



Dr. Karl Ritz, Editor-in-Chief  
*Soil Biology & Biochemistry*

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Dear Dr. Ritz,

We are pleased to submit the following manuscript for consideration for publication as a regular paper in *Soil Biology & Biochemistry*:

Title: Ecological groups and isotopic niches of earthworms

Authors: Gen-Chang Hsu, Katalin Szlavecz, Csaba Csuzdi, Michael Bernard, Chih-Han Chang

Categorization of earthworms into ecological groups has been happening for more than 100 years, and a system based on three main ecological categories has been widely used in earthworm ecological studies for several decades. However, a sizable gap exists in how the ecological groups are categorized, and how they are used in linking earthworm community structures to ecological processes and properties. In this manuscript, we attempted to revisit the widely used earthworm ecological categorization by analyzing the stable isotopes of carbon and nitrogen from 251 earthworm individuals representing 10 species commonly found in arable fields and deciduous forests in temperate North America. We recognized nine isotopic niches within the three ecological groups, and highlighted that rather than forming distinct categories, isotopic niches form a continuum composed of both trophic specialists and generalists, with no clear boundary between ecological groups. We further proposed to incorporate stable isotope data as functional traits when studying earthworm ecological groups, as it informs us about the function of the species as well as about their interactions within a habitat. We believe this manuscript is appropriate for publication in *Soil Biology & Biochemistry* because it addressed one of the fundamental yet unanswered questions in earthworm ecology, and has the potential to be applied in studies focusing on ecosystem functions.

This manuscript has not been published elsewhere and is not under consideration by another journal. All authors have approved the manuscript and agreed to submit it to *Soil Biology & Biochemistry*.

Thank you for your consideration.

Sincerely,

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