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Description of a new *Fridericia* species (Oligochaeta: Enchytraeidae) and its molecular comparison with two morphologically similar species by PCR-RFLP

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Abstract

A new species, *Fridericia crassiductata* **sp.n.** was described and compared by DNA fragment analyses (PCR-RFLP), with two similar species, *Fridericia ratzeli* (Eisen,1872) sensu Nielsen & Christensen (1959) and *F. eiseni* Dózsa-Farkas, 2005. The main characteristics of the new species are: 13–20 mm long, 0.5–0.7 mm wide, segment number: (38)–40–56, spermatheca with 9–10 large, sessile, globular diverticula, long and thick ectal duct, and two very large (80–130 μm long) egg shaped ectal glands. Maximum ten chaetae per bundle, typical brown reticulate epidermal gland cells noticeable on the body surface. The oesophageal appendage is variable between type-a and type-c (according to Möller 1971) the branches are located proximally. The seminal vesicle is large, the penial slit is longitudinal with more transverse components. Three subneural glands in XIV–XVI.

The new species was collected only in the Zemplén Mountains in Hungary, in similar biotopes (between and under the leaf-litter) to those of the common *F. ratzeli.* It may be hypothesized that it fills the ecological role of *F. ratzeli* because, although all three compared species occurred in this area, *F. ratzeli* was very seldom found and never together with the new species.

The three species were also examined by molecular methods. Which confirmed the existence of three distinct species. Both morphological and molecular studies indicate that *F. ratzeli* is still not a homogeneous species. It seems that the applied molecular methods help distinguish morphologically very similar species.

Key words: Oligochaeta, Enchytraeidae, new *Fridericia* species, ITS, PCR-RFLP

Introduction

The enchytraeid fauna of the Hungarian Central Mountains had been examined between

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