

Three pellets of Egyptian Blue from the Ashtead Roman villa

Extensive excavations were carried out at the Ashtead Roman villa by A W G Lowther and published in the Society's Collections (Lowther 1927, 1928 and 1930). Many of the finds were listed in these reports, and a number were illustrated. Much of the material is deposited in Guildford Museum, and it was whilst studying the wall plaster from Ashtead that three pellets of Egyptian Blue were discovered. These have not been published by Lowther, and the purpose of this short note is to report on their existence.

Egyptian Blue (often termed Blue Frit) is an artificial glassy pigment used extensively in the ancient world particularly for wall paintings. Chemically it is a discrete compound — calcium-copper tetrasilicate ($\text{CuO} \cdot \text{CaO} \cdot 4\text{SiO}_2$) and its properties and methods of identification have been reviewed (Chase 1971). It can be made by heating (at approximately 800°C) a finely ground mixture of calcium carbonate, copper oxide and silicon oxide using borax as a flux.

Vitruvius describes its preparation in *De Architectura*: 'The processes for making blue were first discovered at Alexandria; afterwards also Vestorius founded a factory at Puteoli. His method and his ingredients are sufficiently noteworthy. Sand is ground with flowers of soda to such fineness that it becomes like flour. Cyprian copper is sprinkled from rough files like fine dust so that it combines with the mixture. Then it is rolled by hand into balls and they are put together to dry. When dry they are collected in an earthenware jar, and the jars are put in a furnace. In this way, the copper and the sand burning together, owing to the vehemence of the fire dry together, and, interchanging their vapours, lose their properties; and their own characters being overcome by the vehemence of the fire, they acquire a blue colour.'

The Ashtead pellets in themselves are not particularly noteworthy being very typical of examples of Egyptian Blue pellets found in Britain. They are approximately spherical with diameters in the region of 15mm. Although one shows a greyish surface colouration they are all of the usual azure blue colour coarse-grained crystalline form. No scientific examination has been carried out; but visual examination by the author and by Justine Bayley (Ancient Monuments Laboratory) has confirmed that the pellets are of Egyptian Blue. They probably represent a stock intended for use as a paint pigment in the villa.

Examples of Egyptian Blue have been found at several Romano-British sites and published examples include Silchester (Jope & Huse 1940), Verulamium (2 balls, 30mm in diameter; Frere 1972), Woodeaton (Jope & Huse 1940), Wroxeter (West 1931) and Shakenoak (Atkins 1971). Other examples listed recently include Water Newton, Rudston, Tower of London, Colchester and Catsgore (Biek 1981).

It is hoped that this report may encourage the publication of further examples so that a better picture of the extent of use and trade in Egyptian Blue can be built up.

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