

Unfamiliar bloodline: New family for an earthworm genus with exclusive circulatory system

October 11 2016



A live individual of a *Kazimierzus* worm. Credit: Samuel James

New earthworm family, named Kazimierzidae, has been established for a South African indigenous genus of 21 species. Although the circulatory system in the group has been regarded as exclusive upon their original description in 2006, their raising to a family status have only recently been confirmed by a research team from South Africa.

Scientists Mrs Thembeke Nxele, Dr Danuta Plisko (original discoverer of the genus *Kazimierzus*, now known as family Kazimierzidae), affiliated with Natal Museum (NMSA), Oliver Tendayi Zishiri, affiliated with University of KwaZulu-Natal, and Dr Taro Mwabvu, University of Mpumalanga, looked into the earthworm collection at the NMSA, as well as the type material and the available literature. Their study is published in the open access journal *African Invertebrates*.

When compared to the rest of the members in the family Microchaetidae, where the former genus had been placed, the studied earthworms show a number of distinct characters, including an "exclusive" circulatory system. In these species it is a simple single tube stretching along the whole body.

All 21 [earthworm species](#), now members of the newly established family, can only be found in small areas restricted in the western and south-western Atlantic coast of South Africa. These locations have long been known for their endemic invertebrates and diverse flora.



A live individual of a *Kazimierzus* worm. Credit: Samuel James

In their paper, the authors note that it is actually the restricted range, and therefore the specific ecological requirements, that might have led these earthworms to become that different from other species. Their distribution and, hence, poor dispersal ability, are also the reason why the newly established group would be particularly vulnerable if the habitat is transformed.

"The species distribution of earthworms in Southern Africa is presently poorly known hence the urgency for extended study on earthworm diversity and their distribution patterns," point out the scientists.

"Extensive earthworm collection in the western Atlantic coast may bring more data on this and other taxa."

More information: Thembeke C. Nxele et al, A new family Kazimierzidae for the genus Kazimierzus, earlier recorded to the composite Microchaetidae (Annelida, Oligochaeta), *African Invertebrates* (2016). [DOI: 10.3897/AfrInvertebr.57.10042](https://doi.org/10.3897/AfrInvertebr.57.10042)

Provided by Pensoft Publishers

Citation: Unfamiliar bloodline: New family for an earthworm genus with exclusive circulatory system (2016, October 11) retrieved 2 May 2024 from <https://phys.org/news/2016-10-unfamiliar-bloodline-family-earthworm-genus.html>

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