New depth record of the precious red coral *Corallium rubrum* for the Mediterranean

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Abstract

Live colonies of the precious red coral *Corallium rubrum* have previously been recorded at depths of 600-800 m in the Sicily Channel, but deep-water populations of this species remain poorly known. During a recent research expedition within the 25 nautical mile Fisheries Management Zone around the Maltese Islands, numerous colonies growing deeper than 800 m, down to depths of 1016 m were observed. These colonies were part of a diverse community of habitat-forming species of scleractinians, gorgonians and antipatharians.

Introduction

The precious red coral *Corallium rubrum* inhabits a variety of sublittoral hard substratum habitats in the Mediterranean Sea and the Eastern Atlantic Ocean, with live colonies generally reported from depths ranging between 15 m and 300 m [1]. In 2006 and 2007, deep-water colonies of red coral were for the first time observed at depths down to 800 m [2,3], but deep-water red coral populations remain poorly known.

Figure 1. Saab Seaeye Falcon DR Remotely Operated Vehicle being launched off the R/V 'Oceana Ranger' in the Maltese Islands.

Materials and Methods

Red coral colonies were visually recorded and documented during a Remotely Operated Vehicle survey as part of the project LIFE BaHAR for N2K ('Benthic Habitat Research for Marine Natura 2000 Site Designation'). The survey was carried out in June-July 2015 within the 25 nautical mile Fisheries Management Zone around the Maltese Islands.

Acknowledgements

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Results – A New Depth Record

Living colonies of *Corallium rubrum* were observed at depths ranging from 338 m to 1016 m, and in 10 out of a total of 15 ROV dives that surveyed hard bottoms, rocky outcrops, or dead coral frameworks located in waters deeper than 800 m off the south to southwest coasts of the Maltese Islands.

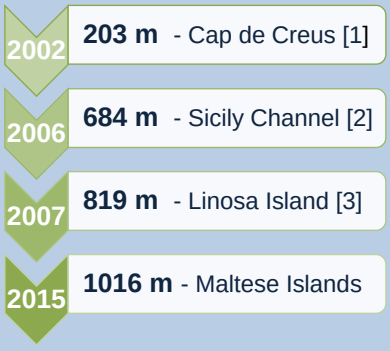

Figure 2. Timeline of *Corallium rubrum* depth records in the Mediterranean Sea.

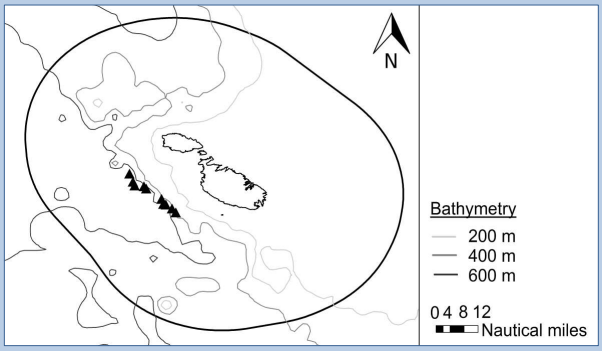

Figure 3. Map of the Maltese Islands showing sites where live *Corallium rubrum* colonies were located at depths of 800–1016 m (triangles), and the 25 nautical mile Fisheries Management Zone (oval).

Results – Red Coral Deep-Sea Habitats

Red coral colonies recorded at depths of 800–1016 m were found to be part of a cnidarian-dominated megabenthic community on deep-water hard substrata characterised by a mixture of scleractinians, gorgonians and antipatharians. Habitats where red coral colonies were found included rocky outcrops and slopes, vertical escarpments, overhangs, and dead coral frameworks.

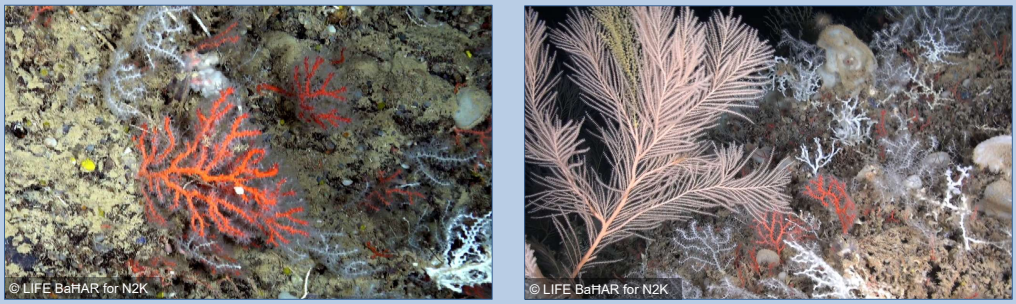

Figure 4. *In situ* images of *Corallium rubrum* colonies extracted from video footage taken by a Remotely Operated Vehicle. Left: living red coral colonies with fully expanded polyps at a depth of 1010 m. Right: red coral colonies and examples of associated species (*Callogorgia verticillata* with *Savalia savaglia*; *Madrepora oculata*; *Muriceides lepida*) at a depth of 965 m.

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