

Ancient Monuments Laboratory
Report 33/92

IDENTIFICATION OF A RED STONE SET
IN A GOLD RING, FROM THE WINCHESTER
PALACE SITE (WP 83) LONDON

Mrs M E Hutchinson

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Summary

The red stone set in a gold ring was identified as a
ruby, probably coming from Burma.

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IDENTIFICATION OF A RED STONE SET IN A GOLD RING,
FROM THE WINCHESTER PALACE SITE (WP83), LONDON

M E Hutchinson, FGA DGA

Winchester Palace was built by Henry of Blois in the mid twelfth century, and was the London residence of the Bishops of Winchester until 1626. Between 1983-84, with some later small-scale work, the Museum of London conducted a series of excavations on the site and in 1983 a gold ring set with a red stone was excavated from what was probably a fourteenth century garderobe.

THE RING

The ring is very handsome and contains a considerable amount of gold, so it was an expensive piece of jewellery. The specific gravity (SG), and analysis by energy dispersive X-ray fluorescence spectroscopy (ED-XRF) suggest a gold content of about 75%, 18 carat, the 'pure gold (24 carat)' colour of the surface being due to surface enrichment during burial. The shank is circular and D shaped in section, with the two corners of the D bevelled off. It is not cast in one piece, as the soldered join can be seen. The pear shaped stone sits on a hollow mount shaped to the stone and is held in place by four substantial claws. The mount is attached to the shank by a circular prong which passes through the shank where the shank is soldered together, and is soldered into position. There are what look like soldered joins in two or three places on the mount which are difficult to interpret: in one place they suggest that a section has been added.

The outstanding feature of this ring is its condition, for there is absolutely no sign of wear. The edges of the bevels round the shank are sharp all the way round, and the band is no thinner on the far side from the stone than anywhere else. The claws are unworn, though there is a small area on one claw which looks as though it was scraped during excavation. In one area a small flat piece of gold is still attached to the left side of a claw where it touches the stone, possibly dating from when the claws were closed on the stone.

Context: (5211)
Accession No: /514\

Section through shank

Outside diameter: 22.4mm
Thickness of shank: 2.6 - 2.8mm
Width of shank: 5mm

inside  outside
not to scale

Weight: 10.37g
Specific gravity: 14.97. This includes the stone which has a theoretical SG of 4, but the stone is not big enough to alter the result appreciably.

ED-XRF analysis shows gold with some silver and a very little copper, this last probably added to stop the colour getting too pale.

THE STONE

The stone is a pear shaped cabochon, held in place by four substantial claws, one at each end and one on each side. It looks red in the hand, but this pales to pink if a moderately powerful light is passed through it. It is transparent and has a high lustre. There are three small areas of damage on the top and side of stone which have earth in them, suggesting they are pre excavation. The two shallow, curved depressions were made during cutting and polishing, possibly to remove flaws.

The absorption spectrum of the stone was examined by hand-held spectroscopy and found to be typical for ruby, the lines in the blue confirming that the stone was not a red spinel. This was checked with a dichroscope, and the stone was found to be dichroic, (spinel is not). The stone was then examined under low-powered microscope, and with a magnification of x40, long acicular inclusions were seen, oriented in three different directions, giving a white gleam to the surface in some areas. This is the phenomenon known as 'silk' which is typical of rubies found in Burma, suggesting that this is where the stone comes from. Other inclusions support this view.

Length: 5.6mm stone
Width: 4.1mm
Thickness: c2.0mm
Absorption spectrum: typical for ruby
Dichroism?: dichroic

Viewed as a cut stone, the quality is quite good. The inclusions add interest and prove the stone to be natural and untreated, without detracting from its appearance. Even the stress features are useful, as they reflect the light. Rubies of far inferior quality and colour are cut nowadays, and good quality rubies have never been common, hence the statement in the Old Testament that 'No mention shall be made of coral, or of pearls: for the price of wisdom is above rubies.' (Job 28, 18).

It is not known when the Burmese ruby mines were first discovered: the first real record in Burmese history is that they were taken over from the Shan in 1597 in exchange for Mong Mit (Momeit) and that they were then in full operation.

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