Evidence of past Noto Hanto earthquake recorded on emerged sessile assemblages

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We found evidence of past uplift event as well as the 2007 Noto Hanto earthquake (M 6.9) from emerged sessile assemblages in the western part of the Noto Peninsula, central Japan. Such evidence was detected not only in the focal area of the 2007 earthquake but also from further south area.

Emergence and submergence of littoral sessile organism due to coseismic vertical displacement accompanied with the 2007 earthquake was observed along the northwestern coast of the Noto Peninsula. To evaluate coseismic crustal movement and to detect past event, we focused on assemblage of *Pomatoleios Kraussii* who lives only in around mean sea level. Height distribution of the 2007 displaced assemblage is consistent with geodetically observed crustal deformation that is southward tilting with maximum uplift of 0.4-0.5 m. On the higher position than this assemblage, we found fossilized assemblages on 10 sites up to 1.6 m above mean sea level. Judging from the height and ^{14}C ages, the fossilized assemblages can be divided into three levels as follows; higher assemblage: AD1050-1300 (1.6 m), middle assemblage: AD 1450-1650 (0.8-1.1 m), lower assemblage: after AD 1650 (0.4-0.7 m). It seems that three uplift events have occurred every 300 years. Minimum amount of uplift per event is estimated to be 0.2-0.3 m. Because the middle and lower assemblages are distributed in further south of the focal area of the 2007 earthquake, it is inferred that the source area of the past events had extended southward or had ruptured only in the further south area.