



CORALFISH 2010 Cruise Report: CF1010-Fish

13-24th October 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 365-720 m.

b) Non-Coral Area: off northern Cephalonia coast (off Atheras gulf): depth range 385-750 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 coral area, long lines were caught twice with loss of a considerable number of hooks in one case. In the non-coral area, long lines were caught only once with loss of very few hooks.

	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: No120, blackspot seabream: No100). The two gears were used to fully sample the bottom fish since the seabreams, known to be abundant, are not well fished by the larger hake gear.

Long Line Deployments

A total of 18 long-line deployments were undertaken, with 2-3 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 06.00 each morning. Line deployment was between 07.30 and 11.00. Soak time was generally between 08.00 and 16.00; in some cases, when line was stuck the soak time lasted until 18.30. The vessel returned to port at approximately 20.00 every evening.

Individual deployments are noted below:

No	Date	Site	Position 1 (start)	Depth (m)	Position 2 (end)	Depth (m)	Notes
1	21/10/2010	Coral	201624 375910	647	201745 380052	435	No 9
2	21/10/2010	Coral	201574 380063	657	281671 380183	365	No 7 loss 43 hooks
3	22/10/2010	Coral	201785 375885	560	201648 375787	705	No 7 loss 100 hooks
4	22/10/2010	Coral	201897 375805	644	201858 375748	720	No 9
5	23/10/2010	Coral	201803 375970	495	201591 380002	630	No 9
6	23/10/2010	Coral	201888 375779	707	201774 375921	512	No 7
7	23/10/2010	Coral	201963 380075	520	201970 375941	645	No 7
8	24/10/2010	Coral	201845 373860	622	201867 375822	497	No 7
9	22/10/2010	Coral	201677 375738	745	201823 375847	610	No 7
10	15/10/2010	Non Coral	202413 382294	680	202571 382459	600	No 7
11	16/10/2010	Non Coral	202434 382271	460	202506 382408	650	No 9
12	16/10/2010	Non Coral	202516 382244	390	202567 382476	750	No 7
13	17/10/2010	Non Coral	202533 382447	675	202628 382344	434	No 9
14	15/10/2010	Non Coral	202731 382331	462	202853 382409	420	No 9
15	17/10/2010	Non Coral	202437 382299	540	202528 382404	515	No 7
16	15/10/2010	Non Coral	202609 382460	720	202691 382324	420	No 7
17	17/10/2010	Non Coral	202639 382409	610	202736 382335	480	No 7 loos 7 hooks
18	16/10/2010	Non Coral	202645 382320	385	202748 382445	730	No 7

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. Predated specimens were also recorded. Samples were frozen and elaborated in the laboratory where length, weight, sex, and maturity were recorded from almost all individuals. From some species otoliths (*Merluccius merluccius*, *Pagellus bogaraveo*, *Helicolenus dactylopterus*) and stomachs (*M. merluccius*, *P. bogaraveo*, *H. dactylopterus*, *Galeus melastomus*, *Squalus blainvillei*) were collected for further analysis.

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
	<i>Brama brama</i>
<i>Centrophorus granulosus</i>	<i>Centrophorus granulosus</i>
<i>Conger conger</i>	<i>Conger conger</i>
<i>Dasyatis violacea</i>	<i>Dasyatis violacea</i>
	<i>Epigonus telescopus</i>
<i>Etmopterus spinax</i>	<i>Etmopterus spinax</i>
<i>Galeus melastomus</i>	<i>Galeus melastomus</i>
<i>Helicolenus dactylopterus</i>	<i>Helicolenus dactylopterus</i>
	<i>Lepidopus caudatus</i>
<i>Merluccius merluccius</i>	<i>Merluccius merluccius</i>
<i>Micromesistius poutassou</i>	<i>Micromesistius poutassou</i>
<i>Molva dipterygia macrophthalmia</i>	<i>Molva dipterygia macrophthalmia</i>
<i>Mora moro</i>	<i>Mora moro</i>
	<i>Nettastoma melanurum</i>
<i>Pagellus bogaraveo</i>	<i>Pagellus bogaraveo</i>
<i>Phycis blennoides</i>	<i>Phycis blennoides</i>
<i>Polyprion americanus</i>	<i>Polyprion americanus</i>
<i>Raja clavata</i>	<i>Raja clavata</i>
<i>Raja oxyrinchus</i>	<i>Raja oxyrinchus</i>
	<i>Squalus acanthias</i>
<i>Squalus blainvillei</i>	<i>Squalus blainvillei</i>
<i>Sudis hyalina</i>	<i>Sudis hyaline</i>
<i>Todarodes sagittatus</i>	<i>Todarodes sagittatus</i>
	<i>Xiphias gladius</i>

A total of 24 species were caught on the long-lines of both areas (approximately 1300 individuals), 18 species were caught in the coral area and 24 species in the non-coral area, respectively. 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 to 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 soak time.

Hooks and Corals:

There were a total of 14 interactions between corals and hooks. In the coral area a total of 13 coral specimens were recovered whilst only 1 specimen was recovered from the non-coral area. Three of the species were identified as *Isidella elongata*, *Desmophyllum dianthus* and *Leiopathes glaberrima*. Specimens of Antipathidae 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	13-17 Octob.	21-24 Octob.
1	Mytilineou, C.	HCMR/IMBR	Chief Scientist	X	
2	Christidis G	HCMR/IMBR	Ichthyologist	X	X
3	Siapatis A.	HCMR/IMBR	Ichthyologist	X	X
4	Lefkadiou E.	HCMR/IMBR	Ichthyologist		X
5	Catarino D.	Univ. Azores	Ph D. student	X	X

Images from the October 2010 Long line fishing

Hake hook & blackspot red seabream hook



Snood, swivel and stoppers of long line



Baiting and deploying long lines



Dealing with catch



Mixed catch of fish and coral (Antipathidae)



Coral (*Leiopathes glaberrima*)



Usual catch (blackmouth catfish, blackbelly rose fish, hake, blackspot red seabream.)



Uncommon catch (swordfish)

