CORALFISH 2010 Cruise Report: CF0610-Fish

9-19th June 2010

Eastern Ionian,
Cephalonia Island

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Expedition Objectives

The general objective of the expedition was to investigate the deep-water fish in and around cold-water coral areas in the Eastern Ionian Sea. More specific objectives included:

- To identify and compare the fish communities in coral and no-coral areas
- To collect biological information on size, weight, sex and maturity, and for some species on age and feeding.
- To examine the impact of the used gears on deep-water corals
- To use two types of bottom long line system: a long-line with hook No7 (target: hake) and another long line with hook No9 (target: blackspot red seabream).
- To collect data from two seasons in order to obtain more representative samples
- To follow similar methodologies to allow comparison with sampling in the northern Ionian Sea (Italy)

Sampling Area:

Two areas were sampled off Cephalonia
a) Coral Area: off the south-western Cephalonian coast: depth range 377-800 m.
b) Non-Coral Area: off northern Cephalonia coast (off Atheras gulf): depth range 400-800 m.
The separation distance between the two areas was approximately 40 km (23 nautical miles) along the same slope.

Fishing Vessel

The fishing vessel used was the “Gerasimos” based in the port of Preveza (N.P. 171). The vessel is a typical wooden hulled caique, 15.80 m length with 2 x 250 hp diesel motors. Navigation gears consisted of a simple sonar system (depth), a GPS, two plotters, two radars, VHF radio, VHF DSC and VMS systems. Fishing gear consisted of standard long line hauling systems with storage vessels for the long line and hooked snoods.

Long Line Gears Used

In general terms the long lines operated well with good catches. In the non-coral area, long lines were caught twice on rocks on the bottom with one partial loss of gear.

	Gear 1 (hook No7)	**Gear 2 (hook No 9)**
Hook Size	No. 7	No. 9
Length	3 km	3 km
Snood distance	3 fathoms (~5.5 m)	3 fathoms (~5.5 m)
Bait	fresh sardine	fresh sardine
Soak time	~ 4-5 hours	~4-5 hours
Measuring Unit	42 hooks, 250 m	42 hooks, 250 m

The major difference between the gears was the size of the hook (hake: No 7, blackspot seabream: No 9) and the thickness of the snood (hake: 120, blackspot seabream: 100). The two gears were used to fully sample the bottom fish since the seabreams, known to be abundant, are not fished by the larger hake gear.

Long Line Deployments

A total of 18 long-line deployments were undertaken, with 2 done per day. In each area 6 x Gear 1 and 3 x Gear 2 lines were deployed. In general the vessel left port at 04.00 each morning. Line deployment was between 07.00 and 09.30. Soak time was between 7.30 and 15.00. The vessel returned to port at approximately 20.00 every evening.

Individual deployments are noted below:

No.	Date	Site	Position 1	Depth (m)	Position 2	Depth (m)	Note
1	09.06.10	Coral	37.59.109 20.16.295	633	38.00.090 20.17.730	435	Hook No9. The first and final part of the line did not touch the bottom
2	09.06.10	Coral	38.00.927 20.16.712	428	38.02.268 20.17.795	377	Hook No 7
3	10.06.10	Coral	37.58.651 20.17.651	573	37.57.621 20.16.147	740	Hook No7
4	10.06.10	Coral	37.57.920 20.18.816	708	37.56.870 20.17.586	765	Hook No9
5	11.06.10	Coral	37.59.165 20.17.856	520	37.59.767 20.16.192	600	Hook No9
6	11.06.10	Coral	37.58.062 20.17.789	602	37.57.410 20.19.595	800	Hook No7
7	12.06.10	Coral	38.00.066 20.19.870	600	37.58.591 20.19.063	671	Hook No7
8	12.06.10	Coral	38.00.048 20.18.656	456	37.59.119 20.18.549	590	Hook No7
9	13.06.10	Coral	37.57.139 20.16.658	780	37.58.322 20.18.015	598	Hook No7
10	15.06.10	Non-Coral	38.23.282 20.24.202	750	38.24.188 20.25.816	430	Hook No7
11	15.06.10	Non-Coral	38.21.951 20.23.400	760	38.23.005 20.24.703	400	Hook No9 Loss of 336 hooks
12	16.06.10	Non-Coral	38.23.122 20.24.414	600	38.23.968 20.25.990	450	Hook No7
13	16.06.10	Non-Coral	38.24.310 20.25.093	800	38.24.489 20.26.762	750	Hook No9
14	17.06.10	Non-Coral	38.19.506 20.22.058	800	38.20.720 20.22.957	550	Hook No9 Loss of 60 hooks
15	17.06.10	Non-Coral	38.23.346 20.24.326	700	38.24,180 20.25.816	600	Hook No7
16	18.06.10	Non-Coral	38.22.578 20.24.605	650	38.24.403 20.26.130	480	Hook No7
17	18.06.10	Non-Coral	38.23.771 20.25.328	450	38.23.695 20.27.132	560	Hook No7
18	19.06.10	Non-Coral	38.23.925 20.25.339	450	38.23.466 20.26.697	400	Hook No7

Catch Processing:
The condition of the snoods and hooks was recorded by hook, according to the CoralFish sampling protocol (without snood, without hook, with bait, without bait, with fish, with coral, with sponge). Catch was recorded to the level of species when possible with recording units of every 42 hooks (~250 m) per long line according to the protocol. In addition length, weight, sex, and maturity were recorded from almost all individuals. Predated specimens were also recorded. From some species otoliths (*Merluccius merluccius, Pagellus bogaraveo, Helicolenus dactylopterus*) and stomachs (*M. merluccius, P. bogaraveo, H. dactylopterus, Galeus melastomus, Squalus blanvillei*) were collected for further analysis (either frozen or in formalin). Samples of unknown species were kept for definitive identification in the laboratory.

Hooks and Fish
The following table gives the preliminary identification of species from the two areas including both of the gears used.

Coral Area	**Non-Coral Area**
Brama brama	*Brama brama*
Centrolophus niger	
Conger conger	*Conger conger*
	Dasyatis violacea
	Epigonus telescopus
Etmopterus spinax	*Etmopterus spinax*
Galeus melastomus	*Galeus melastomus*
Helicolenus dactylopterus	*Helicolenus dactylopterus*
Hyperoglyphe perciformis	
Lepidopus caudatus	*Lepidopus caudatus*
Merluccius merluccius	*Merluccius merluccius*
Micromesistius poutassou	*Micromesistius poutassou*
Molva dipterygia macrophthalma	*Molva dipterygia macrophthalma*
Mora moro	*Mora moro*
Pagellus bogaraveo	*Pagellus bogaraveo*
	Paromola cuvieri
Phycis blennoides	*Phycis blennoides*
Polyprion americanus	*Polyprion americanus*
Raja clavata	
Raja oxyrinchus	
Ruvettus pretiosus	
	Schedophilus ovalis
	Scorpaena elongata
Scyliorhinus canicula	
Squalus acanthias	*Squalus acanthias*
Squalus blainvillei	*Squalus blainvillei*
Sudis hyalina	*Sudis hyalina*
Todarodes sagittatus sagittatus	*Todarodes sagittatus sagittatus*
	Trachypterus trachypterus
Xiphias gladius	*Xiphias gladius*

A total of 29 species were caught on the long-lines in the two areas (approximately 1000 individuals), 23 species were caught in the coral area and 24 species in the non-coral area. The list includes demersal, benthopelagic, bathypelagic and pelagic species. The latter, including *Xiphias gladius* (swordfish), indicates that the specimens were either caught during deployment or recovery of the long-lines or possibly because the species remains near the bottom during the day-time. Most of the catch was in good condition although some of it had been predated on during the relatively short soak time.

Hooks and Corals:
There were a total of 27 interractions between corals and hooks. In the coral area a total of 24 coral specimens were recovered whilst only 3 was recovered from the non-coral area. Three of the species were identified as *Isidella elongata*, *Desmophyllum dianthus and Leiopathes glaberrima*. Specimens of Antipathidae and Pennatulacea were also identified. The rest were kept frozen for further examination. Some samples were also collected in alcohol for genetic analysis.

Personnel Involved:

No.	Name	Institution	Position	9-14 June	14-19 June
1	Mytilineou, C.	HCMR/IMBR	Chief Scientist	X	X
2	Christidis G	HCMR/IMBR	Ichthyologist	X	X
3	Siapatis A.	HCMR/IMBR	Ichthyologist	X	
4	Bekas P.	HCMR/IMBR	Ichthyologist		X

Images from the June 2010 Long line fishing

Baiting and deploying long lines

Simple stone weight

Power hauling the long line

Dealing with catch

Mixed catch of fish and coral (*Isidella elongata*)

Stony coral (*Desmophyllum dianthus*)

Usual catch (elasmobranchs, blackbelly rose fish and hake)

Unusual catch (hake, grouper and swordfish)