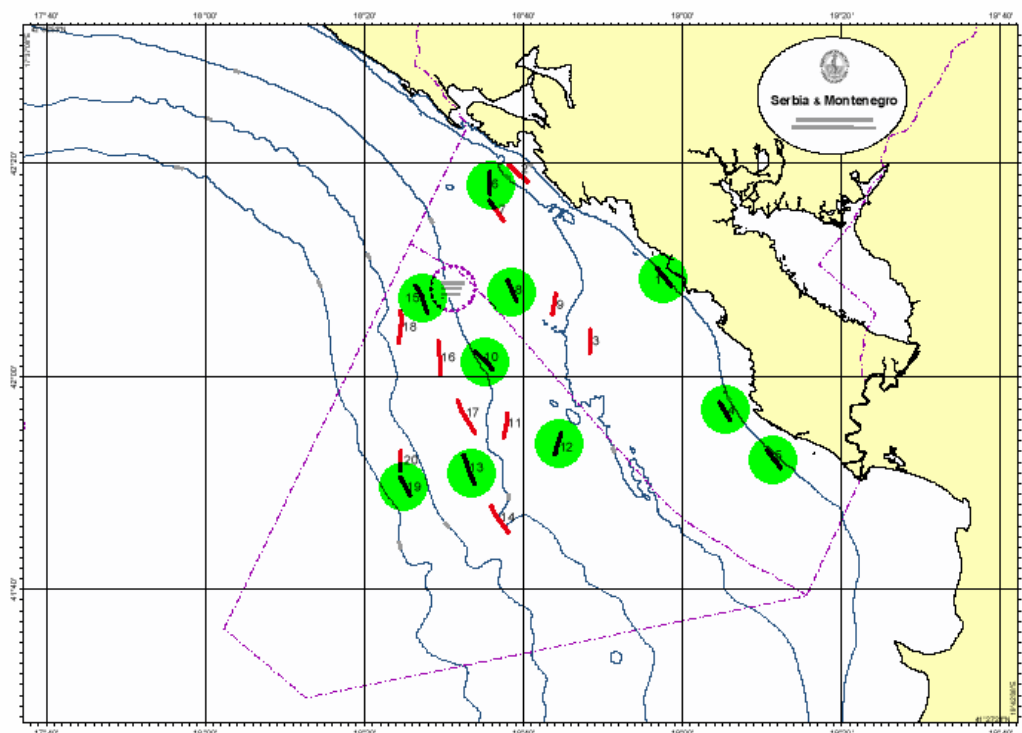
Survey title	<i>AdriaMed Montenegro Trawls Survey</i>	MONT	
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Country	Montenegro	Institute in charge	Institute of Marine Biology-Kotor
Area	<i>GFCM GSA 18</i>	Period Feb.24-25.	<i>Winter 2007</i>

Main objective	<p>Monitoring of demersal resources. quantitative and qualitative data of relative and absolute target species abundance as well as with additional, biological indicators that might be utilized by fishery biologists, national administrations (managers) and finally fishermen for a better and successful national and regional polic</p> <p>to determine target species relative and absolute abundance in time and space and to each other their vulnerability to the sampling gear;</p> <p>where it was possible to establish approximations of the magnitude of important, or potentially important commercial species together with estimates of the physical yields that these resources might provide mankind;</p> <p>target species population dynamics parameters, such as: mortality rates and cod-end selection characteristics were analysed as well as biological properties, such as: gonads maturity stages, thus species spawning time and potential nursery grounds;</p>
Complementary objective	

Gear details	<p>Mesh MAT stretch bar mm Rtex length PA knotless</p> <p>Headline 14 mm PA Sidelines 8 mm PA Footrope 32 mm combination rope Floatation 54 pcs 130mm + 16 pcs 18 Weight 75 kg of chain + 20 kg of lead</p> <p>stretch MA length Rtex</p> <p>170 FODERA PA R 4500 tex φ 45.0 170</p>												
Area	Monenegrin territorial waters (2 173 km ²) and epicontinental waters (3 885 km ²),. Total surveyed area is 5 000 km ²												
Sampling design	<p>Sampling scheme on different strata with indications (within each area and depth stratum) of trawable surface area (km²) with number of fixed stations in brackets.</p> <table border="1" data-bbox="368 1529 1372 1644"> <thead> <tr> <th>10-50m</th> <th>50-100m</th> <th>100-200m</th> <th>200-500m</th> <th>500-800m</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>280 km² (1)</td> <td>1100 km² (2)</td> <td>1700 km² (4)</td> <td>1150km² (2)</td> <td>770 km² (1)</td> <td>5000 km²(10)</td> </tr> </tbody> </table>	10-50m	50-100m	100-200m	200-500m	500-800m	Total	280 km ² (1)	1100 km ² (2)	1700 km ² (4)	1150km ² (2)	770 km ² (1)	5000 km²(10)
10-50m	50-100m	100-200m	200-500m	500-800m	Total								
280 km ² (1)	1100 km ² (2)	1700 km ² (4)	1150km ² (2)	770 km ² (1)	5000 km²(10)								
Species recorded	Data processing is still in progress												
Data management	<i>We used AdriaMed ATRiS software</i>												
Quality control													

Position of hauls



Note: green colour is valid hauls in 2007

Overview of the series.

Period	Vessel	Type of vessel (R/V or C/V)	Gear	No. Tows planned	No. Valid hauls	Comments
February 24-25 2007	Pasquale e Cristina	C/V	Tartana	20	10	

COUNTRY: Serbia and Montenegro

GSA: GSA 18

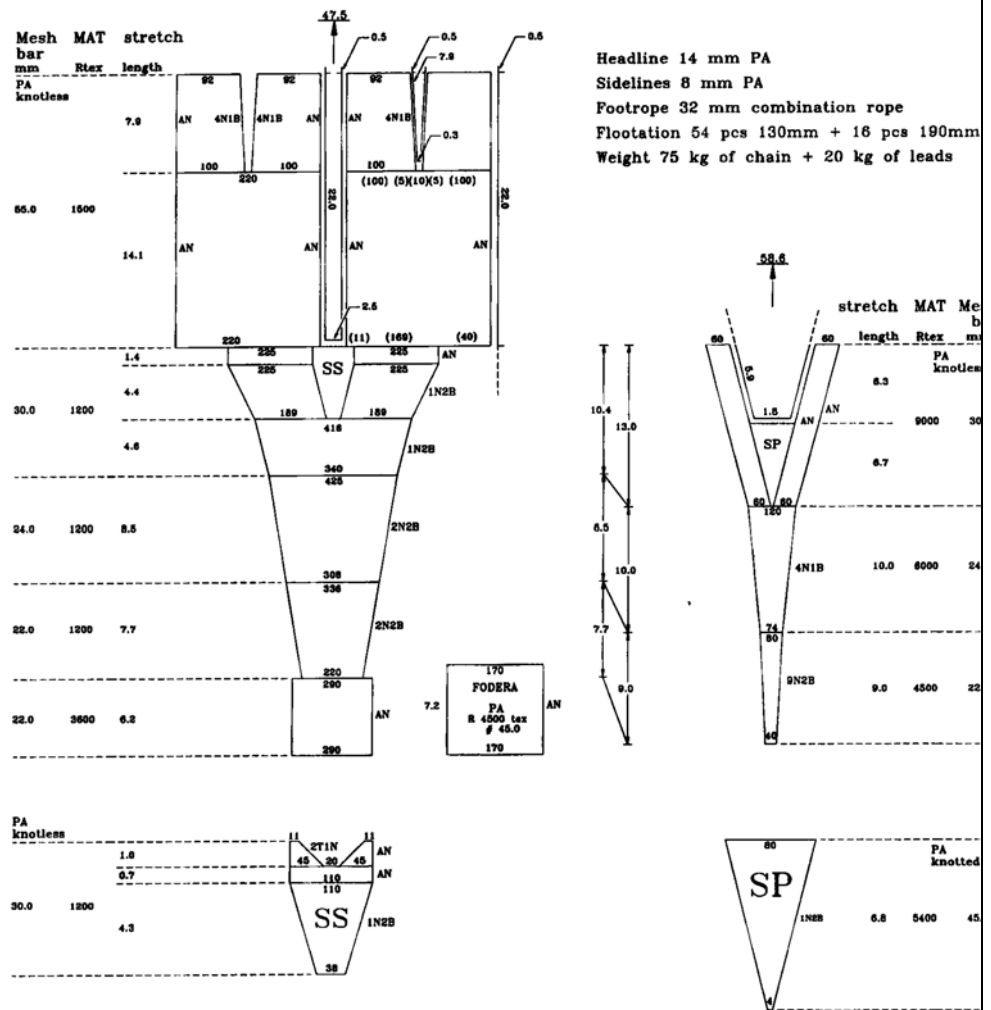
Overview of the survey

Survey title	<i>AdriaMed Serbia and Montenegro Trawls Survey</i>	SCG	
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Country	Serbia and Montenegro	Institute in charge	Institute of Marine Biology-Kotor
Area	<i>GFCM GSA 18</i>	Period Oct.2-4.	<i>Autumn 2004</i>

Main objective	<p>Monitoring of demersal resources. quantitative and qualitative data of relative and absolute target species abundance as well as with additional, biological indicators that might be utilized by fishery biologists, national administrations (managers) and finally fishermen for a better and successful national and regional polic</p> <p>to determine target species relative and absolute abundance in time and space and to each other their vulnerability to the sampling gear;</p> <p>where it was possible to establish approximations of the magnitude of important, or potentially important commercial species together with estimates of the physical yields that these resources might provide mankind;</p> <p>target species population dynamics parameters, such as: mortality rates and cod-end selection characteristics were analysed as well as biological properties, such as: gonads maturity stages, thus species spawning time and potential nursery grounds;</p>
Complementary objective	

Gear details



Area Monenegrin territorial waters (2 173 km²) and epicontinental waters (3 885 km²),. Total surveyed area is 5 000 km²

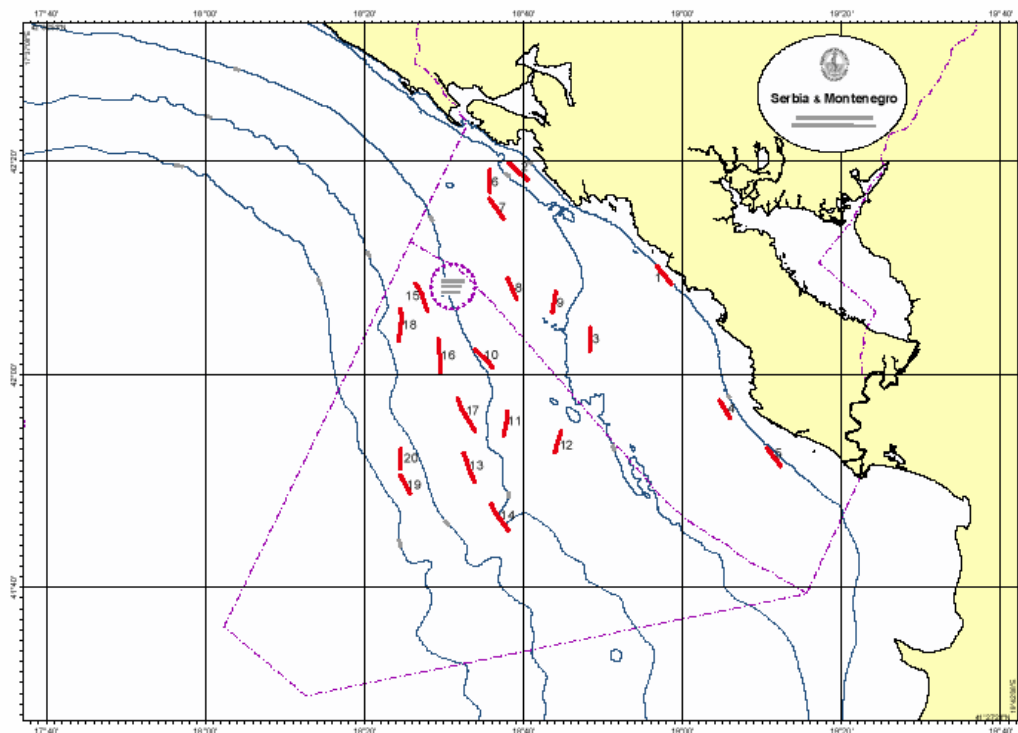
Sampling design Sampling scheme on different strata with indications (within each area and depth stratum) of trawable surface area (km²) with number of fixed stations in brackets.

10-50m	50-100m	100-200m	200-500m	500-800m	Total
280 (1)	1100 (4)	1700 (7)	1150 (6)	770 (2)	5000 (20)

Species recorded Total number of demersal, semi-demersal, and semi-pelagic species which belong to the groups A (Fish), B (Crustaceans) C (Cephalopods) D (Others marketable), collected during AdriaMed 2004 trawl survey was 113. Number of species from the group E (Others not marketable), mostly invertebrates was 47. Thus total number of species couth was 160.
Fish species prevailed with 76% of abundance, and 51.2% in density. Teleosts, 66 species made 65.6 % in abundance and 49.1% in density.
Elasmobranchia were represented with 17 species, with the percentages of abundance and density 12% and 2.1%, respectively.
Cephalopods, 20 species, were represented 11% in abundance and 17% in density.
Crustacea, 10 species, made 9.2% in abundance and 29.6% in density.

Data management	<i>We used AdriaMed ATRiS software</i>
Quality control	

Position of hauls



Overview of the series

Period	Vessel	Type of vessel (R/V or C/V)	Gear	No. Tows planned	No. Valid hauls	Comments
October 2-4 2004	Pasquale e Cristina	C/V	Tartana	20	20	

COUNTRY: Albania, Croatia, Cyprus, France, Greece, Italy, Malta, Montenegro, Morocco, Slovenia, Spain

GSA: GSAs 1, 3, 5, 6, 7, 8, 9, 10, 11, 15, 16, 17, 18, 19, 20, 22, 23, 25

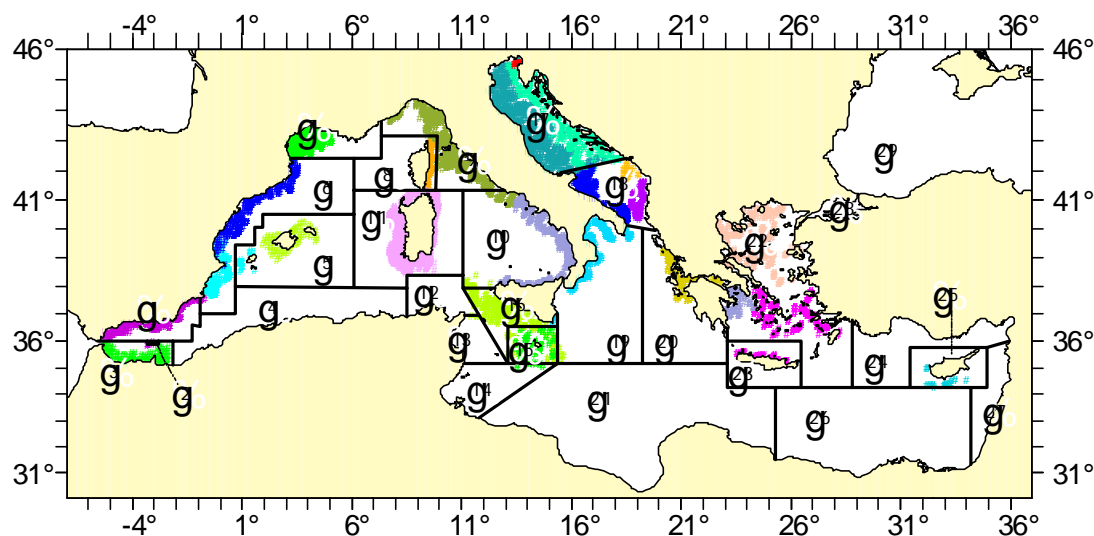
Overview of the survey

Survey title	<i>International bottom trawl survey in the Mediterranean</i>	Survey code	<i>MEDITS</i>
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Country	Albania, Croatia, Cyprus, France, Greece, Italy, Malta, Montenegro, Morocco, Slovenia, Spain	Institute in charge	<i>Various</i>
Area	<i>GFCM GSA Nos: 1, 3, 5, 6, 7, 8, 9, 10, 11, 15, 16, 17, 18, 19, 20, 22, 23, 25</i>	Period	<i>centred on June (May to July)</i>

Main objective	<i>Monitoring of the demersal resources in the Mediterranean. Produce relevant data to support the fishery policy. Abundance indices of all the species of macrofauna collected (fish, crustaceans and cephalopods). Biological parameters for about 40 of these species.</i>
Complementary objective	
Gear details	<i>The sampling gear is a bottom trawl made of four panels. The drawing of this trawl (IFREMER reference GOC 73) given in annex includes all the devices from the doors to the codend. This gear was calculated to be operated by a vessel with a towing power of at least 368 kW (500 ch) and 4.5 tons of bollard pull.</i>
Area	<i>The survey is carried out in all the trawlable areas along the coasts of the partner countries, from 10 to 800 meters depth.</i>
Sampling design	<i>The hauls are positioned following a depth stratified sampling scheme with random drawing of the positions within each stratum. The number of positions in each stratum is proportional to the surface of these strata. Except in the case of peculiar problems (damages noted in previous years, etc.), the hauls are made in the same position from year to year. The decision to make a haul in a given place should not be influenced by the presence of fish shoal eventually detected with the sounder or the sonar. The following depths are fixed in all areas as strata limits : 10 - 50 m, 50 - 100 m, 100 - 200 m, 200 - 500 m, 500 - 800 m.</i>
Species recorded	<i>A census of all the fish, cephalopods and crustaceans caught during the surveys is taken. Since the beginning of the series 341 fish, 122 crustacean and 53 cephalopod species have been identified.</i>
Data management	<i>Standard formats are defined for the storage and to facilitate exchange of the data produced by the Medits surveys. The exchange files are in an ASCII format. Fifth files types are defined to store and exchange the data: Type A: Characteristics of each haul Type B: Catch of each haul in weight, number and number by sex Type C: Biological parameters for the species in the reference list (length, sex, maturity) Type D: Temperature data Type T: List of hauls by stratum</i>
Quality control	<i>A specific software has been developed (the Checkmed tool) for an automatic control of the coherence of the data.</i>

Position of hauls



In the map, the limits and numbers are those of the GFCM-GSAs. The coloured areas are those of the main Medits strata.

The designations used and the presentation of cartographic data imply no line as for the juridical status of the various areas neither as for the border lines between countries.

Overview of the series

To carry out the surveys since 1994, 14 fishing chartered vessels and 6 research vessels have been used, depending of the year and the area. Nevertheless, in any cases, the sampling equipment and the method used were the ones defined in the Medits protocols.

Year	Date Minimum	Date Maximum	Target No Tows	No Valid Hauls	Comments
1994	16/5/1994	22/8/1994	1061	914	Spain, France, Greece & Italy
1995	22/4/1995	28/7/1995	1061	947	Spain, France, Greece & Italy
1996	2/5/1996	3/8/1996	1154	1086	Addition of Albania, Croatia & Slovenia
1997	9/5/1997	14/8/1997	1154	1090	
1998	3/5/1998	28/7/1998	1154	1105	
1999	4/5/1999	14/10/1999	1217	1127	+ Morocco, No survey in Croatia
2000	2/5/2000	2/8/2000	1222	1166	+ Morocco, Addition of Malta
2001	26/4/2001	19/7/2001	1159	1126	Morocco not included
2002	11/5/2002	26/9/2002	1159	901	Morocco not included , No survey in Greece
2003	26/4/2003	18/9/2003	1159	1159	Morocco not included
2004	6/5/2004	11/8/2004	1159	1140	Morocco not included

ANNEX: The sampling gear used for the Medits surveys

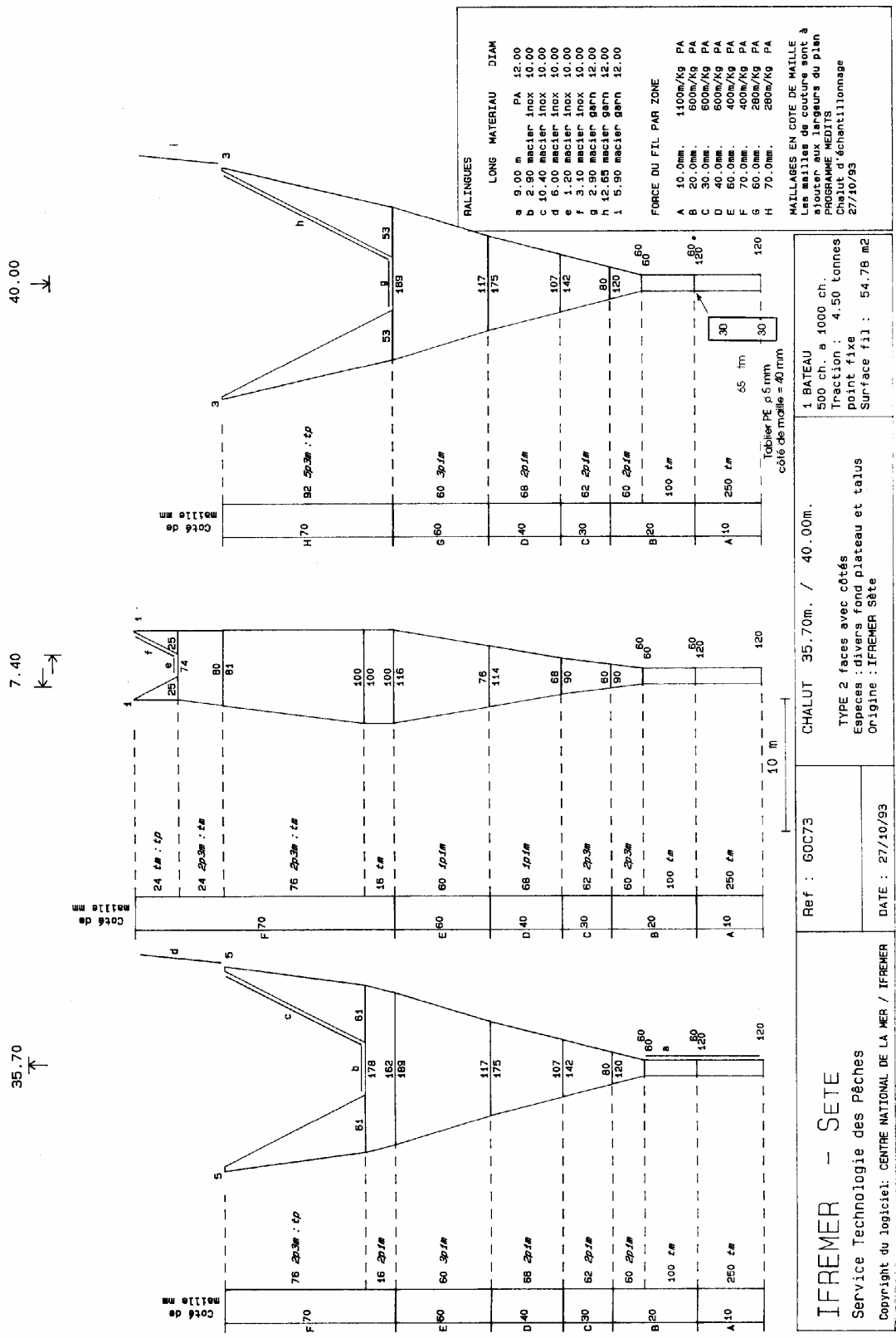


Fig. 1. Plan of the trawl GOC 73.

Schéma de gréement du chalut GOC 73

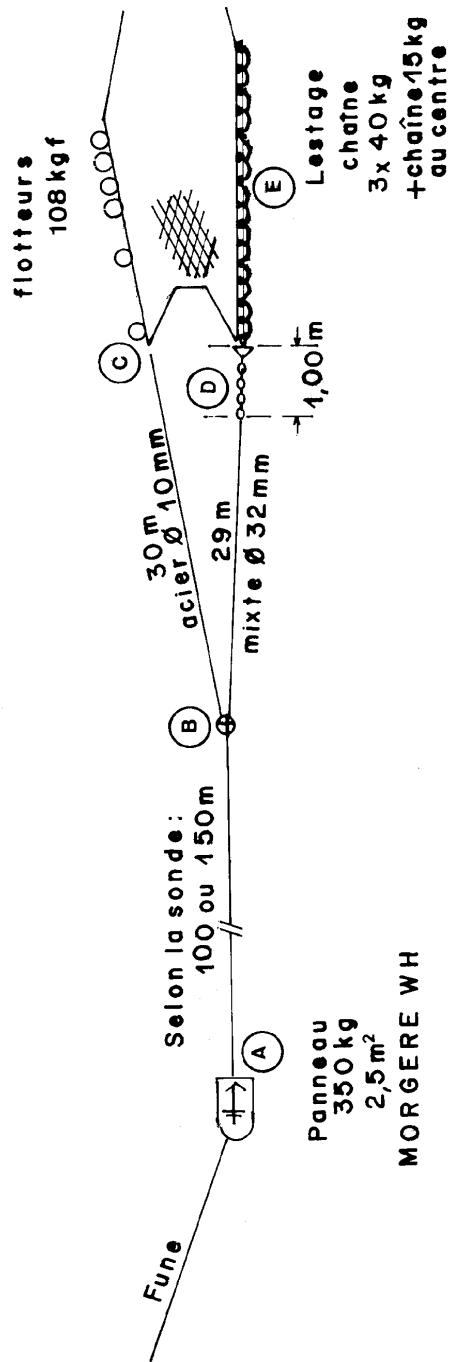
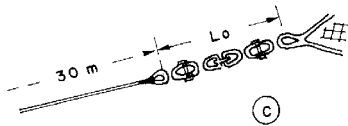
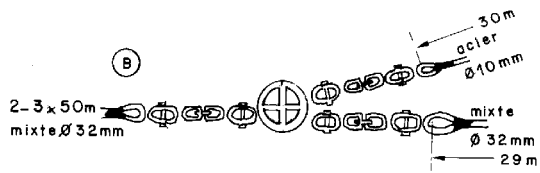
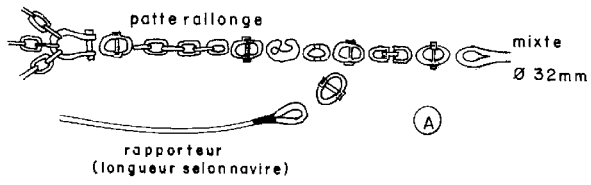
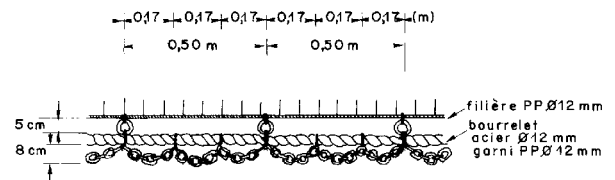
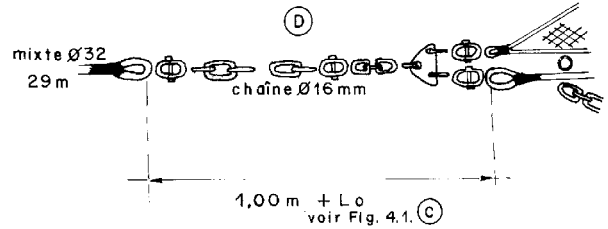


Fig. 2. Diagram of the rigging.



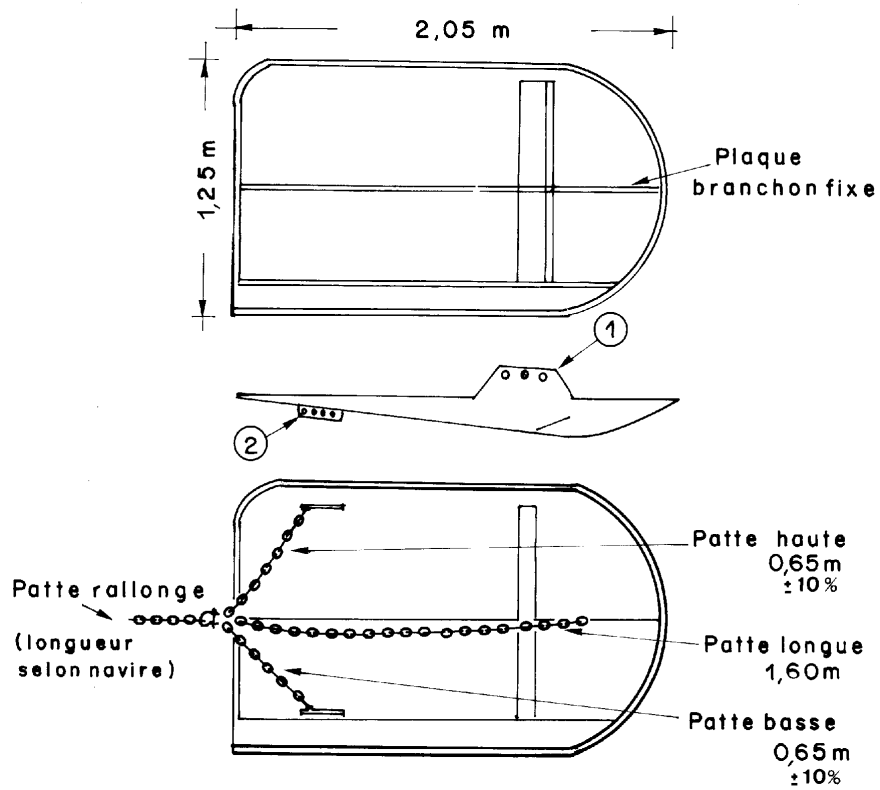
Gréement du chalut GOC 73



Lestage du chalut GOC 73

Fig. 3. Various details of the rigging.

(2,6 m² ; 350 kg)



Les longueurs des pattes sont indiquées
manilles non comprises

Fig. 4. Drawing of a door Morgère WHS (8).

COUNTRY: Cyprus

GSA: GSA 25

Overview of the survey

Survey title	International bottom trawl surveys in the Mediterranean	Survey code	MEDITS
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Country	Cyprus	Institute in charge	Department of Fisheries and Marine Research
Area	GFCM GSA No 25	Period	June (May – July)

Main objective	Evaluation of demersal fish stock abundance. Biological data collected: total weight, total number, length, maturity stage. Basic environmental data are also collected.
Complementary objective	
Gear details	Bottom trawl (IFREMER reference GOC 73 (Details on sampling gear and rigging included in the Instructions manual – MEDITS survey – version 4)
Area	The survey area covers the territorial waters of Cyprus. Based on the Medits manual, hauls are conducted in depths from 10 – 800m, in five depth strata: 10-50m, 50-100m, 100-200m, 200-500m and 500-800m. In Cyprus particularly, hauls are conducted in depths from about 20-615m.
Sampling design	26 hauls are conducted. The sampling locations have been selected proportionally to the surface that covers each of the five depth strata, in combination with the suitability of the seabed topography.
Species recorded	All species are recorded (number, total weight, length distribution), while additional data on maturity are recorded for 38 target species (including fish, crustaceans and cephalopods).
Data management	Data are stored in the Medits Data Management System (MDMS), a common tool at the disposal of the Medits partners.
Quality control	Quality of biological data: The common Medits methodology, which includes a common maturity scale, is used. Sampling gear: The same vessel and sampling gear have been used so far for carrying out the Cyprus Medits survey. Raw data quality control: Data checks are performed when data are inserted in the MDMS base, for ensuring the validity of the data.

Position of hauls

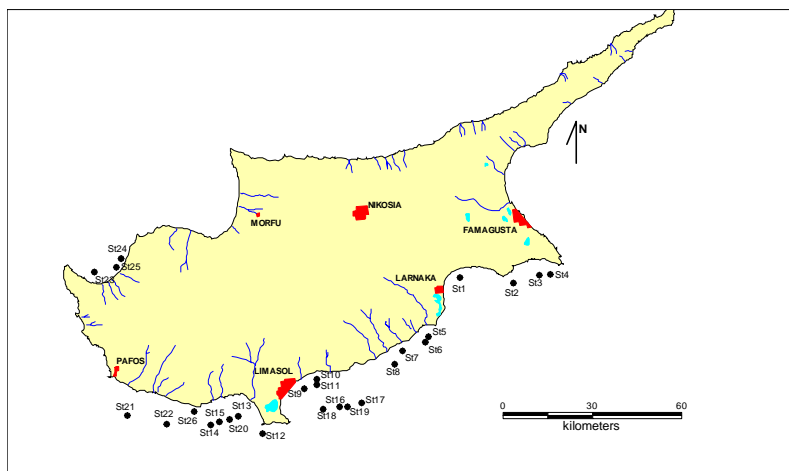


Fig: Sampling stations distribution of the Cyprus Medits survey.

Overview of the series

Period	Vessel	Type of vessel (R/V or C/V)	Gear	No. Tows planned	No. Valid hauls	Comments
1/8/05 - 11/8/05	EVA	C/V	Bottom trawl GOC73	25	25	
22/6/06 – 3/7/06	EVA	C/V	Bottom trawl GOC73	26	26	

COUNTRY: Tunisia

GSA: 12, 13 and 14

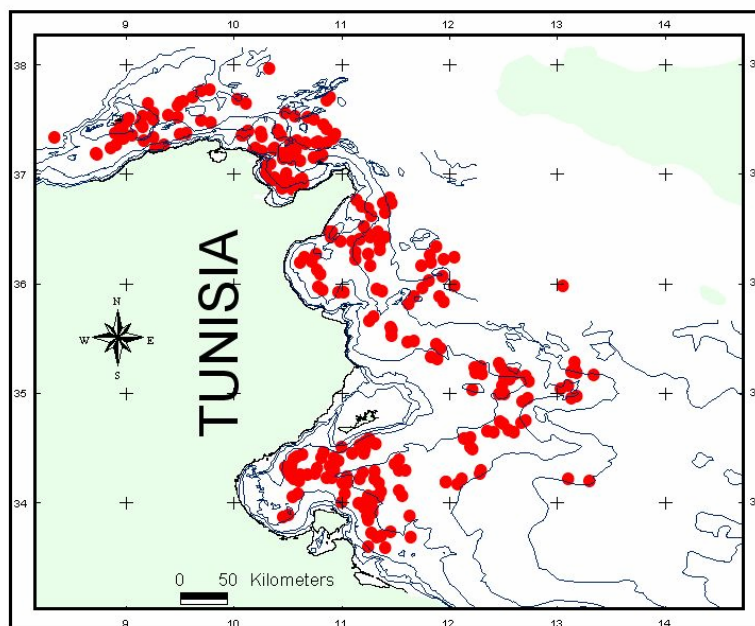
Overview of the survey

Survey title	<i>Campagne de prospection des ressources démersales en Tunisie</i>	Survey code	<i>DemNord4,5, 6 & 7 DemEst4,5, 6 & 7 DemSud4, 5, 6 & 7</i>
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Country	Tunisie	Institute in charge	Institut National des Sciences et Technologies de la Mer (INSTM)
Area	<i>GFCM GSA No 12, 13 et 14</i>	Period	<i>Printemps, été & automne 2002 - 2005</i>

Main objective	Distribution bathymétrique et géographique des ressources démersales et suivi des indices d'abondance de ces ressources
Complementary objective	<i>Evaluation des stocks et gestion des pêcheries Estimation des paramètres biologiques</i>
Gear details	<i>Chalut crevettier et G.O.V.</i>
Area	<i>Les eaux tunisiennes : zones Nord (12), Est (13) et Sud (14) de 20 à 600 m</i>
Sampling design	<i>150 traits (50 par zone) selon un échantillonnage aléatoire simple</i>
Species recorded	<i>Bivalves: pintadine, Gastéropodes : Murex Céphalopodes: poulpe, seiche et calmar Crustacés : Penaidae Poissons : Sparidae, Mullidae, Mugildae, Gadidae, Carangidae et Rajidae</i>
Data management	<i>Enregistrement des données sur des fiches appropriées et sur des fichiers EXELL</i>
Quality control	<i>Indicate the types of quality control applied to the survey (on protocol application, gear design, data, etc.)</i>

Position of hauls



Overview of the series

In this table, give a list of the cruises performed in the frame of the survey series (one row by cruise). Period: date of beginning and end of the survey. Type of vessel: R/V: research vessel, C/V: chartered vessel.

Period	Survey code	Type of vessel (R/V or C/V)	Gear	No. Tows planned	No. Valid hauls	Comments
Juin et sept. 02	DemNord4	R/V Hannibal	Crevettier & GOV	50aine par campagne	33	
Sept. et oct. 02	DemEst4	R/V Hannibal	Crevettier & GOV		31	
Avril et mai 02	DemSud4	R/V Hannibal	Crevettier & GOV		49	
juillet 03	DemNord5	R/V Hannibal	Crevettier & GOV		27	
juin 03	DemEst5	R/V Hannibal	Crevettier & GOV		29	
mai et août 03	DemSud5	R/V Hannibal	Crevettier & GOV		66	
août et sept. 04	DemNord6	R/V Hannibal	Crevettier & GOV		42	
mai 04	DemEst6	R/V Hannibal	Crevettier & GOV		39	
septembre 04	DemSud6	R/V Hannibal	Crevettier & GOV		29	
mar nov déc 05	DemNord7	R/V Hannibal	Crevettier & GOV		58	
sept. Déc. 05	DemEst7	R/V Hannibal	Crevettier & GOV		44	
mai 05	DemSud7	R/V Hannibal	Crevettier & GOV		49	