Nematode diversity and first observations of marine taxa from phytotelmata of Nephenthes spp. in Mt Hamiguitan Range Wildlife Sanctuary

Quisado, J.S., Bert, W., Xue, Q., Decraemer, W. & Tandigan De Ley, I.
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Nematodes from phytotelmata of Nephentes hamiguitanensis and N. peltata in Mt. Hamiguitan, Philippines included three new species of the genera: Molgolaimus Ditlevsen 1921, Dominicactinolaimus Jairajpuri and Ahmad 1992, Tripylella (Bütschli, 1873) Brzeski & Winiszewska-Ślipińska, 1993; two known: Tylocephalus auriculatus (Bütschli, 1873) Anderson, 1966, Pelodera strongyloides (Schneider, 1860) Schneider 1866; and three uncertain species of the genera: Paractinolaimus Meyl 1957, Plectus Bastian 1865, and Anaplectus De Coninck & Schuurmans Stekhoven 1933. Measurements and illustrations are provided. Molgolaimus sp. nov. is characterized by the absence of pre-cloacal supplements, shape of the spicule with lamina widened distally, conical tail with swollen tip and without digitate prolongation, and sexual dimorphism in the shape of the cardia (elongated in male and more round in females). Moreover, a comprehensive key for the genus Molgolaimus is presented. Dominicactinolaimus sp. nov. is characterized by short body length, long tail (c = 6.6-7.6) and 6-7 pre-cloacal supplements. The generic position of Dominicatinolaimus is reaffirmed and the synonymy with Trachypleurosum or Trachactinolaimus is rejected. Tripylella sp. nov. is morphologically close to T. iucunda but differs in the female reproductive system having reduced posterior branch. The morphology and morphometry of Tylocephalus auriculatus and Pelodera strongyloides specimens agree with the original descriptions of Anderson, 1966 and Schneider, 1866 respectively. Phylogenetic analysis of small subunit rDNA for T. auriculatus and D2-D3 expansion segment of LSU rDNA for P. strongyloides supported sister relationship with respective species sequences available in GenBank. Furthermore, Molgolaimus and Actinonema were observed from the samples which support the initial discovery of marine nematodes in the Nephentes phytotelmata in 2008.

However, detailed taxonomical identification of Actinonema is not provided due to loss of sample during the process. In addition, the presence of freshwater nematode throws a new light on a better understanding of the complex scheme of Nephentes carnivory and enzyme production of pitcher plants.