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A PRELIMINARY REPORT ON THE MARINE MACROBENTHOS AND THE DEMERSAL FISH FAUNA OF THE ISLAND OF FILFLA (MALTESE ISLANDS, CENTRAL MEDITERRANEAN)

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ABSTRACT

The nature, distribution, and abundance of the main component species of the supralittoral, mediolittoral and upper infralittoral marine macrobenthic assemblages of Filfla were studied during a series of expeditions to the islet between 1990 and 1994. The demersal fish fauna was censused by direct observation. The distribution of sponges was studied along two 2m-wide belt transects laid along a gently sloping and a steep sloping bottom, respectively. In general, the same type of benthic assemblages as found on other exposed rocky coasts in the Maltese Islands occurred at Filfla. However, at Filfla, the littoral zones were compressed, and species richness and abundance in the littoral and sublittoral were generally low compared to other exposed rocky shores in the Maltese Islands. In spite of the extensive infralittoral sandy bottoms present at Filfla, no sea-grass meadows were encountered. Most of these differences are probably attributable to the high exposure, the extensive boulder shores and submarine boulder fields that surround the islet, and to bottom turbulence. Large differences in species composition and abundance of sponges were found between the two transects. *Crambe crambe* and *Agelas oroides* were the most abundant sponges on the steep bottom, while *Sarcotragus spinosula* was the most abundant species on the more gently sloping one. Compared to that of mainland sites, the demersal fish fauna of Filfla was impoverished in terms of both species richness and abundance.

INTRODUCTION

Until recently, the majority of studies on the marine biota of the Maltese Islands either concerned the biology of individual species, or else were taxonomic studies of single groups. Very few qualitative and quantitative studies on species assemblages have been made and most of these concerned littoral and shallow

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water sites (see, for example, Attard & Giglio, 1990; Mallia [A.] 1991; 1993; Mallia [R.], 1993; Vella, 1994, and references therein). Since the early 90's, some information started being collected, mainly as a result of undergraduate and postgraduate research projects at the University of Malta (see, for example, Borg, 1991; 1995; Valentino, 1991; Buttigieg, 1993; Pirotta, 1996), and baseline surveys of the marine infralittoral biotic assemblages of particular areas, commissioned by the Malta Council for Science and Technology (see, for example, Borg & Schembri 1993; 1995b). However, in most cases, the choice of the study area has been conditioned by such criteria as accessibility and convenience for study. Coastal areas with limited or difficult access, and which therefore may be less affected by anthropic activities, have not been studied.

The islet of Filfla lies some 4.4 km to the south of the island of Malta (Fig. 1). It consists of a massive block of rock rising from the sea to a height of some 60m. The islet consists of precipitous cliffs surrounded at their base by screes of fragmented rock made up of pieces ranging in size from massive boulders several metres in diameter, to cobbles, pebbles and smaller fragments. The top of the islet is a karstic plateau just over two hectares in area. Geologically, the islet consists of a stack of Upper Coralline Limestone, an outlier of the principal outcrops of this formation occurring in the western and northern areas of Malta (Pedley, 1987; Oil Exploration Directorate, 1993). This coralline limestone cap overlies some 15m of the Blue Clay formation (Pedley, 1987), however, the strata at the base of the islet are difficult to discern since they are completely covered by masses of broken rock. These screes have been formed partly by natural land-sliding involving the downslope gravitational movement over the wet Blue Clay of rock fractured from the cliff edge, as described by Paskoff & Sanlaville (1978) from elsewhere in the Maltese Islands, and partly by rocks splintered off the cliff sides and edges due to the bombardment which the islet suffered for many decades when it was used as a target by the French, English, Italian and American navies (Farrugia Randon & Farrugia Randon, 1995). The present shoreline of Filfla consists entirely of boulders and smaller-sized fragments (Fig.1) and these screes continue underwater to give submarine boulder fields all around the island (Figs 2 & 3).

To the Southwest of the islet and separated from it by a narrow channel less than 50m wide, are two rocks barely visible above mean sea-level, apparently known as Xiutu z-Zghir and Xiutu l-Kbir (according to Farrugia Randon & Farrugia Randon [1995]; however this should probably be "Xutu" [G. Wettinger, personal communication, 1997]). The larger rock is better known as Il-Blata ta' Santa Marija (Farrugia Randon & Farrugia Randon, 1995). Some 700m to the South of Filfla there is a submerged shoal known as Stork Rock.

The importance of Filfla as a wildlife habitat for terrestrial biota has long been recognised. Important species occurring on Filfla include a large leek of the *Allium ampeloprasum* group, which may be endemic to the islet, the endemic Filfla race of the Maltese wall lizard (*Podarcis filfolensis filfolensis*), two endemic forms of land-snails (*Trochoidea spratti* form *despotti* and *Lampedusa imitatrix* form *gattoi*), and several insect species of biogeographical importance (Schembri *et al.*, 1987; Schembri & Sultana, 1989). The endemic spider *Lepthyphantes melitensis*, first recorded from the mainland in 1987, was also recorded from Filfla in 1990 (Bosmans & Dandria, 1993). However, faunistically, the islet is best known for its seabirds (Sultana, 1993); it supports one of the largest known Mediterranean colonies of the storm petrel (*Hydrobates pelagicus*), the largest local colony of the herring gull (*Larus argentatus michahellis*), and a small colony of Cory's shearwater (*Calonectris diomedea*) (Schembri *et al.*, 1987; Sultana, 1989). For these reasons, it was one of the first sites in the Maltese Islands to be declared a protected area. Legal Notice No. 68 of 1980 *inter alia* established the whole of the island of Filfla as a bird sanctuary, while Act XV of 1988 designated the land area of Filfla as a nature reserve. By means of this Act, all species living on Filfla became completely protected, while access to the island needed the permission of the Minister responsible for the environment and was only granted for scientific and educational purposes.

Government Notice 473 of 1987 and Local Notice to Mariners 16 of 1987 prohibited the berthing or navigation of any craft within an area of one nautical mile radius off Filfla. Additionally, swimming, underwater activities, and any other activities connected with fishing and trawling were also prohibited. Although aimed at preventing the recovery of unexploded ordinance from the seabed around Filfla, this blanket prohibition of all maritime activities round the islet effectively gave an area of sea some 3.14 square nautical miles centred on the islet the status of a marine nature reserve (Schembri, 1994). However, Government Notice 173 of 1990 subsequently permitted fishing vessels to enter the previously prohibited area.

In spite of its natural historic interest and its status as a protected area, no studies on the marine life of Filfla have been made, possibly because access is difficult and fieldwork on the shore and underwater is only possible in very calm weather conditions, which are not frequent around Filfla. The present study was undertaken (1) to collect baseline data on the nature and distribution of the supralittoral, mediolittoral and infralittoral marine macrobenthic assemblages occurring round the islet; (2) to establish which are the dominant species characterising these zones; (3) to compare the species composition of these assemblages with those found in equivalent situations elsewhere in the Maltese Islands.

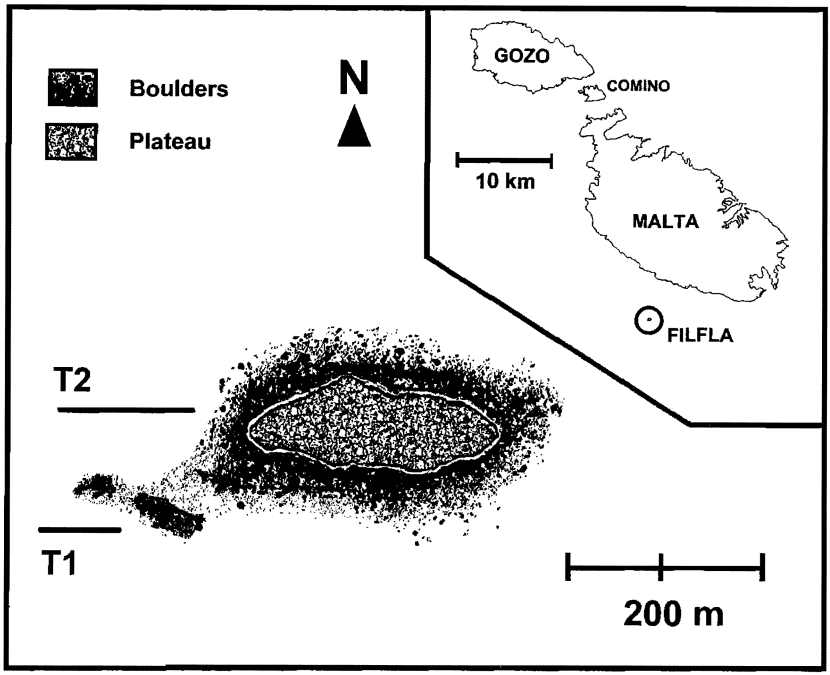

Fig.1: Map of the Maltese Archipelago showing the location of Filfla (inset) and map of Filfla showing the distribution of boulders round the central stack and the location of transects T1 and T2.

MATERIAL AND METHODS

For a general study such as the present one, it was thought appropriate to adopt a survey protocol that allows qualitative and semi-quantitative data to be collected over as large an area as possible. Such a study method has been termed a 'primary survey' by some authors (Earll, 1976; Baker & Crothers, 1987) and involves the direct observation and mapping of benthic habitats and the recording of their component species, where possible supplementing presence/absence data with at least semi-quantitative estimates of the abundance of the more important species (Hiscock, 1987).

Preliminary information on the nature and distribution of the benthic habitats and assemblages around Filfla was obtained during an expedition in August 1990, two others in the summer of 1992, and a fourth in September 1994. The principal aim of the 1990 expedition was to survey the terrestrial biota of the shore around Filfla, while that of the other three expeditions was to study the sponge fauna of the sea around Filfla, to establish whether commercially important species of sponges occurred, and to monitor the general state of health of the sponges round the islet following the outbreak of a sponge disease in the Mediterranean (see Borg & Schembri, 1996). However, data on the type and distribution of the benthic assemblages present, including those of the mediolittoral and supralittoral zones, and on the species composition and abundance of the demersal fish fauna, were also collected during these expeditions.

Littoral surveys

A general survey of the supralittoral and mediolittoral zones round the whole island was made in August 1990 and the shore on the northern side of the islet was studied in more detail during the other expeditions. Data on the spatial extent of the zones and on the species inhabiting them were collected by direct observation. Species were identified *in situ* except for the smaller turf-like algae, specimens of which were taken to the laboratory for microscopical examination.

Sublittoral surveys

At various predetermined points around the islet, SCUBA divers swam underwater along fixed bearings which represented imaginary transects running perpendicular to the shore from mean sea-level to a depth of 35m. The spatial extent of the benthic assemblages encountered, and the main species characterising them, were recorded underwater on slates. Most of the species were identified *in situ* but, where necessary, specimens were collected for later identification in the laboratory. Photographs of the different benthic assemblages and habitats were taken using a Nikonos V underwater camera. Benthic community types were classified according to the Pérès & Picard (1964) system as modified by Pérès (1967; 1982).

Semi-quantitative estimates of abundance of macroalgae on the seabed off the northern coast of the islet were made by measuring percentage cover. Semi-quantitative estimates of the abundance of sponges were made along two belt-transects, T1 and T2, laid by SCUBA divers on the seabed off the western coast of Filfla (Fig. 1). The location of the these two transects was chosen such that

each would cover a different bottom profile, steeply sloping in T1 and more gently sloping in T2 (Figs 2 & 3). Divers swam along the transects and recorded the percentage cover of the different sponge species.

RESULTS

Physical characteristics

The shores of Filfla are very exposed. Exposure was quantified by calculating Thomas' physically-derived exposure index (Thomas, 1986) which gave the following values:

Northern shore	15.79
Eastern shore	14.25
Western shore	19.91
Southern shore	19.53

These values may be compared with those for Il-Ponta ta' San Dimitri, Northwest Gozo (34.54), the most exposed shore in the Maltese Islands, Il-Ponta ta' l-Ahrax, Northwest Malta (18.75), and Il-Ponta l-Kbira in Marsaxlokk Bay (7.75), a site sheltered from the prevailing Northwesterly wind (Mallia [A.], 1991).

At sea-level, Filfla was surrounded by an unbroken boulder scree consisting of fragmented rock derived from the cliff faces and the cliff edges by the processes already described. The spaces between the boulders were packed with smaller sized rock fragments. In general, boulders were angular at the foot of the cliff but become progressively more rounded towards the sea. At sea-level, very large boulders became sparser and rounded boulders, cobbles and pebbles more abundant. The majority of boulders consisted of Upper Coralline Limestone, however, boulders of Globigerina Limestone were very occasionally encountered. The provenance of these is not known since our surveys failed to find any exposures of this formation on the islet. In one or two places on the southern coast, the Blue Clay stratum came within a couple of meters of sea-level before becoming obscured by the overlying boulders. Slope could not be measured except in very general terms since boulders adjacent to each other, and sometimes the same boulder, presented all slopes from horizontal to vertical. In general, the cliff face was practically vertical and, in places, even overhanging, the boulder scree rested at a mean slope of some 45°, and the slope became more gentle at and below sea-level.

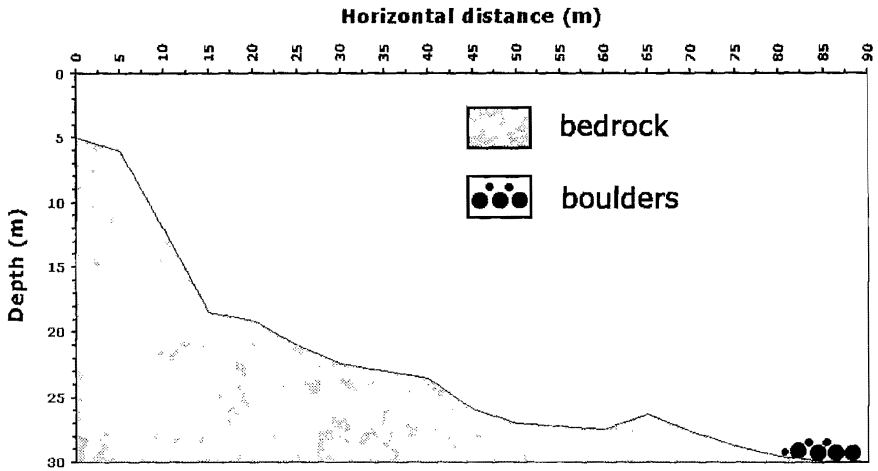

Fig. 2: Bottom profile along transect T1.

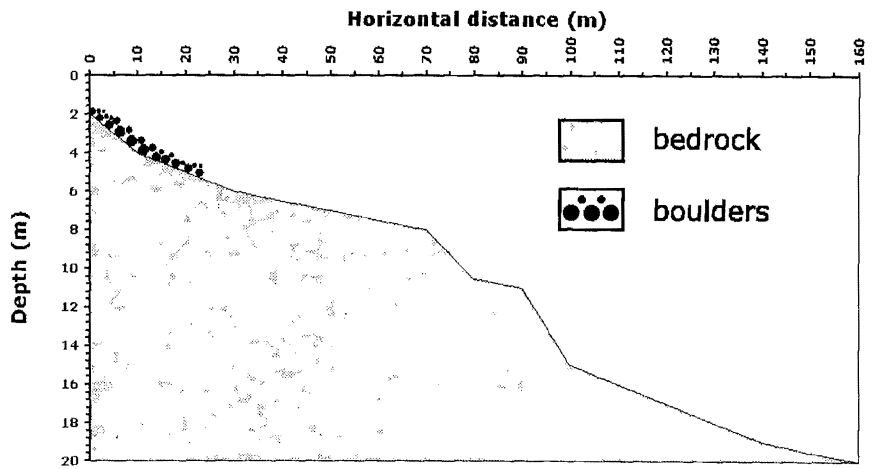

Fig. 3: Bottom profile along transect T2.

The boulder fields continued below mean sea-level for the first 10m or so along the seabed. Boulders became sparser relative to cobbles and pebbles with increasing distance from the land. Beyond the boulder field the bottom consisted of bedrock with accumulations of cobbles and pebbles down to a depth of 20-25 m, where it then became covered with bare sand. Drop-offs were rare inshore.

Away from the shore, the sea bottom around Filfla slopes steeply into deeper waters, except for the area from Filfla to Stork Rock. At a distance of c.400-500m away from the shoreline, depths of 30-45m were measured practically round the whole island. Between Filfla and Stork Rock the bottom is mostly 5-6m deep while Stork Rock itself is 6-7m below the surface. A narrow rocky shoal thus runs in a southerly direction from Filfla to Stork Rock. South of Stork Rock the bottom dips steeply to a depth of more than 50m.

Biological characteristics

Supralittoral and mediolittoral assemblages

The supralittoral extended for a vertical distance of some 4m above mean sea-level, as indicated by the presence of epi- and endo-lithic cyanobacteria. Two 'colour zones' were visible, a yellowish-grey one from mean sea-level to a vertical distance of 2m, and a black zone above that to a vertical distance of 4m. The only supralittoral macrofauna were the littorinid gastropod *Melarhaphe neritoides*, which was present in both 'colour zones' in small numbers, and the isopod *Ligia italica*, which occurred in shady areas up to a height of c.1m above mean sea-level. It is interesting to note that individuals of the Filfla wall lizard, *Podarcis filfolensis filfolensis*, occasionally patrolled the supralittoral but were not observed to feed on either *Melarhaphe* or *Ligia*.

The mediolittoral zone was some 50cm wide on vertical boulder faces and was dominated by macroalgae, the most abundant of which were *Corallina elongata*, *Chondria* spp., *Dilophus* spp. and *Laurencia obtusa*. The most abundant macrofauna were the limpets *Patella rustica, Patella caerulea* and *Patella ulyssiponensis*, and the trochid gastropod *Monodonta turbinata,* with *Patella rustica* forming a distinct band in the upper mediolittoral. Aggregations of the vermitid gastropod *Dendropoma petraeum* were present at mean sea-level on the northern shores. These were sometimes masked by macroalgae. While these aggregations were not as well developed as those found on other shores in the Maltese Islands, they still formed an identifiable crust. Individuals of *D. petraeum* were also present below mean sea level, sometimes in the company of

the larger vermetid *Serpulorbis arenaria*. Other, less abundant, littoral species encountered included the chiton *Lepidochitona corrugata*, the acorn barnacle *Chthamalus stellatus*, the crab *Pachygrapsus marmoratus* and occasional blennies (*Blennius* sp.) which occupied holes in the lower mediolittoral.

The supralittoral and mediolittoral assemblages of Filfla were fairly typical of those found on most exposed rocky shores in the Maltese Islands (see Attard & Giglio, 1990; Mallia [A.] 1991; 1993; Mallia [R.], 1993; Vella, 1994). However, the supralittoral and mediolittoral zones were relatively compressed. The species richness and abundance was also generally lower than for mainland shores. For example, *Melarhaphe neritoides* and *Lepidochitona corrugata* were mainly confined to fissures in the rock in the supralittoral and the upper mediolittoral, respectively. The former species was uncharacteristically present in low abundance when compared to other Maltese shores (see Attard & Giglio, 1990; Mallia [A.] 1991; 1993; Vella, 1994). Additionally, the species richness of mediolittoral macroalgae was low compared to other exposed shores, including that at Ghar Haxixa on mainland Malta, which is situated directly opposite Filfla. Here, the mediolittoral algal zone extended more than two metres upshore from mean sea level and included no fewer than 21 species.

At Filfla, species growing on the outer, more exposed faces of the boulders were lower growing than the same species on the less exposed sides of the boulders, and normally large algae, such as *Laurencia obtusa* and *Cystoseira* sp., exhibited 'dwarf' morphologies typical of wave-swept shores (see Lewis, 1968; Connell, 1972; Keddy, 1983; Denny *et al.*, 1985; Baker & Crothers, 1987)

It is interesting to note that the limpets *Patella rustica*, *Patella ulyssiponensis* and *Patella caerulea* of Filfla attained a larger size compared to individuals of these species recorded from elsewhere in the Maltese Islands. For example, individuals of *P. rustica* from Filfla had maximum shell diameters of ca. 3cm, compared to 2.4cm for the southern coast of Comino, 1.6cm for Mistra, Ghar Lapsi, Qawra and Dahlet ix-Xmajjar (all in Malta), and 1.4cm for Hondoq ir-Rummien (Gozo).

Infralittoral benthic assemblages

The uppermost regions of the infralittoral (mean sea-level to –50cm) consisted of accumulations of cobbles and pebbles surrounding the larger boulders. These were practically devoid of epilithic vegetation except for rare patches of encrusting coralline algae and a very sparse algal turf. The fauna consisted of amphipods and small gastropods (mainly juvenile *Gibbula* spp.) hiding under the cobbles, and of blennies and the crab *Pachygrapsus marmoratus* between the cobbles.

Two main community types were recorded from the upper infralittoral at depths greater than –0.5m: the community of photophilic algae on hard substrata and the community of bare sand. The community of bare sand appeared to have an impoverished epibiota and was not investigated further.

In the community of photophilic algae, the most abundant macroalgae were: *Halopteris scoparia* and *Dilophus* sp. down to depths of –2m; *Dasya elegans, Halopteris scoparia, Dictyopteris polypodiodes* and *Cystoseira* spp. from –3 to –6m; and *Sargassum vulgare, Padina pavonica, Dictyopteris polypodiodes* and *Codium bursa* from –6 to –20m. Small patches of *Peysonnelia squamaria* were encountered in shady conditions, especially below overhangs, from –5 to –20m. Other, less abundant, algae included *Herposiphonia secunda* and *Laurencia obtusa* (lower mediolittoral to upper infralittoral), and *Anadyomene stellata, Liagora distenta, Jania rubens* and *Chondria* sp. (upper infralittoral). The record of *Liagora distenta* is the first for the Maltese Islands (E.Lanfranco, personal communication, 1997).

A list of the most abundant macroalgae and macrofaunal species from the photophilic assemblage recorded during this study, is given in Appendix A.

As for the littoral assemblages, the upper infralittoral assemblages were similar in species composition to those found elsewhere in the Maltese Islands (see for example Borg, 1991; Borg & Schembri, 1995c), except that sea-grass meadows, which are practically ubiquitous round the coasts of the islands at depths from ca.1 to ca.40m, were not encountered during the surveys. However, the abundance of several macrobenthic species was rather low as compared to that recorded in other areas of the Maltese islands.

There was a clear difference in both species composition and the abundance of sponges between the two belt-transects. A larger species richness and abundance was recorded from transect 1 than from transect 2. Furthermore, the species composition of sponges was completely different for the two transects. *Agelas oroides* and *Crambe crambe* were the dominant species along the steeply sloping transect (T1), while *Sarcotragus spinosula* was the dominant species along the more gently sloping transect (T2) (Table 1).

Demersal fish fauna

A list of the species of demersal fish recorded during this study is given in Appendix B. In general, the abundance of certain species appeared to be low, compared to mainland sites.

Table 1. Abundance of Porifera as percentage cover of the total area of bottom within the transect, for transects T1 and T2.

Species	Transect T1		Transect T2	
	Depth	**Cover**	**Depth**	**Cover**
Agelas oroides	24-26 m	+++++		
	29 m	+++++		
Chondrosia reniformis	13-14 m	+++		
Crambe crambe	12 m	++++		
	17 m	+++		
	23-24 m	+++++		
	28-30 m	++++		
Ircinia variabilis	6 m	+	5 m	+
Petrosia ficiformis	30 m	+++		
Sarcotragus spinosula			5 m	+
			8 m	+
			15 m	+

Cover scale:

+	<0.0011%
++	0.0012-0.005%
+++	0.006-0.01%
++++	0.011-0.02%
+++++	>0.02%

DISCUSSION

In general, the same type of littoral benthic assemblages as found on other exposed rocky shores in the Maltese Islands occurred at Filfla (see Mallia [A.], 1991; 1993; Mallia [R.], 1993; Vella, 1994). However, the shores at Filfla were different in that the littoral zones were compressed, species abundances were generally low, vagile macrofauna were sparse and generally confined to crevices, while mediolittoral macroalgae appeared 'dwarfed'. Except for the compressed zones, the other features are probably a result of the exposed nature of the islet, the large quantities of rock fragments of all sizes stacked on top of each other that make up the shore at Filfla, and the almost continual buffeting by waves that it receives. On the other hand, compressed zones are normally associated with sheltered areas and we cannot offer any explanation for this phenomenon at present, although it may have to do with the predominance of vertical and

subvertical faces on the boulders. Mallia [R.] (1993) working on the North-eastern coast of Malta, found compressed and uplifted littoral zones on shores with a gradient of 82°-107° and a Thomas index of 8.9-14.9.

The large size of the patellid limpets at Filfla was also unusual and this is almost certainly due to the reduced exploitation of these gastropods by humans, in contrast to the situation on mainland shores where these animals are collected in large numbers as they are considered a delicacy.

The infralittoral assemblages at Filfla were also similar to those generally occurring in comparable environments off the mainland coasts. However, in spite of the extensive sandy bottoms present at Filfla, no sea-grass meadows were encountered, in contrast to the widespread distribution of such meadows in other parts of Malta where the seabed is predominantly sandy (see Borg & Schembri, 1995a). Again, we are not able to offer any explanation for this at present.

The small differences in the species composition of the benthic assemblages at Filfla, particularly those in the upper reaches of the infralittoral, compared to mainland sites, are probably due to a combination of the exposure and the nature of the substratum, which consists of fields of boulders with smaller fragments in the interstices.

The demersal fish fauna at Filfla was impoverished. In spite of the availability of a large number of crevices provided by the stacked boulders, relatively few species typical of such microhabitats were encountered during the present study, and even those present appeared to occur in low abundances. Such species as grouper *Epinephelus marginatus*, brown meagre *Sciaena umbra*, bearded umbrina *Umbrina cirrosa*, cardinal fish *Apogon imberbis*, and bream *Diplodus* spp., which would abound in boulder fields off the mainland coast, were either rare or absent at Filfla. Although we do not know the reason for this, we suspect that fishing with explosives and spearfishing using SCUBA, which are reported to occur regularly around Filfla, may be contributing factors.

This is the first time that the marine fauna of Filfla has been surveyed. Although preliminary, our data suggest that the peculiar geomorphology of the islet, combined with its exposure and isolation, have given rise to features that are unusual and possibly not found elsewhere in the Maltese Islands. The marine assemblages of Filfla are certainly worthy of further detailed study, even if such studies are likely to take a long time due to difficulties in carrying out fieldwork at such an exposed and inaccessible site. Our results also provide supporting evidence for designating the sea area round the islet as a marine protected area as has already been suggested (Anderson *et al.*, 1992; Schembri, 1994). Such

designation, as well as enforcement of already existing legislation protecting the islet and its surrounding waters, would go a long way towards preventing further negative anthropic impacts on the marine habitats and biota of the islet.

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APPENDIX A List of the more abundant macrobenthic species recorded from Filfla during the present study.

Algae
Amphiroa rigida Lamouroux
Chondria sp.
Corallina elongata Ellis & Solander
Dasya elegans (Mertens) C. Agardh
Jania rubens (L.) Lamouroux
Laurencia obtusa (Hudson) Lamouroux
Peysonnelia squamaria (Gmelin) Decaisne
Liagora distenta (Mertens) C. Agardh
Herposiphonia secunda (C. Agardh) Ambronn
Cystoseira spp.
Dictyopteris polypodiodes Lamouroux
Dilophus (= *Dictyota*) sp.
Halopteris scoparia (L.) Sauvageau
Padina pavonica (L.) Lamouroux
Sargassum vulgare C. Agardh
Anadyomene stellata (Wulfen) C. Agardh
Codium bursa (L.) C. Agardh
Flabellia (=*Udotea*) *petiolata* (Turra) Nizamuddin

Porifera
Agelas oroides (Schmidt)
Cacospongia scalaris (Schmidt)
Chondrosia reniformis (Nardo)
Crambe crambe (Schmidt)
Ircinia variabilis (Schmidt)
Sarcotragus spinosula (Schmidt)

Cnidaria
Astroides calycularis (Pallas)

Annelida
Hermodice carunculata (Pallas)
Sabellidae spp. indet.

Arthropoda
Chthamalus stellatus (Poli)
Balanus sp.
Calcinus ornatus (Roux)
Pagurus anachoretus Risso
Pisa tetraodon (Pennant)
Maja verrucosa H.Milne Edwards

Mollusca
Lepidochitona corrugata (Reeve)
Patella caerulea L.
Patella rustica L.
Patella ulyssiponensis Gmelin
Gibbula spp.
Monodonta turbinata (Von Born)
Melarhaphe (= *Littorina*) *neritoides* (L.)
Dendropoma petraeum (Monterosato)
Serpulorbis arenaria (L.)
Columbella rustica (L.)
Hexaplex trunculus (L.)
Stramonita (= *Thais*) *haemastoma* (L.)
Pinna pernula Chemnitz

Echinodermata
Echinaster sepositus (Retzius)
Ophidiaster ophidianus (Lamarck)
Ophioderma longicaudum (Retzius)
Paracentrotus lividus (Lamarck)

APPENDIX B List of the more abundant demersal fish recorded from Filfla during the present study.

Epinephelus marginatus (Lowe) (=*guaza*)
Serranus scriba (L.)
Mullus surmuletus L.
Mullus sp.
Diplodus spp.
Dentex dentex (L.)
Labrus sp.
Coris julis (L.)
Crenilabrus (= *Symphodus*) spp.
Thalassoma pavo (L.)
Sparisoma cretense (L.)
Gobius sp.
Blennius sp.

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