

## SHORT COMMUNICATION

### INVENTORY OF THE RIBBON WORMS (PHYLUM NEMERTEA) OF FAIAL AND PICO ISLANDS, AZORES

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A total of 9 nemertean species is recorded for the first time from Azorean waters. From a total of 38 individuals, 30 are identified as belonging to 9 different species whereas 8 individuals, which may be either local variants of known species or undescribed forms, are assigned to the Hoplo- or Palaeonemertea. The collection will contribute to part of a molecular phylogenetic study of the genus *Tetrastemma*.

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#### INTRODUCTION

The nemertean worms constitute a small phylum, Nemertea, consisting of more than 1100 species (GIBSON 1995). Most species are marine and benthic but there are pelagic, littoral, freshwater and terrestrial species as well. Nemerteans are unsegmented animals with distinctive features such as an eversible proboscis (sometimes armed with one or several stylets) and a capability of extreme contraction/elongation. Many species are brightly coloured with different patterns of pigmentation.

The nemertean fauna of the Azores is, apart from observations made by Dr. Peter Wirtz and Dr. Alex Rogers (pers. comm.), poorly known. The worms are commonly associated with coralline algae or algal turf. Faial and Pico offer exposed littoral zones with few algal rich communities but the geographics and geologies of the islands make it even so very interesting. The investigation was made in tidal pools and less exposed areas such as Porto Pim, Faial (Fig. 1).

The aim of investigating the Azorean nemerteans is primarily to accomplish a phylogeographic study on the hoplonemertean genus *Tetrastemma*. The idea is to compare the samples from the Azores with aspects of the

morphology, ecology, genetics and pigmentation with the same or closely related species from other locations around the world. The geographic location of the Azores will hopefully provide information on patterns of dispersion for several species. Furthermore, it is hoped that the data obtained will contribute to the discussion on nemertean systematics in general.

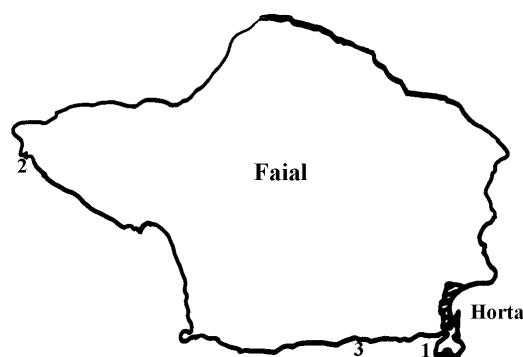


Fig. 1. Map showing sampling sites on Faial.

#### MATERIAL AND METHODS

Fresh algae, debris and other organic material were collected and left covered with salt water to deoxygenate. After a period of time (up to 24

hours) any nemerteans crawled to the surface for oxygen. Specimens were observed, identified with the aid of BÜRGER (1895), KIRSTEUEER (1963) and GIBSON (1994), and illustrated, samples then being preserved in alcohol for subsequent molecular studies (DNA). All sampling was done from land, at low tide in depths of no more than 5 m.

## RESULTS

Table 1.  
Sampling sites and recordings of species

Island	Sampling site	Nr. of species/ Individuals
Faial	1. Porto Pim	3 / 9
Faial	2. Porto da Feteira	8 / 21
Faial	3. Ponta dos Capelinhos	2 / 4
Pico	4. Madalena harbour	3 / 4

Table 2.  
List of species sampled in each sampling site

Species list	Sampling sites
Anopla	
Palaeonemertea	
<i>Cephalothrix</i> sp.	3
<i>Palaeonemertean</i> sp.	1, 2, 3
Heteronemertea	
<i>Lineus viridis</i>	2, 4
<i>Micrura aurantiaca</i>	1
<i>Micrura</i> sp.	2
Enopla	
Hoploneurmerta	
<i>Oerstedia</i> sp.	2
<i>Tetrastemma coronatum</i>	2
<i>Tetrastemma longissimum</i>	4
<i>Tetrastemma</i> sp.	2
<i>Zygonemertes virescens</i>	1, 2, 4
<i>Hoploneurmertean</i> sp.	2

## DISCUSSION

The geographic (continental) situation of the Azores, between the American and the

European/African continents, along with their volcanic origin which allows for an estimation of their age and diversity, makes the Azorean fauna particularly interesting in attempts to reconstruct phylogenies, phylogeographics or dispersal patterns within taxa. Most of the species found in this investigation have been previously reported from several places on European and American coasts and hopefully DNA-studies will reveal the relationship between these populations. The dispersal patterns and the age of different species/populations are still poorly known in the nemertean phylum despite the fact that it is a widespread and quite common group of animals all over the world.

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