Geology of Paleogene volcanic rocks and Neogene Tottori Group in the Kinugasayama area, eastern part of Tottori Prefecture, Southwest Japan

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The Late Paleogene Tottori Nanbu Volcanic Rocks (TNV) and the Miocene Tottori Group are distributed in the Kinugasayama area in Tottori City, eastern Tottori Prefecture.

The TNV consists of rhyolite and pyroclastic rocks in the study area. A U-Pb age of 34.53 ±0.49 Ma for zircon in the rhyolite has been reported by Sugamori et al. (2018). Most pyroclastic rocks are massive, and their particles are composed of plagioclase, quartz, andesite fragments, and rhyolite fragments. The Tottori Group in the area containsthe Kawabara Volcanic Rocks Member of Yazu Formation. This member mainly consists of pyroclastic rocks such as andesitic tuff breccia and intrusive andesite. The andesite has been obtained a K-Ar age of 20.33 ±1.58 Ma in this study. The boundary between the TNV and the Tottori Group in the area is unconsolidated steep fault strikes in ENE to WSW direction. Striations on the fault plane represents a gently sloping. This indicates that this fault has a predominant strike-slip component.

The TNV is one of the strata and rocks that show large-scale late Paleogene igneous activity in the San'in district, which is an essential element in describing the formation history of the Japanese archipelago. The Tottori Group is one of the main components of the San'in Kaigan UNESCO Global Geopark, which is one of the strata and rocks around 20 Ma of the Japan Sea formation stage. The outcrop showing the fault relationship between the TNVand the Tottori Group indicates that deformation occurs even after formation of the strata and rock bodies

These suggest that the geology of the Kinugasayama area can unravel a part of the formation process of the Japanese archipelago and may be a highlight or geo-sites in the San'in Kaigan UNESCO Global Geopark.

Keywords: San'in Kaigan UNESCO Global Geopark, Miocene, K-Ar age, fault

