

# Latest Precambrian Geology of Anglesey in UK

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One of the most important and extraordinary events in the biological evolution history is the event so called the Cambrian Explosion, which marked the transition from the Vendian (Precambrian) to the Cambrian at 5.8 billion years ago. This event is a time to change the major types of organisms and the ways in which they lived, leading to the formation of the present five kingdoms with repeated events of organic evolution and extinction during the Phanerozoic era.

Although many researchers have considered that some changes in the global environment, such as changes in pO<sub>2</sub> and/or pCO<sub>2</sub> levels, lead to this event (i.e., Cambrian Explosion), the origins of this event have yet been unclear. This is partly because most of the previous researchers have studied shallow marine sediments (e.g., the Newfoundland area in Canada), whereas they are more easily affected by changes in local environments, and do not reflect global changes compared to pelagic sediments. The lack of a suitable continuous sequence of the pelagic sediments in order to study any change in global environments has made it difficult to reveal what caused of this event at this point.

The objective of this study is to reveal whether several outcrops of the Anglesey Island in Scotland, UK are part of accretionary complex that composed with pelagic sediments deposited in deep oceans around 5.4 Ga. If this is the case, they probably preserve changes in the global environment when they deposited. In order to achieve this objective, we conducted geological field study, including a detail geological mapping of this area and also single Zr age dating of overlying granite (and/or underlying granite) using ICP-MASS. The detail mapping of this area suggests that all outcrops are part of accretionary complex although they are disturbed by later geologic events. The preliminary data of the dating, showing about 6.0Ma also support this suggestion.