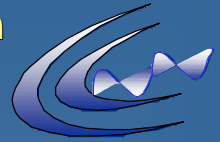




Underwater survey of ichthyofauna from Eastern Atlantic Seamounts: Gettysburg and Ormond (Gorringer Bank)



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INTRODUCTION

Gettysburg and Ormond are seamounts belonging to the Gorringer bank, which is located on the Europe-Africa plate boundary. These peaks rise from a depth of almost 5000m to less than 40m and extend in a SW-NE direction 125 nm off Cabo de S. Vicente, SW coast of Portugal. Underwater surveys by divers on extreme environments such as these offshore seamounts are very unusual. Given the importance of these oceanic features for understanding marine biodiversity patterns, a preliminary ichthyofauna assemblage survey was carried out.



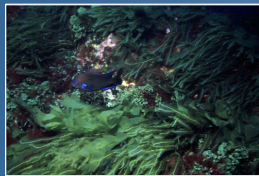
METHODS

Two underwater surveys were carried out in 1998 (Gettysburg) and 1999 (Ormond) using visual census (direct observation, photography and video). The random search method was used for demersal and pelagic ichthyofauna. Species, habitats, conservation and fisheries status were identified (Whitehead *et al.*, 1986; Quéro *et al.*, 1990; Lloris *et al.*, 1991; Debelius, 1997; Froese and Pauly, 2002). Frequencies of occurrence and relative abundances were obtained from video image analysis.

• GETTYSBURG SEAMOUNT

SPECIES COMMON TO BOTH GETTYSBURG AND ORMOND

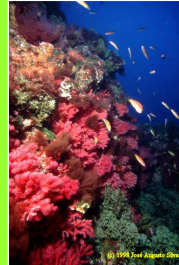
• ORMOND SEAMOUNT



Abudefduf luridus



Coris julis



Thalassoma pavo



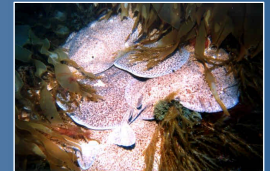
Serranus atricauda



Seriola rivollana



Anthias anthias



Torpedo marmorata



Labrus bergylla



Manta birostris

Species List

Coris julis, *Thalassoma pavo*,
Labrus bergylla, *Anthias anthias*, *Serranus atricauda*,
Seriola rivollana, *Seriola dumerilii*, *Abudefduf luridus*,
Thunnus sp.

Species List

Coris julis, *Thalassoma pavo*,
Anthias anthias, *Serranus atricauda*,
Seriola rivollana, *Seriola dumerilii*, *Torpedo marmorata*,
Balistes carolinensis, *Manta birostris*, *Romula tomoma*,
Sphyrna tiburo

Biogeographic origin, general habitat use, conservation and fisheries status of the identified species

Biogeographic origin	Gettysburg		Ormond		Total (Gorringer)	
	N	%	N	%	N	%
Macaronesian (endemic)	1	11.1	0	0.0	1	5.0
Atlantic-Mediterranean	6	66.7	8	72.7	14	70.0
Cosmopolitan	2	22.2	2	18.2	4	20.0
Amphiantlantic	0	0.0	1	9.1	1	5.0
Total Species	9	100.0	11	100.0	20	100.0
General habitat						
Oceanic	3	33.3	5	45.5	8	40.0
Coastal	6	66.7	6	54.5	12	60.0
Specific habitat						
Pelagic	3	33.3	6	54.5	9	45.0
Demersal	6	66.7	4	36.4	10	50.0
Benthonic	0	0.0	1	9.1	1	5.0
Status						
Threatened (IUCN Red List)	1	11.1	0	0.0	1	5.0
Fisheries commercial	3	33.3	5	45.5	8	40.0

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RESULTS AND DISCUSSION

⇒ Twelve underwater surveys were carried out in June 1998 in Gettysburg at depths from 32 to 47m and twenty-four in Ormond in August 1999, from 36 to 62m.

⇒ Of the 9 fish species found in Gettysburg and 11 in Ormond, 6 were common to both sites (42.9% degree of species overlap). Labridae and Carangidae were the most representative families for both sites. *Coris julis*, *Anthias anthias* and *Seriola rivollana* were the most frequent and abundant species at both sites.

⇒ 35% of the species were of commercial value, with *Thunnus* sp. being a potential threatened species (IUCN, 2002). Most of the fish species found in both sampled sites were of Atlantic-Mediterranean origin, with coastal and demersal habitats.

⇒ These results in association with the presence of *Abudefduf luridus* in Gettysburg, an endemic Macaronesian species; *Thalassoma pavo* in both sites, a rare species in Portuguese continental waters, suggests that the upper part of these seamounts may act as "stepping stones" for the dispersal of coastal species.



"Mauritius" - Expedition ship



Off-shore dive in Ormond seamount at 40m depth