

## THE PHYLOGENETIC STATUS OF *Spirinia elongata*: A MOLECULAR PERSPECTIVE (18S) REGARDING THE FAMILY DESMODORIDAE (NEMATODA, CHROMADORIDA)

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Molecular techniques have been increasingly applied to address the phylogenetic relationships and classification of many meiofaunal groups, including free-living marine nematode. Specimens of *Spirinia elongata* have been collected from Pina Basin, Recife-PE, Brazil, in order to test the monophyly of the species and determine its taxonomic position within the Desmodoridae. A data set comprising twenty 18S sequences was implemented including representatives from 4 Desmodoridae subfamilies (Spiriniinae, Desmodorinae, Stilbonematinae and Molgolaiminae). Neighbor Joining (NJ/GTR distances) and Maximum Parsimony (MP; unweighted) were performed with *Daptonema procerus* (Xyalidae) as outgroup. Majority rule and strict consensus were carried out for MP analysis. Despite NJ method showed the genetic identity of *S. elongata* the species arose as paraphyletic with *Metachromadora suecica*. Such unit seems to be the sister group of the remaining desmodorids. *Spirinia parasitifera* appears as a paraphyletic species since not all populations/specimens cluster together. Furthermore, *Spirinia elongata* appears as a sister group of only part of *S. parasitifera*. MP suggested a possible polyphyly of Spiriniinae while Stilbonematinae seems to be the single monophyletic group. *Catanema* clusters with *Leptonemella* and both together cluster with the *Eubostrichus* resulting in the Stilbonematinae as a clade, well supported *Desmodora* appears as paraphyletic due to *D. communis*, clustering with Stilbonematinae. No support is found for the clustering of *Xyzzors* with *Metachromadora* and for the genus *Desmodora* with *Metachromadora* (including *Xyzzors*). The present study suggest the necessity of increasing research efforts for a better understanding of the obscure internal relationships of Desmodoridae and reinforce the use of 18S for defining subfamily relationships of nematodes.