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Pleistocene sedimentary environment, chronology and palynology of the Keum-Miho river basin, Cheongju Area, South Korea

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Several Geosols as soil-stratigraphic units are associated with polygonal structures indicating periglacial phenomena and typified by heavy precipitation of Fe-Mn nodules, particularly prevailing along the gentle hillslopes surrounding the Keum-Miho river basin in Korea. Last Glacial fluvial sands and gravels are pronounced near Cheongju city, which are intercalated with several organic muds. The old organic muds are observed as intercalated lens in fluvial sand and mud of MIS 3, but the young organic muds found in the post LGM fluvial sequences. Since about 20 ka, depositional process of Miho river became pronounced from the beginning of post-LGM period. Between 19 ka and 15ka, fluvial sand and gravels are pronouced and such pollens as Abies-Picea-Betula associated with Ranunculaceae, Compositae, Cyperaceae are conspicuously dominant. But after 15 ka the fluvial sequence was characterized by several intercalations of thick organic muds, which were formed between 14.5ka and 12ka (B[U+1D6F7]lling∼Aller¨d Interglacial). They were formed under local backswamp environment, intermittently interrupted by floodings of Miho river. The oldest rice seeds were found in the middle organic muds horizons (12,500 cal-yrsBP), where such palynological assemblages as Alnus-Quercus with Laevigatosporites are produced dominantly.