Pressemitteilung

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Why organisms shrink

Everyone is talking about global warming. A team of palaeontologists at GeoZentrum Nordbayern at Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU) has recently investigated how prehistoric organisms reacted to climate change, basing their research on belemnites. These shrunk significantly when the water temperature rose as a result of volcanic activity approximately 183 million years ago, during the period known as the Toarcian. The FAU research team published their results in the online publication Royal Society Open Science.

‘Belemnites are particularly interesting, as they were very widespread for a long time and are closely related to the squid of today,’ explains palaeontologist Dr. Patricia Rita. ‘Their fossilised remains, for example the rostrum, can be used to make reliable observations.’ Within the context of the DFG-funded research project ‘Temperature-related stresses as a unifying principle in ancient extinctions,’ the hypothesis was confirmed that climate has a significant influence on the morphology of adult aquatic organisms. The body size of dominant species fell by an average of up to 40 percent. The team of researchers believe that this Lilliput effect was a precursor to the later extinction of the animals. It is still unclear whether rises in temperature influenced the organisms’ metabolism directly or indirectly, for example due to a shortage of food sources.

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