



The 5th century BC “Ischia Porto Tephra” eruption (Italy) and its impact on the Greek colony of Pithekoussai

Sandro de Vita (1), Mauro Antonio Di Vito (1), and Costanza Gialanella (2)

(1) Istituto Nazionale di Geofisica e Vulcanologia, Osservatorio Vesuviano, Naples, Italy (devita@ov.ingv.it), (2) Soprintendenza Speciale per i Beni Archeologici di Napoli e Pompei, Naples, Italy (costanza.gialanella@beniculturali.it)

The island of Ischia, located in the Gulf of Naples (Italy), is the emergent peak of a volcano which dates back to more than 150 ka ago. From Neolithic times onwards it has experienced a complex history of human colonization alternating with volcanic eruptions that destroyed settlements and drove away the population.

Recent volcanological research and archaeological excavations have demonstrated that volcanism has been intense during the period in which civilization began to gain ground.

From the Greek foundation of Pithekoussai (8th century BC, the first Greek settlement in southern Italy) through the Roman “Aenaria”, up until the emergence of modern Ischia, the history of human life on the island has been closely linked to its volcanic history.

During the 5th century BC Ischia fell under the domination of Cumae, which granted the tyrant of Syracuse the right to install a military settlement on the island in return for his help during the war against the Etruscans. The historian Strabo reports that between the 474 and the 466 BC a telluric event forced the Greek colonists from Syracuse to desert this outpost, and the Ischia Porto Tephra (IPT) eruption has been proposed in the volcanological literature as the best candidate for this role. This eruption was characterized by a sequence of magmatic and phreatomagmatic explosions that emplaced scoria and subordinate pumice fallout deposits, intercalated with minor pyroclastic-surge deposits, and formed a crater lake in the north-eastern corner of the island. During the 19th century this crater was opened toward the sea to make a new harbor for the island. The IPT is exposed in outcrops of limited extent around this harbor: in the easternmost exposures the IPT overlies a paleosol containing pottery dating from the 6th-5th centuries BC and in the westernmost outcrops it overlies a reworked deposit containing 9th-8th century BC pottery. The IPT is overlain by the S. Pietro Lavas (5th-3rd centuries BC) in the eastern outcrops and the La Quercia Lavas (5th century BC) to the west of the harbor.

Excavations recently carried out on the island for the construction of a purification plant furnished clear evidence of the impact of this eruption on the settlement located on S. Pietro hill, along the eastern margin of Ischia’s harbor.

The archaeological finds include mounds of building materials, mainly composed of squared lava blocks and fragmentary tiles and roof tiles (painted white, red and brown), pieces of decorative terracotta panels and a few small terracotta antefix fragments.

The spatial distribution of the material found, the presence of stacks of tiles and other building materials (often overturned and crushed by the pyroclastic deposits) and the absence of structural remains in the excavated area, suggest that at the time of the eruption this was a building site for the construction of a temple, rather than the location of an already existing place of worship. As written sources confirm, the site and the building project were abandoned. Whilst it seems very likely that the Syracusan military garrison was also abandoned, the colony – hardly touched by this event – survived.