

## **DETERMINATION OF BURIAL AGE OF THE VILLA OF AUGUSTUS (ITALY)**

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A stately Roman ruin was found in Somma Vesiviana at the northern foot of Mt Vesuvius during the 1930s excavation, which was thought to be a villa of the first Roman Emperor Augustus, being destroyed by the Vesuvius AD 79 eruption. Recently, we started an extensive re-excavation project of this ruin. Here we report the preliminary results on the burial age and process, based on the geological and chronological data.

The deposits overlying the site are about 6-7m thick, which can be divided into three groups. Group I, the lowest unit consist of Plinian scoria-fall, pyroclastic surge, three layers of pyroclastic flow-derived debris flow, and river deposits in ascending order, and soil is at the top. Group II, conformably overlying the Group I soil, is of pyroclastic surge, debris flow, semi-consolidated thick air-fall ash and river deposits. Groups III is of several layers of pyroclastic surge or fall deposits.

Our results show that the Roman ruin was first buried by products of the AD 472 (Pollena) eruption, not by the AD 79 (Pompei) eruption. Scoria fragments of Group I are greyish and poorly vesicular, similar to those from the Pollena eruption rather than the Pompei eruption: the latter showing lighter colour and higher vesicularity. Scoriae of Group I (c. 49-50% SiO<sub>2</sub>) have almost the same chemical composition as those of the Pollena eruption including trace elements, while those of the Pompei eruption show higher SiO<sub>2</sub> (c. 53-55% SiO<sub>2</sub>) and K<sub>2</sub>O contents. Stratigraphic position of Group I is also consistent with that of the Pollena eruption nearby. Shell of snails from the soil of Group I and charbonized chips of wood from the same layer, the pyroclastic surge of Group I and the ruined kitchen stove buried under the Group I deposits, have the radiocarbon ages falling on the range between AD 240-610 (1 sigma probability) (Kaneko et al submitted). These values confirm that the Group I deposits are derived from the Pollena eruption . The Pollena scoria fall directly on already-destroyed building frames implies, however, that the villa itself had already been ruined by the time of the Pollena eruption.