

Mineralization of Fe/Mn-precipitates from Sanbe Hot Spring, Shimane Prefecture

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In order to reveal mineralization of Fe/Mn precipitates in the Sanbe Hot Spring, Shimane Prefecture, both fluid and precipitate samples were collected and analyzed. While Fe/Mn precipitates distribute around the fountain of the hot spring water (T=32-35degC), only Mn precipitates were found along the slope where the cold spring water (T=12 - 20degC) flows. The cold spring water and the hot spring water would be derived from the same source, because their chemical compositions are very similar to each other. While the Fe concentration in both fluids are likely to be controlled by the solubility in the Eh-pH condition beneath the surface, Mn concentration is lower than the solubility. We confirmed microbiological activity of these spring water by cell counting using DAPI stain technique, and are planning to conduct laboratory experiments to monitor Mn consumption rate.