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Title: Differential retention of pollen grains on clothing and the effectiveness of laboratory retrieval methods in forensic settings

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1 Differential retention of pollen grains on clothing and the
2 effectiveness of laboratory retrieval methods in forensic settings

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17 Highlights

- 18 • Pollen retention on clothing after a period of light or heavy wear is tested.
19 • Retention patterns are complex. Species and fabric characteristics are important.
20 • Standard washing procedures for removing pollen from fabric are inconsistent.
21 • These are crucial findings for all forensic investigations using palynology.

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26 Abstract

27 Forensic palynology has been important in criminal investigation since the 1950s and often provides
28 evidence that is vital in identifying suspects and securing convictions. However, for such evidence to
29 be used appropriately, it is necessary to understand the factors affecting taphonomic variability (i.e.
30 the variability in the fate of pollen grains before they are found during forensic examination). Here,
31 we test the relative amount of pollen retained on clothing after a period of simulated light or heavy
32 wear based on pollen and fabric characteristics. We also test the efficiency of forensic laboratory
33 protocols for retrieving pollen from fabrics for analysis. There was no statistically significant

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