

**AN INTEGRATIVE APPROACH TO CHARACTERIZE CRYPTIC SPECIES  
IN THE THORACOSTOMA TRACHYGASTER HOPE, 1967 COMPLEX  
(NEMATODA: LEPTOSOMATIDAE)**

( oral)

Apolônio Silva de Oliveira, Daniel<sup>1</sup>, Decraemer, Wilfrida<sup>1,2</sup>, Holovachov, Oleksander<sup>3</sup>, Burr, Jay<sup>3</sup>, Tandingan De Ley, Irma<sup>3</sup>, De Ley, Paul<sup>3</sup>, Moens, Tom<sup>4</sup> and Derycke, Sofie<sup>4</sup>

1. Department of Biology, Ghent University, Ghent, K.L. Ledeganckstraat 35, 9000 Ghent, Belgium, [apoloniobio@gmail.com](mailto:apoloniobio@gmail.com)
2. Royal Belgian Institute of Natural Sciences, Vautierstraat 29, 1000 Brussels, Belgium
3. Department of Nematology, University of California, Riverside, 900 University Drive, Riverside, CA 92521, USA
4. Department of Biology, Marine Biology section, Ghent University, Krijgslaan 281, S8, 9000 Ghent, Belgium

Nematode diversity may seriously be underestimated when taking into account cryptic speciation. *Thoracostoma trachygaster* is commonly found in kelp holdfasts along the California coastline and was recently shown to consist of at least two distinct molecular clades (I and II). Here, we provide detailed morphological analysis of both clades, based on measurements taken from video vouchers of respectively eight and 16 individuals from the previous study, as well as 80 newly collected specimens from four Californian beaches. The latter were vouchered, measured, and then subjected to molecular analyses of the mitochondrial cytochrome oxidase c subunit I (COI) gene, and the ribosomal D2D3 and internal transcribed spacer (ITS) regions. This integrative approach shows that the three molecular clades are phylogenetically and morphologically distinct species, but a combination of morphological characters is needed to distinguish them. Two new species, *Thoracostoma fatimae* sp. nov. and *Thoracostoma igniferum* sp. nov., are identified and described. The spicule length of *T. fatimae* sp. nov. is significantly shorter than that of *T. trachygaster*. *Thoracostoma igniferum* sp. nov. can be distinguished by the irregular posterior edge of the cephalic capsule and the two internal subdorsal tropis-like projections in the wall of the cephalic capsule, which are lacking in *T. fatimae* sp. nov. and *T. trachygaster*.