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## Reconstruction of the cycle of Holocene interplate earthquakes by using limestones at Cape Muroto, southwestern Japan.

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The purpose of this study is to reconstruct the cycle of Holocene interplate earthquakes that occurred along the Nankai Trough by examining biotic composition of limestones collected around Cape Muroto. The Holocene limestones are composed mainly of sessile organisms, which can be used as sea-level indicators. There are many historical documents which record damages caused by interplate earthquakes along the Nankai Trough. However, the limestones are an excellent archive that yields information on the cycles of prehistoric interplate earthquakes.

In this study, we analyzed succession and configuration and radiocarbon ages of Holocene limestone cores collected at Cape Muroto. The limestones were composed mainly of barnacles, corals, annelids, coralline algae, and mollusks. Based on the biotic composition, the limestones were classified into six types, each of which represents a specific water depth. Stratigraphic unconformities were identified by lithological discontinuity and negative spikes of oxygen isotope ratios of the limestones. By integrating these data, we detected at least 2-3 interplate earthquakes between 4470±50 and 2870±50 BP and 5-6 between 2730±50 and 1205±40 BP at the interval of 100-200 years.

**Keywords:** Holocene, Nankai Trough, interplate earthquakes, coastal uplift, biological sea level indicators