

Scientists' new chemical blueprint could be the answer to tackling stone theft

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Scientists at Loughborough University hope their early trials of a new

chemical blueprint technique could assist a crackdown on stone theft.

Rural parts of Britain have been experiencing a surge in [stone](#) thefts recently, including paving slabs and garden ornaments, and as a result, MPs have brought the issue of this new and emerging crime to Parliament's attention.

The results of a UK heritage crime survey, supervised by Dr Louise Grove at the University's Department of Social Sciences, and sent to those working in heritage conservation and enforcement, have indicated that stone is now the third most popular target for thieves at heritage sites behind copper and lead.

One of the main problems faced by police officers is the mammoth task of tracing unmarked stone once it has been sold on.

But Dr Paul Kelly, of the University's Chemistry Department, said his research team are in the early stages of trialling a new technique which could prove to be a useful weapon in the fight against stone theft.

The procedure involves extracting a chemical blueprint from stone using a gelatine sheet (the sort normally used to lift developed fingerprints or footprints). The sample is then scanned using laser induced breakdown spectroscopy (LIBS).

The group has previously shown that the LIBS/gelatine lift combination is effective in metal theft detection and can create a 'map' of metal traces that are present on a suspect's hands. It is this method which Dr Kelly and his team believe has the potential to be used to trace the [geographical location](#) of stone by analysing the residual traces on the gelatine sheet.

"We believe our non-invasive technique could provide a much needed

link between suspected stolen stone and its original geographical location, but it is very early days" said Dr Kelly.

"This technique of lifting a sample from the surface of stone and scanning it could ultimately lead to us feeding the results into a national database, providing an indication of where geographically that sample came from. This can be done by comparing the stone samples with other stone located across the country and could prove to be a useful point of reference for those tackling stone theft.

"Our preliminary work has produced some encouraging results, and it is possible that our chemical blueprint technique could be the missing piece to the stone theft puzzle."

Provided by Loughborough University

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