Issue 01 • May 2010

LGC Forensics News

Welcome

Welcome to the first issue of LGC Forensics News, our new quarterly newsletter designed to keep you up-to-date with developments at LGC as well as within the wider world of forensic science.

The aim of this newsletter is to provide an insight into our company and some typical cases we are involved with, as well as innovation in forensic science.

This issue features information on the highly publicised drug mephedrone, the announcement of a new evidence recovery kit and two articles describing cases where DNA profiling carried out in our laboratories assisted police in identifying and prosecuting offenders.

We hope you enjoy reading our first issue and find the contents beneficial.

Steve Allen,
Managing Director

Operation Odyssey murder solved after 26 Years


Colette Aram

The murder of 16 year old Colette Aram in Nottinghamshire in October 1983 was the first ever case to be featured on the BBC's Crimewatch. It would later become one of the most famous unsolved cases in the history of Nottinghamshire Police.

Colette Aram's body was found in a field near to her home – she had been sexually assaulted and strangled. During the initial investigation, samples were taken for analysis from the scene of the crime and from the toilets of a local pub where the landlady had reported serving a man with blood on his hands shortly after the incident. At the time, this evidence did not identify any suspects.

Twenty one years after the teenager's life was taken, investigators followed potential leads they received as a result of the case being featured on a 2004 episode of Crimewatch. These led police to focus the cold-case investigation, code-named 'Operation Odyssey', on local businessman Paul Hutchinson. However, Hutchinson managed to escape justice until the use of DNA profiling techniques provided the police with a breakthrough.

Forensic scientists obtained a full DNA profile of the attacker from a hand towel he had used at the pub. Nottinghamshire police regularly ran the profile through the National DNA Database (NDNAD) hoping to find a match, and when this proved unsuccessful, they approached LGC Forensics in November 2007. Our DNA team at Teddington set out to determine whether there were any 'near misses' on the NDNAD, which might indicate the presence of a family member. To achieve this, our experts used a familial searching technique which provided them with a list of potential relatives of the attacker.

To narrow the search, our dedicated team used another advanced DNA technique ...Click to continue on page 2

This issue

- Crime scene DNA team identify prolific offenders in Gwent
- New gunshot residue (GSR) evidence kits
- Animal DNA
- Mephedrone: Time for action
- Team focus
- A new era

LGC Forensics

Continued from page 1
known as Y-STR profiling. Y-STRs are passed down from father to son, providing powerful links between males in the same family. Samples were taken from over 700 males, from which 300 were prioritised and tested for Y-STRs, but this produced no matches. As more samples were added to the Database, more individuals were prioritised and tested.

Eventually, one of the samples tested was identified as a near identical match to the Y-STR profile – it had been provided by a young man arrested for a driving offence. Further reference samples were taken from this man's family, including two of his uncles and, on 7 April 2009, a sample was taken from his father, Paul Hutchinson.

The family reference samples were delivered by helicopter to our laboratory in Runcorn, where they were analysed in the dedicated PACE (Police and Criminal Evidence Act) facility. The PACE team processed the results and released them to the SFDNA (Specialist Forensic DNA) team in Teddington for interpretation and the entire process was achieved within nine hours. Nottinghamshire Police had finally caught the man who had eluded them for over two decades – Hutchinson was charged with murder and pleaded guilty in the hearing at Nottingham Crown Court in December 2009. He was later sentenced to a minimum of life imprisonment.

Crime scene DNA team identify prolific offenders in Gwent

Last year, our crime scene DNA team carried out a large amount of work for Gwent Police to help solve a spate of burglary dwellings in and around Newport. Code named 'Operation Conifer', the investigation looked into a number of burglaries that were committed in very close proximity to each other over the summer of 2009, and all with the same unusual M.O. (Modus Operandi) – pieces of decorative flint from nearby gardens were used to smash the glass on rear doors and windows to allow offenders to gain access.

Small pieces of flint stone were recovered from within many of the targeted properties, and it appeared they had been thrown through the lower glass panels of kitchen doors. Traces of DNA were found on the flint, which proved key in identifying the people responsible for this recurring crime. Detailed analysis of the crime scene DNA resulted in a key suspect being identified from the National DNA Database (NDNAD). Following an investigation, the

Decorative flint similar to the pieces used in the Gwent burglaries

suspect confessed to several burglaries in the surrounding area, all close to the M4 Motorway, and officers were also led to arrest a number of other suspects.

Fourteen males aged between 13 and 20 were charged with specific burglaries where laptops and other electrical items were stolen. With the combination of putting these key offenders behind bars and an increase in targeted patrols from local forces, Gwent Police are hoping to see a reduction in the number of burglary dwellings in the East Newport area.

New gunshot residue (GSR) evidence kits

We are pleased to announce the introduction of two new advanced gunshot residue (GSR) evidence collection kits. Our forensic experts contributed to the design and development of the kits in collaboration with WA Products UK, a highly trusted supplier to the UK forensic market.

The new LGC Forensics-branded kits are contamination-free, easier to use and more cost-effective than previous designs. One of the kits is designed for use on individuals and the other for use at scenes. Both GSR kits contain adhesive stubs that are easy to use in the field, are more effective at recovering GSR than swab kits and – because they require less processing before analysis than adhesive tapes – can be analysed more quickly. The GSR kits have been specifically designed for processing on LGC Forensics' laboratory equipment; this compatibility means a reduction in processing times, thus creating cost savings for police forces that use the new kits.

Steve Allen, Managing Director of LGC Forensics, commented: "The development of these GSR kits demonstrates LGC Forensics' commitment to the development of high quality and modern forensic science techniques. The science of forensics is progressing rapidly and we are proud to play our part in the development of quality products and services, whilst also finding ways to reduce costs for UK police forces".

General purpose GSR evidence collection kit

For more information please visit:
www.waproducts.co.uk
(Home> Various Kits> All Products)

Sales enquiries should be directed to:
Stuart Wiseman at WA Products UK
Tel: +44 (0)1621 786 654

Animal DNA

LGC Forensics introduces team of animal DNA specialists

We have recently welcomed specialists in non-human DNA, Dr Ross McEwing and Dr Rob Ogden, who have spent the past six years developing and applying forensic DNA techniques to the analysis of animal trace evidence.

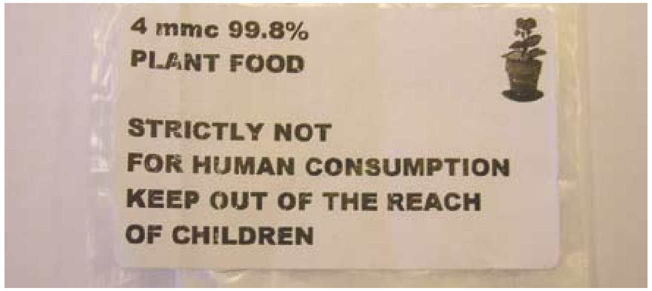
Employed to provide animal forensic DNA services from the specialist DNA unit at our Teddington site, the team is focussing on techniques for species identification and individual identification of canine and feline DNA. The work typically supports the investigation of serious crimes either directly involving animals or involving trace transfer of items such as dog hairs.

Our experts recently used a non-human DNA profiling technique in the UK to help solve the gang murder of Oluwaseyi Ogunyemi.
Click the link for more info:
http://news.bbc.co.uk/1/hi/england/london/8559319.stm

Next issue...
Find out how the team used this novel technique to help police crack the case.

Mephedrone: Time for action

Mephedrone (4-methylmethcathinone) is now regularly being submitted to LGC Forensics, usually in the form of a white powder. The material is colloquially known by various names, including “M-Cat”, “MC”, “mieow”, “meow”, “4MMC” and is often sold as plant food (which it definitely is not). Users report that, when ingested, it has effects similar to those of amphetamine and cocaine. Mephedrone is a relatively new material and had not been controlled under the Misuse of Drugs Act 1971. Mephedrone has been marketed as a ‘legal high’ and, along with similar legal highs, it is widely available from head shops (retail outlets specialising in drug related paraphernalia) and internet outlets. To bypass medicines legislation, enforced by the Medicines and Healthcare products Regulatory Agency (MHRA), these products are usually labelled as being “not for human consumption”. However, despite this, it is widely understood by users that the materials are psychoactive substances, intended for use as stimulants and euphoriants. A number of related compounds are being marketed in a similar way, but mephedrone has been the main substance in circulation.



“MEOW” packet analysed at LGC Forensics

In the UK, up to 25 fatalities have so far been associated with mephedrone use. However, given the very recent emergence of the drug, only limited scientific data concerning its effects, toxicity or potential for dependency is yet available. In one case, Louis Wainwright, 18, and Nicholas Smith, 19, died in Scunthorpe on 15 March 2010 after allegedly taking mephedrone, along with other drugs and alcohol. Mr Smith’s parents have said they believed their son would not have taken mephedrone if it had been illegal; his father commented: “I am convinced he (Nicholas) took it because it was legal, why would anyone assume it could kill you?”. However, the police officer in charge of the case has pointed out that it would be some weeks before toxicology tests could determine the cause of the teenagers’ deaths and whether mephedrone was a contributory factor.

Between February 2009 and February 2010, LGC Forensics analysed 293 exhibits containing mephedrone. Of these, 273 were submitted in the period August 2009 to February 2010, reflecting the dramatic increase in the availability of the material in recent months. Laboratory analysis has so far shown that mephedrone seizures are relatively pure and unadulterated; however some of the seizures have contained caffeine. A smaller number of seizures also contained common cocaine cutting agents and ten have contained cocaine, which may suggest mephedrone is either being used to cut cocaine or is being sold as cocaine.

> Between February 2009 and February 2010, LGC Forensics analysed 293 exhibits containing mephedrone.

The Advisory Council on the Misuse of Drugs recently considered the risks presented by mephedrone and related compounds and recommended that the substance should become controlled. The Home Secretary immediately introduced an import ban (these materials are believed to be produced overseas and imported into the UK) and legislation to add mephedrone and related compounds to the Misuse of Drugs Act was pushed through during the ‘wash up’ period in advance of parliament’s dissolution for the election. This additional legislation came into force on Friday 16 April 2010, when mephedrone and related compounds became Class B controlled drugs.

Source: *http://news.bbc.co.uk/1/hi/englandhumber/8573051.stm* - 17 March 2010

Team focus

Customer contact centre, Culham

The LGC Forensics customer contact centre (CCC) was set up in January 2009 as a central point of contact for external enquiries. Its aim is to improve customer service by providing customers with just one local-rate telephone number when contacting the company.
The CCC currently consists of four dedicated staff, who ensure the department is manned between 8am – 6pm Monday to Friday, and callers are able to leave a voicemail message if calling out of hours. Since it went live, the CCC has managed over 40,000 incoming calls.

CCC Manager Dean Hazell commented: “When calls are received into the CCC, the call handler asks a series of questions to determine who needs to deal with the query. Calls are then forwarded to the relevant person or team, and there is the option to leave a message, should they be unavailable. Messages are sent by email so they are recorded electronically, enabling the call handler to ensure that emails have been opened – the team make every effort to ensure customer enquiries are received and dealt with by the relevant members of staff as quickly as possible”.

The CCC team: Stacey Ollenbuttel, Jenny Haines and Kate Riggs with Manager Dean Hazell

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The customer contact centre has proven to be a valuable tool in enabling us to put our customers in touch with the correct people and ensure there is always someone at the end of the phone. To date, the feedback on the CCC, from our customers and internal staff, has been very positive. We have received feedback from various customers saying they find having just one number to call a great benefit in assisting them with their work.

A new era

LGC is acquired with management by European private equity firm Bridgepoint

Setting standards in analytical science

Following a consultation period with various interested parties, we are pleased to announce that LGC has been acquired with management by Bridgepoint from LGV Capital. The transaction values the business at £257 million and was completed in March this year.

David Richardson, Chief Executive of LGC, said that the acquisition marks the start of a new building phase for LGC and an exciting future: “We are delighted that, with Bridgepoint’s support, LGC will be well placed to enhance our market coverage and to continue our progress to becoming a world-leading scientific service business”.

The investment from Bridgepoint will give LGC the resources it needs to continue to grow its business, both organically and by acquisition, and to realise the full potential of each of its four divisions.

Some LGC facts:

- LGC has ca 1,500 employees
- Forecast revenue for the year ended 31 March 2010 was £130m
- LGC operates out of 28 laboratories and centres across Europe and at sites in India, China and the US
- LGC Forensics is the largest of LGC’s four divisions in terms of employees.

Out and about

Conferences and events are a great opportunity for us to meet our customers and showcase our full range of services.

Recently attended:

26th-28th January
DVI Conference
Birmingham

22nd-23rd February
3rd Annual Serious and Organised Crime Conference
London

24th-25th February
Sex Crimes and Vulnerable Adults
Manchester

16th-17th March
E-Crime Congress
London

17th March
Practical Computer and Mobile Phone Forensics Conference
Wyboston Lakes, Bedfordshire

26th-28th March
Euroforensics Conference
Istanbul, Turkey

Look out for us:

8th June 2010

The Forensic Science Society’s

‘In the Round – A Day Aimed at Firearms Experts’
The Royal Armouries, Leeds

(where our firearms department is located)

Two of our firearms experts will be conducting educational workshops throughout the day.

Get in touch

LGC Forensics News is produced with you in mind, so please get in touch with your feedback and any ideas you have for future issues.

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