

A paleomagnetic study of Jurassic-Cretaceous redbeds from Peninsular Malaysia in Sundaland

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Two distinct declinations have ever been recognized from Jurassic to Early Tertiary paleomagnetic directions in Peninsular Malaysia, that is, the northward declination and the counter-clockwise deflected declination (Richter et al., 1999). In order to identify reliable Jurassic paleomagnetic directions for Peninsular Malaysia, we planned to study paleomagnetism of the Jurassic to Cretaceous redbeds of the Temberling Group. Samples were collected from three areas of Taman Negara, Jerantut and Temerloh, in Dec. 2011. Colors of the so-called redbed samples range from purple, through red to pale pink. Based on paleomagnetic and rock magnetic studies, the redbed samples are categorized into three groups, according to magnetic carriers; sample with magnetite, unidentified minerals with unblocking temperature of 620°C, and hematite. The former two groups are pale-red to white in color, and show northerly declinations (In situ: $D=359.8^\circ$, $I=11.2^\circ$, $a95=5.3^\circ$, $n=37$, Tilt collected: $D=355.4^\circ$, $I=9.3^\circ$, $a95=9.4^\circ$) which pass negative fold test. This indicates that the northerly declination is secondarily acquired remanent magnetization. In contrast, hematite bearing samples with purple to red in color shows non-negative fold test. This implies a possibility that hematite-bearing redbed samples preserve primary remanent magnetization. Its declination appears CCW deflected by 12° (Tilt collected: $D=347.9^\circ$, $I=12.1^\circ$, $a95=8.5^\circ$, $n=49$) from the north after tilt correction.