



Pôster – Outra área temática

Sipuncula diversity: an integrative approach using larvae and adults form

Kawauchi, Gisele Y. (1); Franco, Letícia C. (1); Tiago, Claudio G. (2); Migotto, Alvaro E. (2)

(1) Departamento de Zoologia, Instituto de Ciências Biomédicas da Universidade Federal de Minas Gerais (ICB/UFMG), Belo Horizonte, MG, Brasil; (2) Centro de Biologia Marinha da Universidade de São Paulo (CEBIMar/USP), São Sebastião, SP, Brasil.

In the later Metazoa phylogenies, Sipuncula has been considering as a member of the Annelida clade. They are exclusive marine worms important to the bioerosion process in the ocean and the ecological dynamic in the benthic community. Recent studies using molecular and morphological data pointed out that some cosmopolitan sipunculans are non-monophyletic and can be hiding a species diversity among this group of invertebrates that has 150 described species. In a study focusing in molecular data of the most known species of Sipuncula, *Sipunculus nudus*, from different parts of the world, recovered multiple clades and indicated that some morphological characters could possibly distinguish them from each other. The wide distribution of some adult species has been presumably based on the larvae (called pelagosphaera) long distance capability of dispersion, maintaining the genetic connectivity between isolated populations. Studies on larvae from the Florida Current have described ten different types by external characters as body size, color, ciliation pattern, texture of the surface and head morphology. From these ten larvae, six were already linked to their adults using the DNA barcoding approach. Our study aims to identify sipunculans larvae found in the São Sebastião Channel and link them to the adults also found in the same locality, using the DNA barcoding method and describing the external morphological characters observed from each larval type. In this study, we collected seven different types of pelagosphaera and adults from nine species in eight genera. After collection each type of larva was photographed and described using the characters suggested by the study from Florida Current larvae. We sequenced individuals from both stages of life for cytochrome c oxidase subunit 1 gene (CO1) (649 bp) and the nuclear gene Histone H3 (327 bp). Phylogenetic analyses were performed using Likelihood approach for both genes in two separated analysis. For now, we could find correspondence for three larvae and their adults. For the others, we were able to determine the genus in which they belong. The study of pelagosphaera larvae will contribute to the knowledge of zooplankton diversity, provide insight into population connectivity of widespread species, and larval morphology can give us an additional suite of characters useful for differentiating species in future taxonomic studies.

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