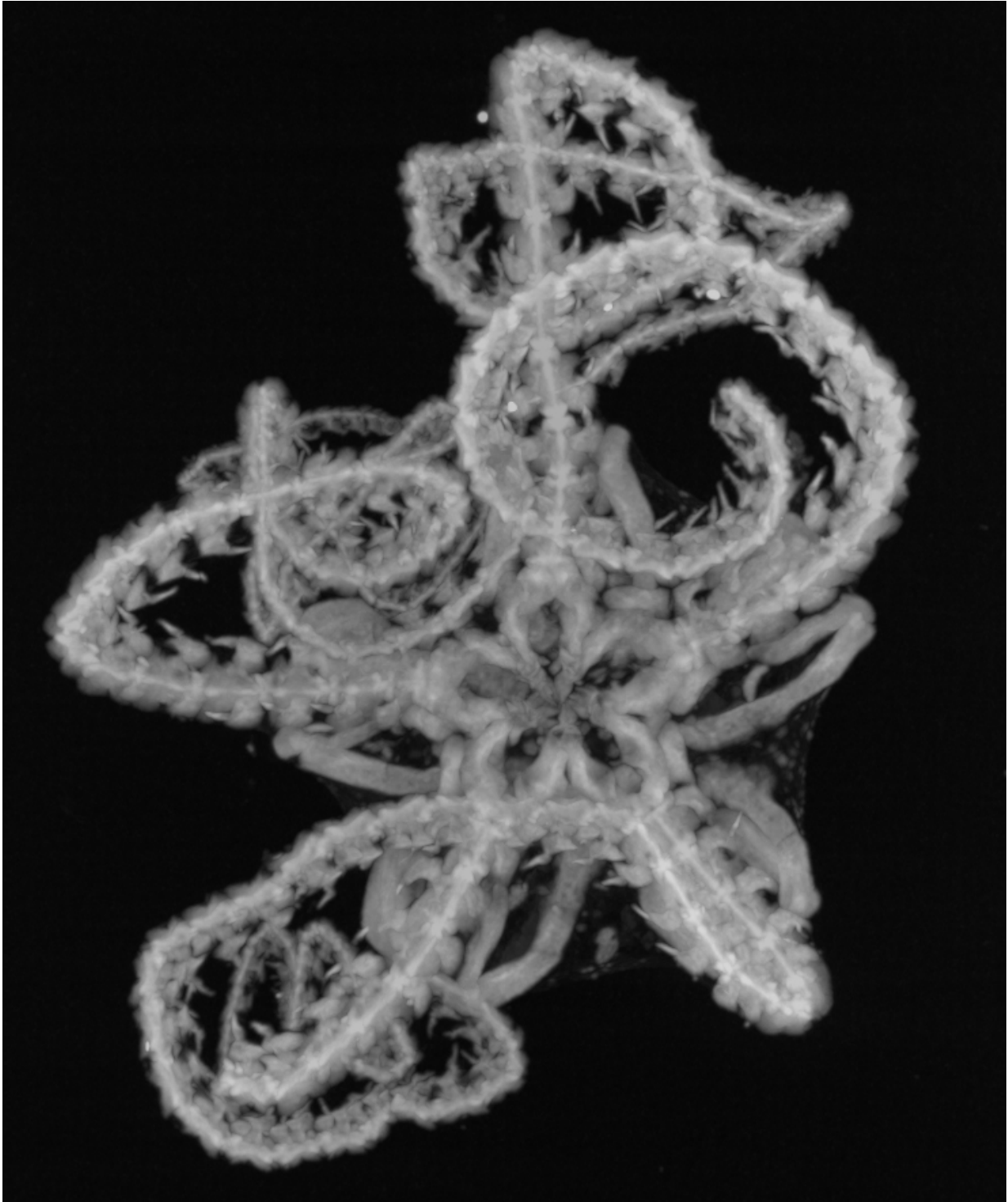


The first crowdfunded study in Japan: Micro X-ray observation of a fleshy brittle star

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The entire body of *Asteronyx loveni* as seen with micro-computed tomography (μ CT). Credit: Masanori Okanishi

Not only have scientists from Japan performed the first non-destructive morphological observations on the fleshy brittle star, *Asteronyx loveni*, using micro X-ray tomography, but they also published their research as the first study supported via crowdfunding in the Asian country.

The team leader, Dr. Masanori Okanishi, Ibaraki University, managed to raise part of the funds via Japan's pioneering crowd-funding platform academist. The study by Dr. Masanori Okanishi, Dr. Toshihiko Fujita, National Museum of Nature and Science, Tsukuba, Yu Maekawa and Dr. Takenori Sasaki, University of Tokyo, is now openly available in the open access journal *ZooKeys*.

While taxonomy is generally considered as "minor" and "basic" discipline within biology, it could be extremely strenuous for taxonomists to apply for and receive funding. Thus, Dr. Okanishi jumped to the conclusion that his planned study might have a go via crowdfunding instead.

Dr. Okanishi approached academist in April 2014, when he was a Postdoctoral researcher at Kyoto University. Titled "Taxonomy of bathyal euryalid ophiuroids", it was not long before his research project successfully raised 634,500 JPY (ca. 5,600\$).

Having already stumbled across several undescribed species of the brittle star genus *Asteronyx*, the scientists directed the raised funds towards the genetic and morphological analysis of *Asteronyx loveni*.

As suggested by its common name, the fleshy brittle star (*Asteronyx loveni*) is covered by thick skin, making it particularly difficult for scientists to observe the body in detail without dissolving the skin. However, modern computed tomography with micrometer resolution allowed for the 3D images of skeletal ossicles and soft tissues to be constructed with no physical intervention whatsoever.

"The present case indicates that crowdfunding will increase the chances to finance the funds for researchers in those disciplines and activate the research area," conclude the authors.

The newly discovered brittle star species are yet to be published.

More information: Massanori Okanishi et al, Non-destructive morphological observations of the fleshy brittle star, *Asteronyx loveni* using micro-computed tomography (Echinodermata, Ophiuroidea, Euryalida), *ZooKeys* (2017). [DOI: 10.3897/zookeys.663.11413](https://doi.org/10.3897/zookeys.663.11413)

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