Volcanism-related natural radioactivity and its potential influence on ecosystem in the Great Rift Valley system in east Africa

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In continental rift zones such as the Great Rift Valley system in East Africa, alkaline magmatism commonly occurs to provide material with extremely unique geochemical composition. The unique episodes in evolution, such as ultra-fast genome diversification among fresh-water fish (cyclids) and in hominids, also represents uniqueness of the domain. Most of the previous studies, however, discussed secular changes in environments and possible response in local flora/fauna, without paying much attention to possible cause-effect link between composition of rocks and animal evolution. Present study focuses on unique volcanic rocks and their effects to the surface environment in the Great Rift Valley in Kenya, and checks possible influences of alkaline volcanics enriched in natural radionuclide (<sup>40</sup>K, U and Th) to local paleo-environments and ecosystem. The results of geochemical analyses of ancient Quaternary lake sediments and associated volcanics are presented.

キーワード:東アフリカ、リフト帯、放射性核種 Keywords: East Africa, Rift System, Radionuclide