Alan Graham,[1] *Ph.D.*

Introduction to the Symposium Papers*

The genesis of this symposium was the biological, chemical, and soil evidence presented as part of court proceedings involving a private plane crash near Ruidoso, New Mexico in December, 1989 (Brunk, this series). The plaintiffs claimed that a flaw in the engine design allowed debris to enter and accumulate in a fuel component causing it to malfunction. This biological material included trichomes (plant hairs; Bates, Anderson, and Lee), pollen, (Lewis; A. Graham), and insects (Rozen and Eickwort). Chemical analyses aided in identifying an amorphous substance associated with the trichomes, pollen, and insect remains (Liddell). The evidence from soil analyses proved important in addressing another contention by the plaintiffs that soil, in addition to biological matter, was part of the engine contaminants that caused the crash (Daugherty). Although biological evidence in the form of DNA "fingerprinting" is well known, a significant part of the evidence presented here derived from a broad array of other organic materials, which although less widely used, proved central in deciding the outcome of the case.

The various materials and analyses used in compiling the evidence are a combination unique to court proceedings. The case was of further significance because the defendants included several major international corporations (Allied Signal Inc., Beech Aircraft Corporation, and Pratt & Whitney Canada, Inc.), there was precedent and case law to be considered, and the cost and potential awards were significant. For these reasons, the case was of sufficient legal, biological, and public interest to merit a symposium at the American Institute of Biological Sciences meetings in San Diego, California in August, 1995.

In organizing the symposium it became apparent that the discussions would have value to a wider professional and general audience if a broader array of topics were treated. An introductory paper was included that reviews the many uses of non-DNA biological evidence in forensics (Bock and Norris). Also, one of the most dramatic examples of botanical data used in court was the evidence from plant anatomy presented in the Lindbergh kidnapping case. The evidence is technical and from a highly specialized branch of science and, therefore, has not been extensively treated in popular accounts of the trial. A review of this important case, and the central role of plant anatomical evidence, is presented by S. Graham. An account of the symposium was published in BioScience (December, 1995), and it was the focus of a television interview by Coast Telecourses/KOCE-TV, Huntington Beach, California. This suggested a broad interest in the topic that was important in the decision to publish the papers.

The authors wish to thank the Botanical Society of America and the American Association of Plant Taxonomists for their sponsorship of the symposium. Dr. Kent Voorhees, Colorado School of Mines, Golden, contributed significantly to the chemical and soil analyses. Dr. Grant Kinzer, New Mexico State University, Las Cruces, was another valued member of our team and a genial host during our visit to the crash site. Personnel of SEAL Laboratories, Los Angeles provided much helpful assistance and advice. We also greatly appreciate the opportunity provided by the Journal of Forensic Sciences to make the results available to those interested in this unique application of biological, chemical, and soil data.

An important contribution to these investigations was made by George Eickwort, entomologist at Cornell University. George was killed in an automobile accident in Jamaica in July, 1994. The symposium and these publications are dedicated to the memory of our good friend and respected colleague.

[1]Professor, Department of Biological Sciences, Kent State University, Kent, OH 44242.

*Dr. Graham kindly agreed to act as symposium papers editor, and coordinator, for this Special Series—Editor, J Forensic Sci.

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