

King of the cave: New centipede on top of the food chain in the sulfur-soaked Movile

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A photo of the newly discovered species (*Cryptops speleorex*), the largest inhabitant of the Movile cave (Romania) known to date. Credit: Mihai Baciu, GESS LAB, Mangalia.

Deemed to never see the light of the day, a new species of endemic, troglobiont centipede was discovered by an international team of scientists in the Romanian cave Movile: a unique underground ecosystem, where the oxygen in the air might be half of the amount of what we're used to, yet sulfur abounds; and where the animal life only

exists because of chemosynthetic bacteria feeding on carbon dioxide and methane.

This hellish ecosystem—where breathing alone could be lethal for most of us—seems to have finally crowned its king. At a size of between 46 and 52 mm in length, the [centipede](#) *Cryptops speleorex* is the largest of the [cave](#)'s inhabitants known to date. The [new species](#) is described in the open-access, peer-reviewed journal *ZooKeys*.

Already isolated from the outside world several millions years ago during the Neogene, the Movile cave has been drawing the attention of scientists ever since its unexpected discovery in 1986 by Romanian workers, searching for locations suitable for building a power plant in the southeastern parts of the country.

Surprisingly enough, despite its harsh living conditions, the Movile ecosystem was soon found to harbor a diverse and unique fauna, characterized by exceptional species endemism and specific trophic links. So far, the cave has been known to give home to the troglobiont water scorpion, liocranid and nestacid spiders, cave leeches and certainly many more yet to be discovered.

In fact, it was long thought that this unique underground ecosystem was also inhabited by surface-dwelling species widespread in Europe. Convinced that this scenario is highly unlikely, scientists Dr. Varpu Vahtera (University of Turku, Finland), Prof Pavel Stoev (National Museum of Natural History, Bulgaria) and Dr. Nesrine Akkari (Museum of Natural History Vienna, Austria) decided to examine a curious centipede, collected by speleologists Serban Sarbu and Alexandra Maria Hillebrand, during their recent expedition to Movile.



The scientists exploring the Movile cave (Romania). Credit: Mihai Baci, GESS LAB, Mangalia.

"Our results confirmed our doubts and revealed that the Movile centipede is morphologically and genetically different, suggesting that it has been evolving from its closest surface-dwelling relative over the course of millions of years into an entirely new taxon that is better adapted to life in the never-ending darkness," explain the researchers.

"The centipede we described is a venomous predator, by far the largest of the previously described animals from this cave. Thinking of its top rank in this subterranean system, we decided to name the [species](#) Cryptops speleorex, which can be translated to the 'King of the cave,'" they add.

More information: Varpu Vahtera et al, Five million years in the

darkness: A new troglomorphic species of *Cryptops* Leach, 1814 (Chilopoda, Scolopendromorpha) from Movile Cave, Romania, *ZooKeys* (2020). [DOI: 10.3897/zookeys.1004.58537](https://doi.org/10.3897/zookeys.1004.58537)

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