

1951

## Acid Phosphatase Test for Seminal Stains: A Study of Reliability of Aged Stains

Sidney Kaye

Follow this and additional works at: <https://scholarlycommons.law.northwestern.edu/jclc>

 Part of the [Criminal Law Commons](#), [Criminology Commons](#), and the [Criminology and Criminal Justice Commons](#)

---

### Recommended Citation

Sidney Kaye, Acid Phosphatase Test for Seminal Stains: A Study of Reliability of Aged Stains, 41 J. Crim. L. & Criminology 834 (1950-1951)

This Criminology is brought to you for free and open access by Northwestern University School of Law Scholarly Commons. It has been accepted for inclusion in Journal of Criminal Law and Criminology by an authorized editor of Northwestern University School of Law Scholarly Commons.

## THE ACID PHOSPHATASE TEST FOR SEMINAL STAINS

### A Study of Reliability of Aged Stains

Sidney Kaye

Sidney Kaye is Toxicologist in the Office of the Chief Medical Examiner, Richmond, Virginia, and also is an Assistant Professor at the Medical College of Virginia where he teaches legal medicine and toxicology. Mr. Kaye has contributed previously to this *Journal*. This brief report tells of the results of retesting for seminal stains after clothing had been stored for a long period.—EDITOR.

It is now generally accepted that the acid phosphatase test is a reliable adjunct to the isolation and staining of spermatozoa in the identification of stains of seminal origin. Not only has this test replaced the lesser reliable chemical methods of Florence, and others, but it has also been shown to be specific for man and the higher ape. All other domestic animals and the common body fluids, vegetable juices, and gravies, etc., give negative results.

Since this test is based fundamentally upon the extraordinarily high acid phosphatase content of human male ejaculate, it would be of some medico-legal interest to determine the durability of its high activity several years later, in spite of the fact that the acid phosphatase in seminal stains behaves as a typical enzyme in that treatment with high temperature or with cyanide solution destroys much of its activity.

Five cases of rape in which garments or underclothing were submitted to the laboratory, and later proven by tests to be positive for seminal stains, were stored under ordinary conditions (in a dry room with a temperature of 20-30° C.), for more than two years. These specimen garments were again analyzed for the presence of seminal stains using the acid phosphatase procedure. The same technics as to area size and extraction, etc., were employed. In all cases, these tests were still definitely positive.

A quantitative comparison to exact unit quantity was not attempted between samples of different years, however, it was not of too much importance because of undetermined variables in stain thickness and efficacy of extraction process, and since values of over 25 King-Armstrong units per square cm. of garment was to be regarded positive *per se*.

The early (1947-48) results were recorded as well over 100 King-Armstrong units per square cm. of specimen.

These repeat results (1950) were also recorded as well over 100 King-Armstrong units per square cm.

Although it is quite likely that there may be some diminution in the acid phosphatase activity in a seminal stain several years old, the above results reported in 5 cases, indicates that there is still sufficient activity present to be able to identify old seminal stains beyond any doubt, if properly stored.

#### BIBLIOGRAPHY

1. Carpenter, E. D., and Watson, E. M., Acid Phosphatase Tests for the Identification of Seminal Stains, *Can. Med. J.*, 9:1, 1947.
2. Hansen, P. F., Determination of Acid Phosphatase for Demonstration of Sperm Spots, *Acta Path. et Microbiol. (Scand.)*, 23:187, 1947.
3. Kaye, Sidney, Identification of Seminal Stains, *J. Crim. Law & Criminol.*, 29:79, 1947.
4. Kaye, Sidney, Acid Phosphatase Test for Identification of Seminal Stains, *J. Lab. and Clin. Med.*, 34:728, 1949.
5. Lundquist, F., Medicolegal Identification of Seminal Stains Using the Acid Phosphatase Test, *Archives of Path.*, 50:395, 1950.
6. Riisfeldt, O., Acid Phosphatase Method to Demonstrate Seminal Spots, *Acta Path. et Microbiol. (Scand.)*, suppl., 58:1, 1946.