



Conference Abstract

Diversity of *Coomansus zschokkei*-group (Nematoda, Mononchida) in Bulgaria

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Abstract

The genus *Coomansus* Jairajpuri & Khan, 1977 encompasses more than 30 species occurring in various habitats. The *Coomansus zschokkei*-group, characterized by a posterior position of the dorsal tooth, includes 11 species spread in the northern hemisphere: Europe (3 species), Asia (Far East, Korea, Japan – 8 species), North America (Costa Rica and USA – 1 species), which are reported from subalpine habitats and forests, but also freshwater lakes. So far, one species (*C. zschokkei* (Menzel, 1914)) was recorded from Bulgaria (Iliev and Ilieva 2019). During this study three undescribed species have been found from mountain areas of Bulgaria. These three closely related *Coomansus* species were studied using an integrative approach. Based on the dimensions of the buccal capsule and the posterior position of the dorsal tooth they are similar to *C. zschokkei*, *C. cobbi* (Eroshenko, 1975), *C. mucronatus* (Eroshenko, 1975) and *C. simenensis* (Kreis, 1924), but differ from them by a number of characters such as buccal capsule length, tail length, and lateral piece shape. *Coomansus* cf. *menzeli* Loof & Viniszewska-Słipińska, 1993 recovered from moss around birch tree at the Central Balkan Mountain is a new geographical record for Bulgaria. Phylogenetic analyses based on 18S and D2-D3 expansion domains of rRNA genes have been performed for the first time for members of *Coomansus zschokkei*-group. In both phylogenetic reconstructions, all *Coomansus* species with the exception of *C. gerlachei* (De Man, 1904) formed a

monophyletic group with very high bootstrap support values. Speciation within the group seems to be related to glaciation and post-glaciation events in mountain areas.

Keywords

18S and D2-D3 28S rDNA, Bayesian inference, morphology, phylogeny

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