

## Cretaceous paleo-position of Southwest Japan: paleomagnetism of the redsandstones from the Cretaceous Sasayama Group

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The Cretaceous Sasayama Group is distributed in the Tamba/Sasayama area, the middle-eastern part of Hyogo Prefecture. The Sasayama Group includes the Lower and Upper Cretaceous Formations. The bone fossils of a dinosaur supposed to be Titanosaurus of Sauropoda were discovered in red beds of the Lower Cretaceous Formation in August, 2006. The aim of this study is to deduce the paleo-position of the Sasayama Group during the Cretaceous. The sedimentation of the Sasayama Group occurred with the folding of the basement rocks of the Tamba and Ultra-Tamba Terrane from the Early to Late Cretaceous. The age of the Lower Cretaceous beds determined by zircon fission track is about 120 to 140 Ma. We carried out a paleomagnetic investigation of the red beds at 2 and 21 sites from the Upper and Lower Cretaceous Formations, respectively. Characteristic directions of higher temperature components with unblocking temperature from 630 to 650 degree C were isolated from 20/23 sites. These higher temperature components are judged as syn-tilting magnetization by direction-correction tilt test. We regard the syn-tilting magnetization directions as the Early Cretaceous paleomagnetic field ( $D = 78.2$ ,  $I = 54.1$ ,  $\alpha_{95} = 3.4$ ) of the Sasayama Group in the eastern part of Southwest Japan. The mean paleomagnetic direction is consistent with the previously reported Cretaceous paleomagnetic directions from Southwest Japan. We calculated the Cretaceous paleomagnetic pole position (latitude = 27.3N, longitude = 202.4E,  $A_{95} = 5.0$ ) using six Cretaceous poles from Southwest Japan. We compared it with the coeval pole of South China Block (latitude = 80.0N, longitude = 206.7E,  $A_{95} = 2.5$ ). As the result, we concluded that Southwest Japan had translated northwardly by  $4.6 \pm 4.5$  and rotated clockwise by  $65.2 \pm 5.4$ .