

InterRad 15の日本開催（2017年10月22-27日）と放散虫の普及アイテム

InterRad 15 in Japan (22-17 October, 2017) and outreach items for radiolarians

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2017年10月22-27日に、第15回国際放散虫研究集会(InterRad 15)が新潟で開催される。InterRad 7が1994年に大阪で開催されて以来、23年ぶりの日本開催となる。この国際会議開催の機運を追い風にして、放散虫の認知度を高める活動を実行している。社会での認知度を高めることが、教育・研究・普及活動にとって重要であるのは、いかなる分野についても普遍的にいえると思われる。InterRad 15に向けて、さまざまな放散虫の普及アイテムを開発している。放散虫の拡大模型、電子顕微鏡写真を用いたトランプ、絵柄をモチーフにしたTシャツを提示する。なお、Tシャツの絵柄デザインは造形作家である守亜氏とのコラボレーションにより作成されたものである。

キーワード：インターラッド、放散虫、普及アイテム、拡大模型、トランプ、Tシャツ

Keywords: InterRad, Radiolaria, Outreach item, Enlarged model, Card game, T-shirt

科学的検証に耐えうるX線CTによる微化石標本の高精細形状計測 High precision X-ray CT morphometry of microfossils for scientific validations

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Recent three dimensional (3D) morphometrics bring tremendous contributions for natural sciences. In the field of earth sciences, the acquisition of 3D morphometrics is rapidly increasing for the purpose of precise analysis of morphology of geological materials, especially for microfossils. In this study, we are trying to acquire the high resolution microtomography of microfossils by using the Microfocus X-ray Computed Tomography (MXCT). The combination of MXCT technique and high-precision X-ray detectors realize submicron-scaled morphology of microfossils without destruction on both the outer and the inner structures, therefore it is useful for classification, evolutions and functional morphology on microfossils.

The materials used in this study were microfossils from deep-sea sediments collected by the Deep Sea Drilling Project (DSDP) and Ocean Drilling Project (ODP) and other materials in modern ocean. So far, we already achieved the 3D microtomography for some species on foraminifers, radiolarians, diatoms and pteropods from each geological ages. In this presentation, we will show the reconstructed 3D images of the above specimens and discuss about the essentials for scientific validation on micropaleontological studies. In addition, we will discuss about 3D printing models by using the above 3D data for educational purposes.

キーワード：微化石、マイクロX線CT、三次元形状計測、三次元モデル

Keywords: Microfossils, Microfocus X-ray CT, 3D morphometry, Three dimensional models

群馬県東部八王子丘陵の足尾テレーンから産出したペルム紀放射虫（予報）

Preliminary report on Permian radiolarians from the Ashio terrane in Hachioji Hills, eastern Guma prefecture, central Japan

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The Ashio terrane, a Jurassic accretionary complex, is distributed over the Ashio Mountains in the North Kanto region, central Japan. Hachioji Hills in eastern Gunma Prefecture is located at the southwest end of the Ashio Mountains, and the Ashio terrane is exposed at the hills. However, there is a few studies that focus on the Ashio terrane in Hachioji Hills. I have surveyed the Ashio terrane in the Ashio Mountains, including that in Hachioji Hills, since 2016.

I discovered Permian radiolarian assemblages from red bedded cherts of the Ashio terrane in Hachioji Hills. Previously, Middle Jurassic radiolarians occurred in the mudstones of Ashio terrane in Hachioji Hills; however, Permian radiolarian occurrences have never been reported from Hachioji Hills.

The assemblages contain *Pseudoalbaillella sakmarensis* Kozur. This species occurred in the *Pseudoalbaillella lomentaria* Assemblage Zone and *Albaillella sinuata* Range Zone of the middle Cisuralian, lower Permian.

The Ashio terrane in Hachioji Hills has been considered to be extension of the Kiryu-Kurohone Unit distributed over the Kiryu and Kurohone areas. However, the Kiryu-Kurohone Unit contain no Permian cherts according to the previous studies. Our result suggests that the Ashio terrane in Hachioji Hills belongs to other unit in the Ashio Mountains.

キーワード：ペルム紀放射虫、足尾テレーン、ジュラ紀付加体、八王子丘陵、群馬県

Keywords: Permian radiolaria, Ashio terrane, Jurassic accretionary complex, Hachioji Hills, Gunma Prefecture

Lithology and age of Middle Paleozoic siliceous-clastic strata related to the opening of the Paleo-Tethys in the Klaeng area, Rayong Province, southeastern Thailand

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The Devonian continental-margin to deep-water facies in Thailand provides important information about the marine environmental change during the opening of the Paleo-Tethys (Hara et al., 2010). In the present study, Devonian siliceous and clastic rocks, exposed at Laem Krabang Phet, approximately 20 km southwest of Klaeng, Rayong Province, southeastern Thailand (Kamata et al., 2015), were examined in terms of lithostratigraphy and geologic age. The strata of the study section are subdivided into the following three rock-facies: black carbonaceous mudstone, sandstone, and chert (Unit I), felsic tuff, tuffaceous sandstone, tuffaceous chert, and chert (Unit II), and siliceous mudstone associated with various lithologies (chert, black carbonaceous mudstone, sandstone) (Unit III).

From near the locality where we studied, Kamata et al. (2015) reported *P. cladophorum* and some entactiniid species such as *S. cf. pusilla*. They concluded that this fauna is probably referable to the Middle-Late Devonian. We collected over 50 samples including black carbonaceous mudstone, chert, tuffaceous chert, felsic tuff and siliceous mudstone from the study section, with the aim of determining detailed biostratigraphic age. As a result, we recovered moderately well-preserved radiolarians from gray to dark gray chert of Unit II and black siliceous mudstone of Unit III. The radiolarian fauna from both samples has similar species composition, including *T. minax*, *T. vetusta*, *T. davidi*, *T. elegans*, and *T. echinata*. *Trilonche minax* and other *Trilonche* species are the representative species of the *T. minax* assemblage (Aitchison et al., 1999). Based on the age calibration by Aitchison et al. (1999), the fauna of our samples can be assigned to latest Givetian to early Frasnian (latest Middle Devonian to early Late Devonian).

Kamata et al. (2015) suggested that the lithological assemblage in the study section is dissimilar to that of the Devonian part of the Fang chert (Chiang Dao area of northern Thailand), which is related to the opening of the Paleo-Tethys (Hara et al., 2010). However, the result of the present study shows that the stratigraphy consisting of black carbonaceous mudstone of Unit I and overlying fine-grained siliceous and tuffaceous rocks (Unit II) is similar to that of black shale and overlying siliceous shale and tuffaceous chert in the Chiang Dao area of Hara et al. (2010).

キーワード：パレオテチス、デボン紀、放散虫

Keywords: Paleo-Tethys, Devonian, Radiolaria