

Paleoseismology of the southern part of the Muikamachi fault zone, central Japan

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The Muikamachi fault zone strikes NNE-SSW along the boundary between the Uonuma hills and the Muikamachi basin. The recent studies shows that the fault length is longer than 40 km, and the vertical slip rates is estimated at 2.0 m/kyr in the south and 1.0 m/kyr in the north. There is no information on the faulting history in previous studies. We conducted trench excavation surveys at two points, in order to clarify the shallow geological structure and the faulting history of the Muikamachi fault zone. In this presentation, we focus on the faulting at the Ishiuchi trench site, the most southern part of this fault zone, which has a large cumulative displacement on the fluvial terraces.

In the Ishiuchi site, two flights of terraces are distributed along the drainages flowing to the east. The fault scarp of western side-up intersects a river perpendicularly on the lower terrace. The height of that scarp is estimated to be about 10 m. The surface of the lower terrace on the footwall side has been covered with the younger fan deposits. We carried out a trench excavation near the southern margin of this fan. The soil layers intervened between the fluvial deposits. These deposits are displaced by the reverse fault dipping to west with low angle, and are flexured to the east in the hanging wall.