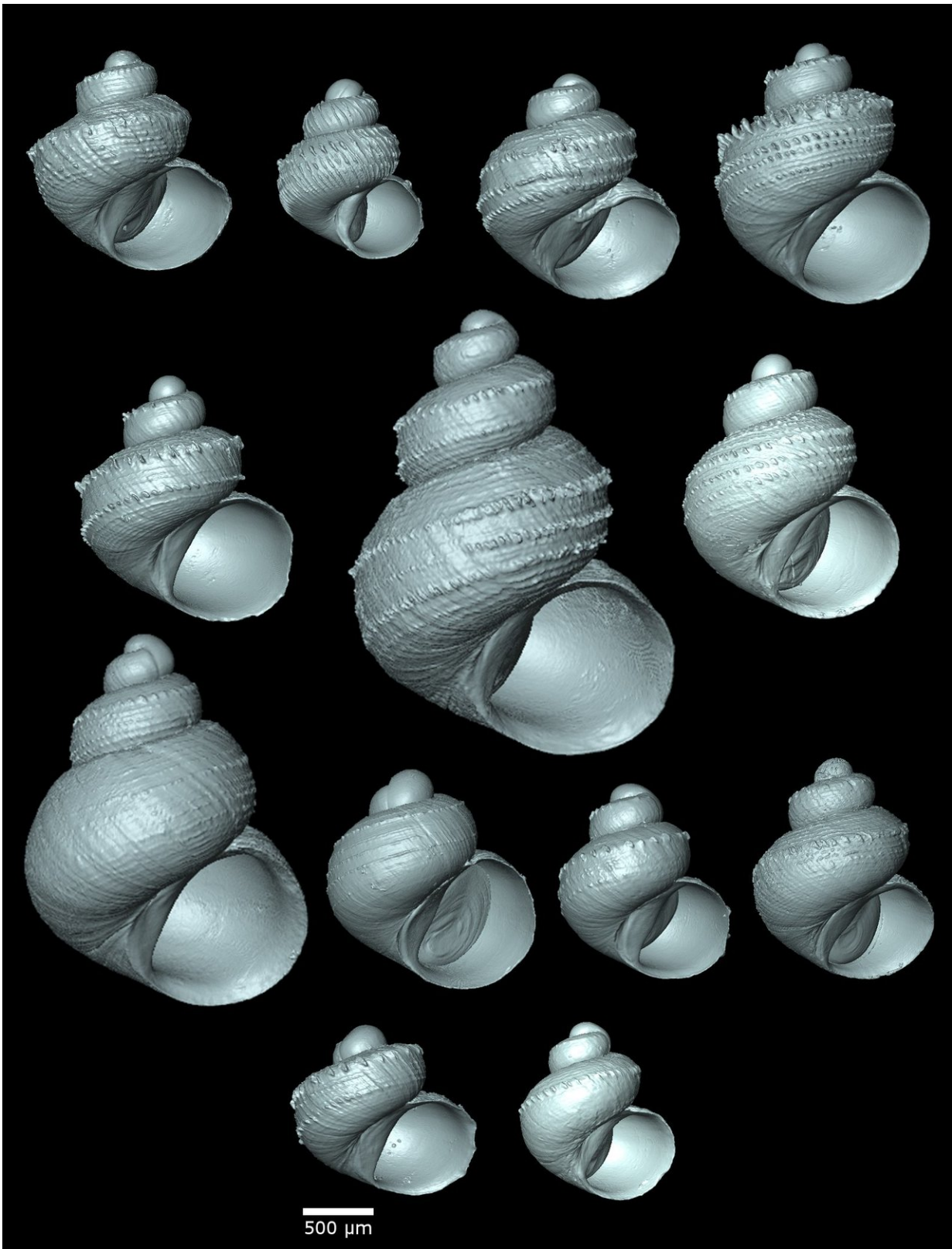


New 'scaly' snails species group following striking discoveries from Malaysian Borneo

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Synoptic view of 13 "scaly" land snails in the genus *Georissa*. Credit: Mohd

Zacaery Khalik

Six new species of unique land snails whose shells are covered with what look like scales have been described from the biodiversity hotspot of Malaysian Borneo by scientists Mohd Zacaery Khalik, Universiti Malaysia Sarawak, Kasper Hendriks, University of Groningen, Jaap Vermeulen, JK Art & Science, and Prof Menno Schilthuizen, Naturalis Biodiversity Center. Their paper is published in the open access journal *ZooKeys*.

Thanks to their conspicuous structures, the mollusks have been added to a brand new species group of land snails to be commonly known as the 'scaly' snails, so that they can be set apart from the rest in the genus *Georissa*. Why it is that only some of the species in the genus sport the unique 'scales', remains unknown.

Fascinated with the minute 'scaly' snail fauna of Borneo, the researchers carried out fieldwork between 2015 and 2017 to find out how these curious shells evolved. In addition, they also examined material deposited in museum and private snail collections.

Apart from DNA data, which is nowadays commonly used in species identification, the team turned to yet-to-become-popular modern tools such as 3-D modelling, conducted through X-ray scanning. By doing so, the researchers managed to look at both the inner and outer surfaces of the shells of the tiny specimens from every angle and position, and examine them in great detail.

The researchers note that to identify the 'scaly' snails to species level, one needs a combination of both DNA and morphological data:

"Objective species delimitation based solely on molecular data will not be successful for the 'scaly' snails in *Georissa*, at least if one wishes for the taxonomy to reflect morphology as well."

The six [new species](#) are all named after the localities they have been originally collected from, in order to create awareness for [species](#) and habitat conservation.



Collecting minute land snails from limestone areas during the study. Credit: Kirollina Kisun and Suzanne Anema

More information: Mohd Zacaery Khalik et al, A molecular and conchological dissection of the "scaly" *Georissa* of Malaysian Borneo (Gastropoda, Neritimorpha, Hydrocenidae), *ZooKeys* (2018). [DOI: 10.3897/zookeys.773.24878](https://doi.org/10.3897/zookeys.773.24878)

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