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## Combining human STR and microbial population profiling: two case reports

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### Highlights

- Faecal trace material can provide valuable information in forensic investigations
- DNA extracts can be used for both human STR and microbial population profiling
- Microbial population analysis as a tool for cell type identification
- Combined report with human STR and microbial population profiling

### Abstract

In forensic case investigations involving human traces, cell type identification has become increasingly important. No longer only the donor of a trace (sub-source level), but also the actions which could have led to the deposition of the trace ('beyond-the-source'/activity level) need to be evaluated by forensic experts. For this evaluation determining the cellular source of a DNA profile can be beneficial. In this report two criminal cases are described where both human STR profiling and microbial population profiling were applied to the same trace sample. Human STR profiling was used to evaluate the sub-source question and microbial population profiling was used to evaluate the source question. The Bayesian framework was used to evaluate the evidence.

**Keywords** Case report, human cell type identification, microbial population profiling

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