

170 Poster

Damian Fernandez-Jover

Sustainable Fisheries/Aquaculture

Ecological effects of sea-cage fish farms on Mediterranean horse mackerel (*Trachurus mediterraneus*).**Fernandez-Jover, Damian;** Sánchez-Jerez, Pablo; Bayle Sempere, Just; Dempster, Tim; Valle, Carlos.¹ Marine Biology Unit, Department of Marine Science and Applied Biology, University of Alicante, PO Box 99, 03080 Alicante, Spain.² SINTEF Fisheries and Aquaculture, NO-7465 Trondheim, NorwayCorresponding Author: Damian Fernandez-Jover, jover@ua.es

Trachurus mediterraneus is an important species for local fisheries in the Mediterranean Sea. To investigate the potential interaction between *T. mediterraneus* populations and coastal aquaculture sites at a regional scale, visual censuses were made seasonally over two years (2004-2005) around three fish farms along 50 km of coastline in south-east Spain. Comparisons were also made between fish caught at farms and fish caught at control sites distant from farms to identify changes in diet and body condition. Adults of *T. mediterraneus* were aggregated around farms throughout the year. A peak of around 24600 individuals and 3.2 tonnes was reached in a single farm in autumn 2005. A drastic change in the fish-dominated natural diet of control fish was detected in farm-associated fish, where food pellets were the main food item. *T. mediterraneus* also had a higher condition index at farms indicating it uses farms as a food resource and obtains partial protection when staying in the no-fishing area which surrounds farms, possibly increasing spawning and biomass export. The aggregation of *T. mediterraneus* to fish farms may have a positive effect on local populations because the mean abundance extrapolated over the eight local farms represented 1.5% of local fisheries captures.

172 Poster

Persefoni Megalofonou

Sustainable Fisheries/Aquaculture

Demersal gillnet fishery impact on the blackmouth catshark population in the Evoikos Gulf, Greece**Persefoni Megalofonou,** Christophoros Metochis and Maria Apostolopoulou

Department of Biology, Section of Zoology-Marine Biology, University of Athens, Panepistimiopolis, Ilissia, Athens, Greece

Corresponding Author -Persefoni Megalofonou E-mail -pmegalo@biol.uoa.gr

Gill nets are extensively used in the deep waters of the Mediterranean Sea targeting hake, flatfish, and sometimes demersal sharks. In this study the impact of demersal gill net fishery on the blackmouth catshark (*Galeus melastomus*) was investigated in the North Evoikos Gulf, in Greece, and some characteristics of the stock are reported. Sampling operations were conducted on board fishing boats fishing at depths of 200 to 350 m during the spring and summer months in 2005 and 2006. In the area examined, blackmouth catshark was the only shark species strongly affected by the gill nets, being caught as by-catch and largely discarded. Most of the specimens sampled were mature and the size at first maturity was estimated. Sex ratio was almost 1:1 but females were found to be larger than males reaching a maximum total length of 55 cm.

The present study was funded through the Operational Programme for Education and Initial Vocational Training (O.P. "Education") in the framework of the project "Pythagoras II - Support of University Research Groups with 75% from European Social Funds and 25% from National Funds.

173 Poster

Camille Saurel

Sustainable Fisheries/Aquaculture

Grazing rate of mussel measured *in situ* via chlorophyll *a* as tracer.**C. Saurel¹,** J.K. Petersen², F. Møhlenberg³, L. Schlüter³, M.J. Kaiser¹¹School of Ocean Sciences, University of Wales, Bangor, Menai Bridge, Anglesey, LL59 5AB, U. K. ²National Environmental Research Institute (NERI) Department of Marine Ecology, DK-4000 Roskilde, Denmark. ³DHI Water & Environment, DK-2970 Hørsholm, DenmarkCorresponding Author: Camille Saurel c.saurel@bangor.ac.uk

The commercial exploitation of mussels through aquaculture and from natural mussel beds, is an important part of coastal fisheries that needs to be developed in a sustainable manner. The principal parameters controlling mussel production are food supply and the grazing capacity of the mussels, which requires monitoring to avoid exceeding carrying capacity.

Much debate has focussed on the methodology of measuring bivalve clearance rate, which has now reached a conclusion with regards to measurements in laboratory (Riisgård, 2001). Whether laboratory studies are representative of *in situ* clearance rates remains a subject of debate, and methodologies for *in situ* measurements are still not properly developed.

Assuming that chlorophyll *a* is a proxy for food of mussels, the development of an *in situ* technique using chlorophyll *a* pigments present in the faeces as tracers is one alternative. This approach has been experimented by Petersen and Møhlenberg around Denmark and in the Baltic Sea (Kotta & Møhlenberg, 2002). Here, we present additional laboratory studies on the loss of pigments from algae during gut passage. Our data gives us confidence in the use of this method to quantify the grazing rates of mussel, which can be used as a monitoring tool for sustainable aquaculture.

