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2004 年スマトラ－アンダマン地震による南アンダマン島の津波被害： 5 年後の様子

The 26 December 2004 Sumatra-Andaman Tsunami at the South Andaman Island: 5 years later

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2004 年 12 月 26 日，現地時間 7 時 59 分に，モーメント・マグニチュード 9 を超えるスマトラ－アンダマン地震が発生し（Bilham, 2005）（Fig. 1），励起された津波によって大きな被害が生じた．プレート境界型超巨大地震の発生・収束，それに伴う環境変動の総合理解には，継続観察が重要である．2009 年 12 月に，南アンダマン島の津波被災地の一部において，当時の様子と現状を知る機会を得た（Figs. 2，3）．アンダマン島は，地震によって島北部と西部は最大で 1.5m 程度隆起し，南部と東部は最大で 1 m 程度沈降したため（宍倉ほか, 2005; Meltzner et al., 2006）（Figs. 1.a, 1.b），津波によって内陸側へ海水が浸入した領域の一部は，現在も水没している．本報告は，日本学術振興会の特定国派遣研究者（インド INSA）の補助を受けた．査読者の後藤和久氏，編集担当の七山　太氏のコメントは本稿を改善する上で有意義であった．

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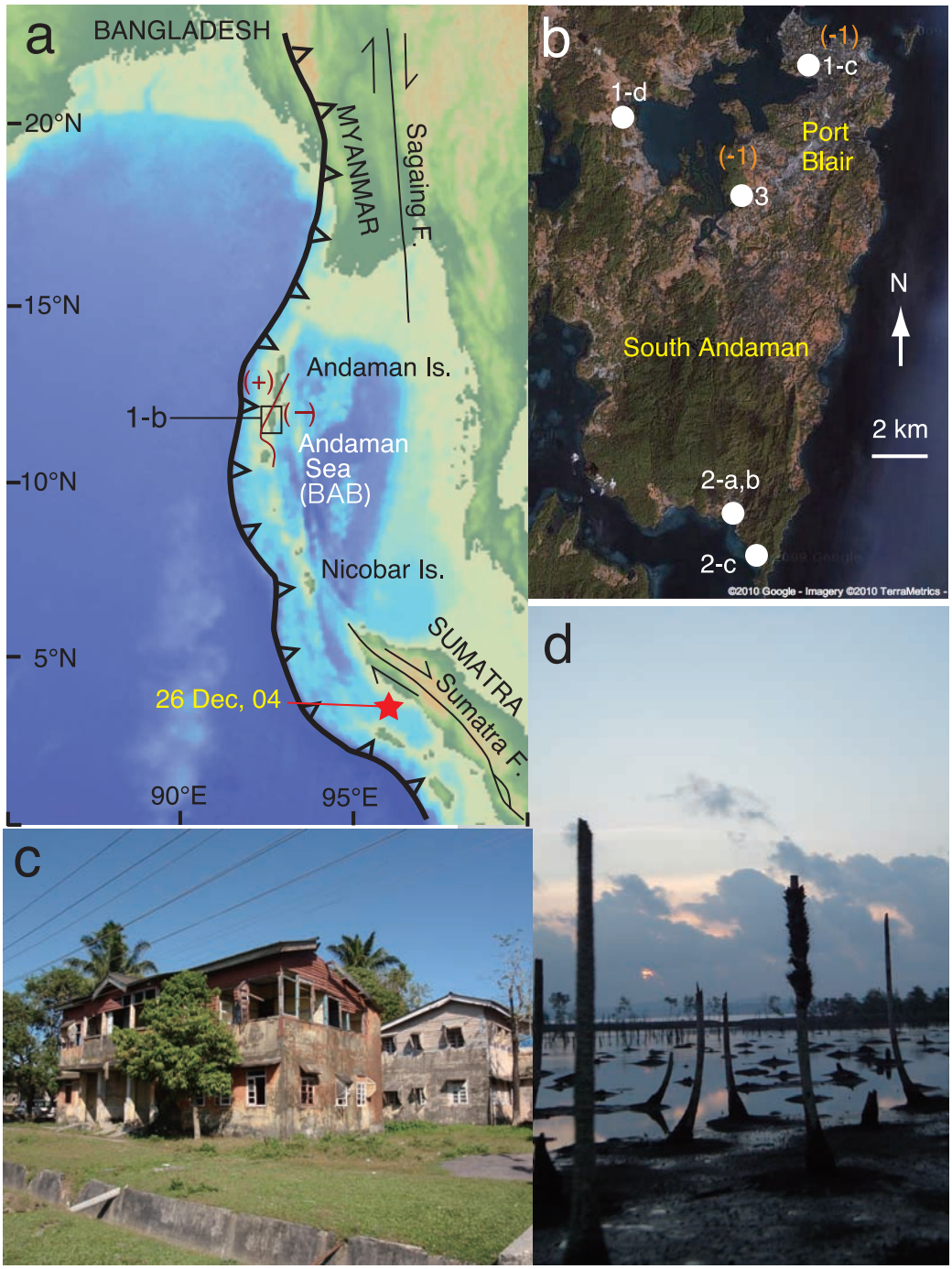

Fig. 1. (a) Tectonic setting around the Andaman Islands showing epicenter (red star) of the Sumatra-Andaman earthquake (Bilham, 2005 and references therein). The pibot line (red line) between uplift (+) and subsidence (−) is also shown (Meltzner et al., 2006). BAB = back arc basin, F.= fault. (b) Locations of observed sites on satellite map (Google map) of the South Andaman. The maximus vertical crustal subsidences (orange-colored parentheses) deduced by Shishikura et al. (2005) are also shown. (c) Two-storied houses damaged by the tsunami along the Port Blair Bay. (d) Coconut field submerged by tsunami water. The field has been under the seawter because of subsidence caused by the earthquake.

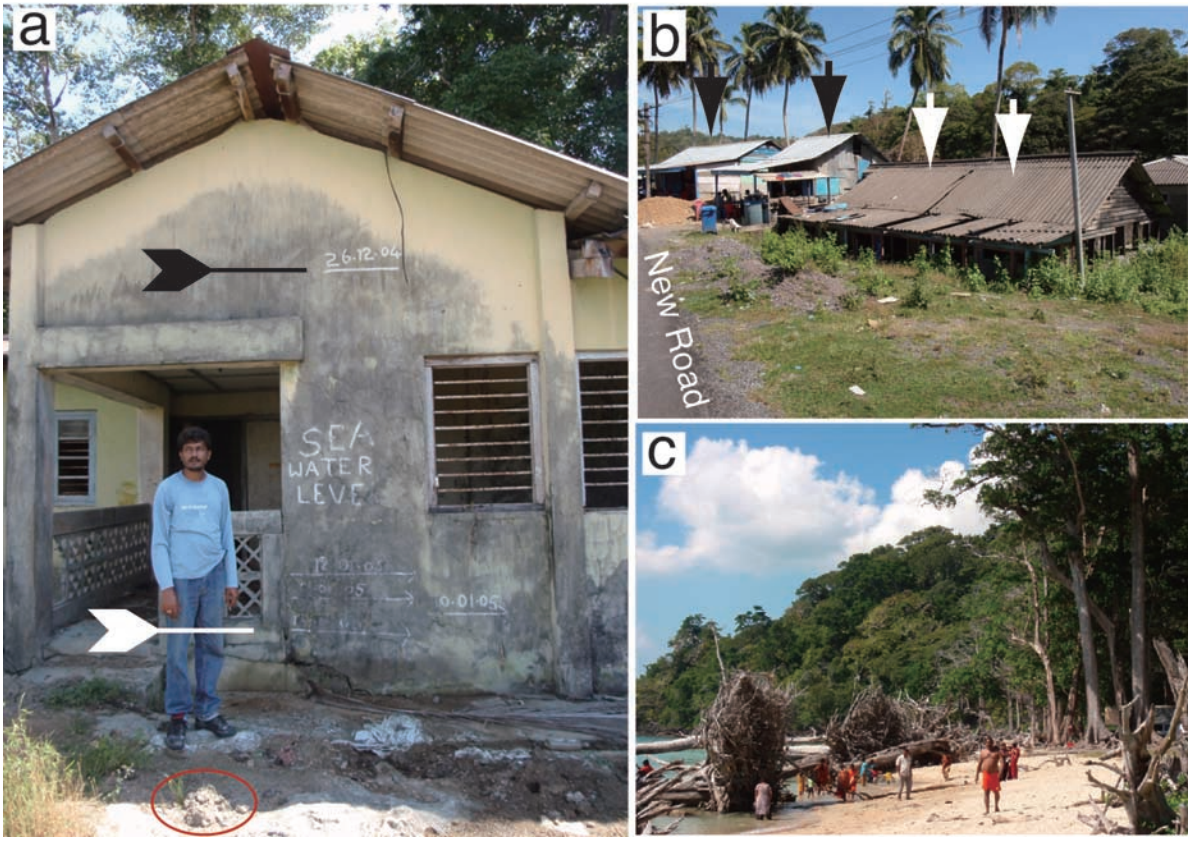

Fig. 2. The southernmost coast of the South Andaman. (a) Water levels during the tsunami (black line with symbol) and two weeks after the earthquake (white line with symbol). Since the earthquake, this area remains under the seawater during the present day high tide. Biological activities, piled mud by crab (red circle), are observed. (b) New houses (black arrows) are being constructed at higher than old houses (white arrows) which were damaed by the tsunami. A new road has also been constructed at approximately 1 meter above the old road. (c) Big trees (more than 20 m height) uprooted by the tusnami are lying on the beach along the sea shore.

Fig. 3. Low-lying areas adjoining the creeks at the southwest of the Port Blair Bay. (a) Overview of the observed area. The landward penetration of sea water was $>$ 1 km towards the south (black arrow) from the bay. The both sides of the road were agricultural fields before the earthquake. The road had been constructed before the earthquake. (b) A tsunami-damaged house on the former agricultural field. The water level is above the floor even at the present low tide. (c) The tsunami-inundated seawater crossed over the road from the north to the south as indicated by arrow. (d) Preexisting houses at low-lying areas indicated by lined poles (yellow arrows) are now under the seawater at the present low tide.