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Three new *Fridericia* species (Oligochaeta, Enchytraeidae) from Transylvania, Romania

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Abstract

We give descriptions of three new *Fridericia* species (Enchytraeidae, Oligochaeta) from Transylvania, Romania. *Fridericia transylvanica* sp. n. is a large-sized worm with a maximum of 4 chaetae per bundle. The spermathecae are separate entally and have two sac-like diverticula bent distad with the ampulla forming a common U-shaped sperm-containing chamber. The species was found not only in the Transylvanian Plateau but also in different regions of the Carpathians in Romania and Serbia. *Fridericia gyromonodactyla* sp. n. is medium-sized with a maximum of 3 chaetae per bundle. There are only four pairs of preclitellar nephridia. The spermathecal ectal duct is contractile and shorter than the body diameter; each ampulla has only one diverticulum, elongate and coiled, and there is one sessile gland at the orifice. *Fridericia longaurita* sp. n. is large-sized with 4(5) chaetae per preclitellar bundle but only two or one in postclitellar bundles. The spermathecal ectal duct is shorter than the body diameter, with one small and sessile ectal gland at the orifice. Each ampulla has two long, ear-shaped, and sac-like diverticula. None of the three species were rare at the sites where they occurred.

Key words: *Fridericia*, new species, Enchytraeidae, Romania, taxonomy, Clitellata

Introduction

A social-ecological investigation of land abandonment and agricultural intensification has been started in Saxon Transylvania, Romania in 2011 by research groups of Leuphana Universität, Lüneburg, Germany and the “Lendület” Ecosystem Service Research Group, Centre for Ecological Researches, Hungary (Hanspach et al., 2014). As a side project, authors have collected soil samples from study sites (grasslands, meadows and pastures) and some other localities to examine the enchytraeid fauna of Transylvania.

Earlier studies in Romania have found several species in a range of sites. Botea (1962) reported nine enchytraeid species (six of them are valid at present) among other oligochaetes from Motrulu Valley. He also studied river banks and caves (Botea 1970, 1973, 1976, 1984): in these papers he described 28 further species, four of them and a subspecies were published as new to science, but all of these were later considered to be *nomina dubia* (Schmelz 2003).

Faunistic investigations on enchytraeids were continued by Ștefan in the Carpathians (1975) and in Cerna Valley (1977) in different biotopes, mainly beech forests and grasslands. Concerned with wetland habitats, he published the enchytraeid fauna of the Danube delta Biosphere Reserve (Ștefan 1996). Hence, Romanian enchytraeids have been investigated in a number of regions, but Transylvania was not among them. Our study addressed this lack of knowledge and we found three species of *Fridericia* new to science, which are presented in this paper. Further taxonomic and faunistic results of our enchytraeid survey in Transylvania include one genus and a number of species new to the Romanian fauna, to be presented elsewhere.

species), the coelomo-mucocytes are of the c-type and the lenticytes are smaller. The chylus cells are found in XVI–XVII (not in XIII–XVI as in *F. longeurita* sp. n.), the sperm funnel is shorter (175–200 µm long) with collar as wide as the funnel body. Furthermore, in *F. brachiata* the oesophageal appendage is of the a-type with only 1–2 short branches, and in the chaetal bundles occur often 4 chaetae postclitellarly both laterally and ventrally (Rota 1994; Schmelz 2003), while in *F. longeurita* only 2 or 1 (very rarely 3) chaetae occur behind the clitellum.

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