



<http://dx.doi.org/10.11646/zootaxa.3972.2.2>

<http://zoobank.org/urn:lsid:zoobank.org:pub:D9ECC074-3E11-4A52-9E22-B5ED59B6C965>

The hydrozoan fauna (Cnidaria: Hydrozoa) from the peaks of the Ormonde and Gettysburg seamounts (Gorringe Bank, NE Atlantic)

CARLOS J. MOURA*

Centro de Estudos do Ambiente e do Mar (CESAM) & Departamento de Biologia, Universidade de Aveiro, Campus Universitário de Santiago, 3810-193, Aveiro, Portugal. E-mail: carlos.moura@mail.com

**Present address: MARE – Marine and Environmental Sciences Centre Universidade dos Açores, Departamento de Oceanografia e Pescas (DOP) / Instituto do Mar (IMAR), 9901-862 Horta, Azores, Portugal*

Abstract

Twenty-seven species of hydroids were collected from the peaks (35–42 meters depth) of the Gorringe Bank (NE Atlantic) during the oceanographic campaign ‘LusoExpedição Olympus 2008’. Twenty-one of these species are new for the Gorringe Bank that now has published records for a total of 37 hydroid species. *Lafoeina tenuis*, *Sertularella ellisii* and *Clytia hemisphaerica* were the most abundant hydroid species collected. Results revealed spatial differences in the composition of species assemblages along the summits of the Gorringe, as only 14 of the species sampled were found both in the Ormonde and Gettysburg seamounts. The large density of algae at the peaks of the seamounts sustain a considerable hydrozoan diversity (23 species), but visibly inhibits the establishment of hydroids to the rocky substrates (only 2 species found). All the known hydrozoan species from the peaks of the Gorringe were exclusively collected during summer, thus sampling in other seasons may reveal further hydrozoan diversity due to seasonal patterns of growth of algae and hydroids. Nevertheless, the reasonably high levels of hydrozoan biodiversity demonstrated only from a small portion the summits of the Gorringe, corroborate its seamounts as ‘biodiversity hotspots’. In agreement with previous investigations with shallow-water molluscs and sponges, the shallow-water hydroid fauna of the Gorringe revealed greater biogeographical affinities with the Mediterranean and mainland Portugal. This is the first report of *Eudendrium armatum* outside of the Mediterranean.

Key words: Hydroids, Leptothecata, Anthoathecata, Marine invertebrates, biogeography, taxonomy, Seamounts.

Introduction

Seamounts are prominent undersea mountains usually associated with volcanic activity (e.g. Epp & Smoot 1989; Rogers 1994). There is an estimation of over 30000 seamounts in the world’s oceans rising from the seabed to more than 1 Km height, of which around 20% are probably found in the Atlantic Ocean, mainly in the vicinity of the Mid Atlantic Ridge (Yesson *et al.* 2011). However, only a small fraction of these structures have been properly sampled and studied in terms of biodiversity (Stocks 2009), despite their well-recognized importance in terms of marine life (e.g. Rogers 1994).

Seamounts are known as ‘underwater oases’ because they host richer communities of seabed organisms (e.g. corals, sponges) and fishes than the surrounding environments (e.g. Rogers 1994; Koslow 1997; Koslow *et al.* 2001; Stocks 2004). The establishment of species is mainly due to the availability of hard substrata and interaction of seamounts with oceanic currents that tend to increase water-flow around these geologic structures, giving rise to hydrographic phenomena like upwelling, turbulence, Taylor cones and eddies (e.g. Eriksen 1991; Kunze & Stanford 1993; Rogers 1994; Koslow *et al.* 2001; Coelho & Santos 2003).

The Gorringe is a large submarine Bank, 5000 m high, located at about 210 Km west-southwest off Cape St. Vincent in SW Portugal (Fig. 1). It is included in a ridge with other seamounts oriented in a NE-SW direction, covering an area of about 9500 Km², over 180 Km long. The Gorringe has steep slopes (Fig. 1). It is flanked by the Tagus and Horseshoe abyssal plains (> 5000 m and ca. 4500 m deep, respectively) and at the isobath of the 1000 m the mountain bifurcates into two peaks each reaching the photic layer up to around 30 m depth: the Gettysburg (36°31’N, 11°34’W) and Ormonde (36°42’N, 11°09’W) seamounts (Fig. 1; Oceana 2005; Tourais 2008).