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Paleoseismological Survey Along the Western Coast of Myanmar

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The coseismic crustal deformation associated with the 2004 Sumatra-Andaman earthquake extended to Andaman Islands, but the past earthquakes in its northern extension including the Myanmar coast is not well known. The offshore of the western coast of Myanmar is constituted by the northern extension of Sunda Trench along which the Indian plate is subducting beneath the Burma microplate. And there is a possibility of large subduction-zone earthquake to occur along the western coast of Myanmar. The relative plate motion may be strike-slip in the north, but there is an account that Ramaree Island had uplifted at the time of 1762 earthquake (Berninghausen 1966). In February 2006, we carried out paleoseismological field survey at coastal regions of Sittwe and Thandwe cities, the Rakhaine coast of Myanmar, to investigate the history of past earthquakes, and paleoseismological evidences of 1750 and 1762 events which occurred along the off western coast of Myanmar. Three emerged marine terraces were found along the western coasts of Tandin and Myengun islands. The highest terrace is with the maximum height of about 19.0 m above sea level (at 17:00), and contains many coral fragments, suggesting that the terraces have been uplifted due to subduction and accretion processes, and indicates the events of subduction zone earthquakes. These terraces suggest coseismic uplift along these coasts in the past. Several coral exposures (fragment and hook-up) were also found at the coasts of Lontha, Mawyon and Thabyuchaing villages, near Thandwe city suggesting the uplift of the coast. In addition, investigation on tsunami deposit were made at lagoon and tidal flat at near by regions of Sittwe and Thandwe cities because scientific document (Berninghausen 1966) stated that inundation of large sea waves due to 1762 event occurred around these two cities. We will present detailed results of these geomorphological and geological data taken from this survey.