Zootaxa 4006 (1): 171–197
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

http://dx.doi.org/10.11646/zootaxa.4006.1.9
http://zoobank.org/urn:lsid:zoobank.org:pub:E987B43A-E54A-4F64-9829-0B8EBE457E03

New enchytraeid species (Enchytraeidae, Oligochaeta) from Korea

KLÁRA DÓZSA-FARKAS[1], TAMÁS FELFÖLDI[2] & YONG HONG[3,4]

[1]*Department of Systematic Zoology and Ecology, Eötvös Loránd University H–1117 Budapest, Pázmány Péter sétány 1/C, Hungary. E-mail: kdozsafarkas@gmail.com*
[2]*Department of Microbiology, Eötvös Loránd University H-1117 Budapest, Pázmány Péter sétány 1/C, Hungary. E-mail: tamas.felfoldi@gmail.com*
[3]*Department of Agricultural Biology, College of Agriculture & Life Science, Chonbuk National University, Jeonju 561-756, Korea. E-mail: geoworm@hanmail.net*
[4]*Corresponding author. E-mail: geoworm@hanmail.net*

Abstract

We give descriptions of five new enchytraeid species (Enchytraeidae, Oligochaeta) from Korea: *Henlea magnaampullacea* **sp. n.**, *Fridericia sphaerica* **sp. n.**, *F. cusanicaformis* **sp. n.**, *F. granulocyta* **sp. n.** and *Mesenchytraeus calyx* **sp. n.**, with morphological and molecular (mitochondrial cytochrome c oxidase subunit I, nuclear histone 3 genes and nuclear ribosomal ITS region sequences) data. In total, 19 enchytraeid species belonging to seven genera have been found in the studied woodland and agronomical soil samples. Apart from the five new species, three further species are new for the Korean enchytraeid fauna, *Enchytraeus christenseni, E. dichaetus,* and *Achaeta cf. brevivasa*. Molecular taxonomical analyses show that the Korean species resembling *H. ventriculosa* is not identical with the European species, furthermore sequence analysis of individuals morphologically identified as *F. seoraksani* indicate the possibility of species-complexity and the presence of cryptic species.

Key words: Annelida, Clitellata, Enchytraeidae, new species, *Fridericia*, *Henlea*, *Mesenchytraeus*, East Asia

Introduction

To date, there are only three published studies on the terrestrial enchytraeid fauna of Korea (An & Yang 2009; Dózsa-Farkas & Hong 2010; Christensen & Dózsa-Farkas 2012). Dózsa-Farkas & Hong (2010) described the new *Hemienchytraeus* species that had been found in material collected from several sites in 2007–2008, most of them at or near the experimental farm of the College of Agriculture and Life Science, Chonbuk National University, Jeollabuk-do, and they indicated that further potentially new species belonging to other taxa will be described later. To provide a more robust background for the species descriptions, a new sampling campaign was performed in April and May 2014 (sites 1–11 below). In this paper, we describe three new *Fridericia*, one new *Henlea* and one new *Mesenchytraeus* species, and we provide new data on previously described species and on the fauna-list of the study sites. Additionally, several fixed enchytraeids were investigated in detail, which has been sampled from a golf-course of Yongin and from Gyeongju National Park previously (sites 12, 13 below). Morphological studies were supplemented with molecular taxonomical analyses targeting the mitochondrial cytochrome c oxidase subunit I (CO1) gene, the nuclear histone 3 (H3) gene and the nuclear ribosomal ITS region, which have recently been applied successfully for species-level discrimination in the case of related genera (e.g. Martinsson & Erséus 2014; Dózsa-Farkas & Felföldi 2015).

Study sites

Site 1. Soil and litter layers of woodland, College of Agriculture & Life Science, Chonbuk National University, Jeonju-si, Jeollabuk-do, Korea, 35°50'59.0"N 127°07'56.4"E, 55 m asl, leg. Y. Hong, 03.04.2014. and 19.05.2014.

Accepted by R.M. Schmelz: 14 Jul. 2015; published: 21 Aug. 2015