

Detection of tsunami deposits: utilizing benthic foraminifera of the former Hojozu Lagoon, Imizu City, Toyama Prefecture

Saori Yano^{1*}, Akira Takeuchi¹

¹Toyama Univ.

This research aimed at discovering any marine event-sediments, such as tsunami deposits and storm-sediments, by utilizing the ore samples of drillings performed in Hojozu Lagoon by means of benthic foraminifera.

Using box-cored sediments recovered from the bottoms offing the river mouth of Kurobe River, the present distribution of benthic foraminifera in the Toyama Bay was examined under a stereomicroscope, with the reference of the depth distribution of benthic foraminifera and contrast with correspondence water reported by the previous research.

In order to extract benthic foraminifera, the core samples of Hojozu Lagoon were also examined under a stereomicroscope, and a marine event-sediment was detected in comparison with the water mass corresponding to depth distribution of a marker foraminifera.

As the result, it became clear that benthic foraminifera of Toyama Bay including *Ammonia ketienziensis* are as available for a marker species judging for a tsunami deposit.

From the core samples of Hojozu Lagoon, before the end of the Yayoi Period (ca. 1,900 yr B.P.) after the Middle Jomon Period (ca. 5,000 yr B.P.) in age, a probable marine event -sediment of either tsunami or storm and also a possible tsunami deposit were discovered.

The characteristic feature of the former marine sediment is coarse-grain sand included, and that of the tsunami deposit is content of many pieces of sea shells and from medium-to coarse-grained sands. Roundness and degree of sorting of both those sediment particles are low. Moreover, as for the source of supply of sediments, it is presumed that the former is not deeper than the middle sublittoral zone, and that the later is not deeper than the outer sublittoral zone.

The foraminifer method used in this study is expected to be a promising tool for discrimination of tsunami deposits from storm-sediments from marine-event sediments.

Keywords: tsunami deposits, storm deposits, hojozu lagoon, holocene