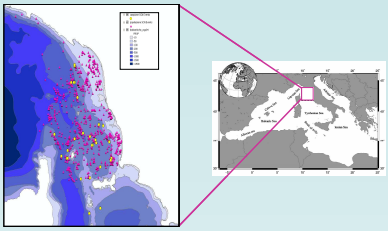
16th EEA Annual Scientific Conference
22-25 November 2012 - Milan, Italy

Consideration about the diet of the smallspotted catshark *Scyliorhinus canicula* (Linnaeus, 1758)

Giacomo Ganda, Cecilia Mancusi, Fabrizio Serena

ARPAT, Livorno, Via Marradi 114, 57126 Livorno, Italy, +39 055 3206921 (c.mancusi@arpat.toscana.it)

Samples analysed were collected during scientific bottom trawl surveys (Grund and MEDITS projects) in the north-western Mediterranean Sea (Tuscany area, Italy) in the period 2006-2011.



In the studied area the catsharks were distributed between 88,5 and 407 m of depth. In the complex 486 samples were examined (255 females and 231 males), with a total length between 13 and 50,5 cm. The catsharks were grouped in three different class size: less than 25 cm TL (classified as juveniles), between 25,1 and 39,9 cm TL (sub adults) and more than 40 cm TL (adults).

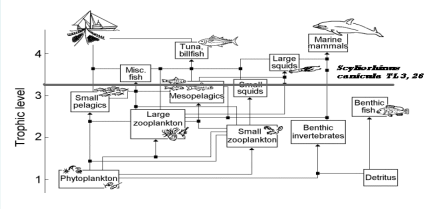
Among 486 stomachs only 30 were empty and the Coefficient of Repletion (CR= (Nf/Nf+Ne) x 100; Nf=number of full stomach, Ne=number of empty stomach) was 93,82%; this means an high voracity for the species.

The identification of food items from the stomach content was done using hard parts (i.e. fish otoliths and cephalopod beaks) and fresh remains. In total 59 prey category were identify with 1516 specimens recognised, representing the most common taxonomic groups of the bentic habitat of the Tuscany coastal area; the following taxa were registered: Crustacea 727 (217 Decapoda and 510 other crustaceans), Cephalopoda 447, Osteitta 227, Polichete 115.

Phylum	Subphylum	Ordine	Genere/Specie	N°
Anellida				
	Polychaeta			
		Aphroditidae		
			Anfelisca	1
			Aphrodita aculeata	60
		Capitellidae		
			Arenicolidae n.d.	1
			Anellida n.d.	3
		Cirratulidae		
			Cirratulidae n.d.	4
			Polichetae n.d.	46
Arthropoda				
	Crustacea			
		Mysidacea		
			Lophogaster typicus	90
			Mysidacea n.d.	147
		Decapoda		
			Alpheidae n.d.	37
			Alpheus glaber	9
			Anomura n.d.	1
			Dardanus arrosor	3
			Diogenidae n.d.	1
			Macropipus tuberculatus	1
			Paguridea n.d.	4
			Paguristes oculatus	2
			Palaemon longirostris	2
			Parapenaeus longirostris	21
			Pasiphaea sivado	1
			Peneidae n.d.	4
			Philocheras echinulatus	3
			Plesionica giglioli	2
			Solenocera membranacea	4
			Xhantidae n.d.	1
			Natantia n.d.	52
			Reptantia n.d.	3
			Decapoda n.d.	66
		Amphipoda		
			Amphiopoda n.d.	159
		Stomatopoda		
			Squilla mantis	13
		Brachiura		
			Goneplax romboides	13
			Goneplacidae n.d.	4
			Majidae n.d.	1
			Brachiura n.d.	31
			Crustacea n.d.	52
Mollusca				
	Cephalopoda			
		Saepidae		
			Sepia officinalis	54
			Sepidae n.d.	36
		Sepiolidae		
			Sepietta owenana	12
			Sepietta petersi	4
			Sepiolidae n.d.	16
		Octopoda		
			Eledone cirrhosa	5
			Octopus vulgaris	31
			Octopoda n.d.	4
		Teuthida		
			Teuthida n.d.	1
			Ommastrefidae n.d.	1
			Cephalopoda n.d.	284
Vertebrata				
	Osteichthyes			
		Argentinidae		
			Gadiculus argenteus	7
			Conger conger	2
			Argentinidae n.d.	37
		Anguilliformes		
			Ariosoma balearicum	3
			Chlopsis bicolor	3
		Clupeiformes		
			Sardina pilchardus	7
		Gadiformes		
			Trisopterus minutus	3
		Perciformes		
			Mullidae n.d.	1
			Sparidae n.d.	3
			Sphyraena sphyraena	3
			Osteichthyes n.d.	158
			Totale	1516

All the smallspotted catsharks were weighted and the total length (TL), sex and maturity stage were registered. Then the stomach was removed and stored in alcohol before the analysis of the gastric contents.

The Index of Relative Importance (IRI= %Fx(%N+%P) were F=frequency of the prey; P=weight of the prey; N=number of prey) was calculated to evaluate the contribution of each prey to the diet;its value is inversely proportional to the heterogeneity of the diet. Also the trophic level was calculated and resulted as 3,26, according to literature.



S.canicula feeds mainly on crustacean and cephalopod (77,1 % IRI) that were present in almost all the stomachs. Among crustacean decapoda are the most important taxa (37,31 %) and the more abundant species are miisidiacea (28,59%) and *Lophogaster Typicus* (17,5 %).

These preliminary results show the opportunistic character of this predator, no differences in the alimentary preferences between males and females, but a significant differences between young and adult specimens and also related to the depth: juvenils feed mainly on crustaceans (especially misidiacea) while adult prefers cephalopods and bony fishes (*Gadiculus argenteus e Argentina sphyrena*).

AKNOWLEDGES

We thank the Italian Ministry of Fisheries (MIPAF) for permission to use the data collected during scientific surveys of fish stocks assessment.