

THE NEWSLETTER of



NOV. 1983

VOL. 9 NO. 4

NORTHWEST ASSOCIATION OF FORENSIC SCIENTISTS

Executive Committee

President Don MacLaren
Vice President Rich Brooke
Secretary-Treasurer Lionel Tucker
Executive Committee Member-at-Large Wally Baker
Past President Ken Konzak

Committees

Ethics Arnold Melnikoff
Membership Robert Sager
Publication George Matsuda
Historical Floyd Whiting
Technical Advancement Mike Grubb
Continuing Education Beth Carpenter

Upcoming Meetings

SPRING 1984

May 2, 3 & 4

North Shore Motor Hotel
Coeur D'Alene, Idaho

Program Chairman:
Wally Baker
2220 Old Penitentiary Rd.
Boise, ID 83702

FALL 1984

October 3, 4 & 5

Holiday Inn
Medford, Oregon

Program Chairman:
Brad Telyea
650 Royal Ave., Suite 11
Medford, OR 97501
(503) 776-6118

Presidents Message

Having attended the joint Northwest Association of Forensic Scientists/ Canadian Society of Forensic Science meeting in Vancouver in August and having talked to numerous other people who also attended I think I can report that the meeting was a great success. The quality of the papers presented and the workshop program were excellent. The opportunity to exchange views and information with our Canadian colleagues was very worthwhile.

On behalf of the Northwest Association I would like to thank the Canadian Society and in particular Jeff Caughlin and Brian Hodgson who were responsible for the scientific program and the workshop program respectively. Also a special thanks to Carolyn Kirkwood who represented the Northwest Association in putting the meeting together.

Continuing the combined meeting concept the Northwest Association and the Southwest Association of Forensic Scientists have agreed to a joint meeting to be held in Denver, Colorado in the spring of 1985. Additional information on this meeting will be forthcoming.

Mike Grubb has the 1983-84 Northwest Association proficiency testing program well underway. Serology, hair and drug samples have already gone out and a piece-match sample is being sent out in November. The hair sample is being handled differently this time with the same samples being passed from one lab to another. The test will take almost a year to complete but each examiner will have been able to look at the same hairs. The complete schedule for this years proficiency samples is included elsewhere in this newsletter.

With our organization being in good financial shape we have been looking for ways to spend some of our money which will provide maximum benefits to the membership. The major emphasis during the past year, under Ken Konzaks leadership, has been directed toward expanding our continuing education programs. I hope to continue this emphasis. At the Vancouver meeting the executive committee authorized Beth Carpenter, as chairperson of the Continuing Education Committee, to spend up to \$1000 on reference materials (books, ACS tapes, etc.) for the organizations library. Beth has more information on this program elsewhere in this newsletter. Beth and her various subcommittees are also trying to arrange for various workshops and/or seminars. A drug analysis seminar to be conducted by Bob Sagers staff and another soil analysis workshop to be conducted by Dr. Wehrenberg are in the planning stage. We are very much interested in any proposals in the

continuing education area so feel free to contact Beth Carpenter or myself with your ideas.

It looks to be a busy and hopefully educational year for the organizations membership. Begin planning now to attend the spring meeting in Coeur d' Alene on May 2,3,4 1984. I hope to see many of you there.

Don MacLaren
President

BUSINESS MEETING
OF THE
NORTHWEST ASSOCIATION
OF
FORENSIC SCIENTISTS

AUGUST 18, 1983
VANCOUVER, CANADA

- I. THE MEETING WAS CALLED TO ORDER BY PRESIDENT KEN KONZAK.
- II. THE MINUTES OF THE SPRING MEETING IN MISSOULA, MONTANA WERE ADOPTED AS PUBLISHED IN THE NEWSLETTER.
- III. TREASURER'S REPORT

LIONEL A. TUCKER, JR.
AUGUST 18, 1982 TO OCTOBER 5, 1983

	<u>CREDIT</u>	<u>DEBIT</u>
FUNDS FORWARDED:		
CHECKING ACCOUNT	5,253.14	
MONEY MARKET ACCOUNT (AS OF 03/31/83)	3,268.26	
DUES COLLECTED	100.00	
INTEREST (CHECKING ACCOUNT)	62.82	
PROCEEDS - MISSOULA MEETING (SPRING 1983 MEETING)	197.03	
NEWSLETTER EXPENSES		300.00
AWARD CHECKS (AMERICAN ACADEMY)		100.00
AWARD FRAMES		37.73
HOSPITALITY ROOM - VANCOUVER MEETING (INCLUDES ROOM RENT FOR 3 DAYS)		496.49
WORKSHOPS - CANADIAN MEETING FOR NWAFS MEMBERS		452.00
AMERICAN CHEMICAL SOCIETY, EDUCATION DIVISION (FOR TRAINING AIDS)		1,212.11
SERVICE CHARGE - CHECKING ACCOUNT		11.15
SUB TOTAL:	\$8,881.25	\$2,609.48
TOTAL IN TREASURY: (UNAUDITED)*	\$6,271.77	

* BOOKS AUDITED AUGUST 18, 1982

IV. COMMITTEE REPORTS

A. EXECUTIVE COMMITTEE - KEN KONZAK

1. PURCHASING OF MATERIALS BY THE EXECUTIVE COMMITTEE WAS APPROVED; NOT TO EXCEED \$1,000.
2. ARTICLES GENERATED BY THE PROFICIENCY TESTIFY PROGRAM WILL BE REVIEWED BY THE EXECUTIVE COMMITTEE PRIOR TO PUBLICATION IN THE NEWSLETTER.
3. ADMINISTRATIVE RULES WILL BE ESTABLISHED FOR THE VARIOUS COMMITTEES. ALL CHAIRPERSONS ARE TO SUBMIT THEIR DRAFT RULES TO DON MAC LAREN BEFORE APRIL 11, 1984.
4. GUIDELINES FOR EXHIBITORS FEES WILL BE ESTABLISHED BY THE EXECUTIVE COMMITTEE PRIOR TO THE SPRING 1984 MEETING.
5. BECAUSE COST FOR THE THREE-COLOR PRINTING PROCESS IS QUITE HIGH, THERE WILL BE A CHANGE IN THE NWAFS LOGO COLOR SCHEME TO THE LESS EXPENSIVE TWO-COLOR LOGO.

B. CONTINUING EDUCATION - BETH CARPENTER

1. STANDING SUB-COMMITTEE
(LITERATURE AND LIBRARY REVIEW, WORKSHOP, PLANNING)
 - A. DRUGS - LARRY PEDERSON
ED SUZUKI
WORKSHOP WITH BOB SAGER
 - B. TRACE - CHRISTINE CWIKLIK
WORKSHOP WITH JOHN WEHRENBURG
 - C. ARSON - TOM JENKINS
BILL GRESHAM
 - D. FIREARMS - TERRY BECKENDAHL
 - E. TOXICOLOGY/BA - CAROLYN WHITE
 - F. CRIME SCENE WORKSHOP - JOE RYNEARSON
 - G. SEROLOGY - KEN KONZAK
2. WORKSHOPS - IN CONJUNCTION WITH MEETINGS PROPOSED
(SEE ATTACHED LIST OF THOSE ATTENDING WORKSHOPS AT VANCOUVER).
 - A. DRUG ANALYSIS

- B. SOILS
- C. FUTURE - ANY SUGGESTIONS WOULD BE APPRECIATED FOR WORKSHOPS.
- 3. LIBRARY - ROCKY MINK WILL BE APPROACHED FOR THIS JOB.
 - A. AUDIO-VISUAL TRAINING COURSES - OUR LIBRARY WILL PURCHASE TRAINING AIDS IN:
 - 1. ATOMIC ABSORPTION
 - 2. GAS CHROMATOGRAPHY
 - 3. STATISTICS
 - 4. THIN LAYER CHROMATOGRAPHY
 - B. ALSO AVAILABLE FROM THE SAN FRANCISCO DEA LAB: (CONTACT LIONEL TUCKER OR BOB SAGER)
 - 1. IR
 - 2. GC/MS
 - 3. NMR
 - 4. ORGANIC SYNTHESIS
 - C. ANIMAL SPERM SLIDES ARE AVAILABLE FROM BETH CARPENTER.
 - D. THE RCMP LABORATORY HAS A SERIES OF FIFTEEN COURSES IN TOXICOLOGY. CONTACT WAYNE JEFFREY.
 - E. JOE RYNEARSON WILL OBTAIN TWO SLOTS FOR THE NEXT CRIME SCENE COURSE IN CALIFORNIA. IF INTERESTED IN GOING THIS YEAR, CONTACT BETH CARPENTER.
- C. TECHNICAL ADVANCEMENT COMMITTEE - MIKE GRUBB
REPORTS HAVE BEEN SENT OUT ON THE PROFICIENCY TESTING PROGRAM. THE PROGRAM IS CONTINUING.
- D. PUBLICATIONS COMMITTEE - GEORGE MATSUDA
 - 1. GEORGE REQUESTS ASSISTANCE IN IMPROVING THE NEWSLETTER.
 - 2. MANY MEMBERS HAVE NOT SENT IN THEIR "ROSTER UPDATE" FORM. PLEASE FILL OUT THE FORM THAT WAS IN THE AUGUST 1983 NEWSLETTER AND SEND IT TO GEORGE IMMEDIATELY. OTHERWISE YOUR ADDRESS MAY BE WRONG ON THE NEW ROSTER TO BE PUBLISHED THIS WINTER.

3. ALL ARTICLES FOR THE NEWSLETTER ARE TO BE SUBMITTED ON 8½" X 11" PAPER.
4. THE COEUR D'ALENE LABORATORY HAS BEEN TASKED TO DEVELOP A FORMAT FOR ABSTRACTING ALL PAPERS TO BE PRESENTED AT THEIR SPRING MEETING. THIS WILL ALLOW US TO PUBLISH THESE ABSTRACTS IN OUR NEWSLETTER.

E. HISTORICAL/ETHICS - NO REPORT

F. MEMBERSHIP COMMITTEE - BOB SAGER

1. THREE MEMBERSHIPS HAVE BEEN TERMINATED FOR FAILURE TO PAY DUES FOR TWO YEARS:

ALICE AMMEN
BETTY BOGGS
ELLIOT BYALL

2. GLEN ASHMORE CHANGED HIS MEMBERSHIP FROM REGULAR TO CORRESPONDING STATUS.

THE FOLLOWING ACTIONS WERE APPROVED BY UNANIMOUS VOTE OF THE MEMBERS PRESENT:

3. NEW PROVISIONAL MEMBERS (LEADING TO ASSOCIATE STATUS):
RODNEY GULLBERG, STATE LAB, SEATTLE, WASHINGTON
ANDREW HELD, CONSULTING LAB, PORTLAND, OREGON
JOHN LUNDY, MEDICAL EXAMINERS OFFICE, PORTLAND, OREGON
4. NEW PROVISIONAL MEMBERS (LEADING TO REGULAR STATUS):
ED BLAKE, CONSULTING LAB, EMERYVILLE, CA
CINDY JAY, STATE LAB, SEATTLE, WASHINGTON
GARY MONG, STATE LAB, KENNEWICK, WASHINGTON
CHESTER PARK, STATE LAB, SPOKANE, WASHINGTON
KURT SCUDDER, STATE LAB, BOISE, IDAHO
5. PROVISIONAL MEMBERS ELEVATED TO REGULAR STATUS:
JEFF CAUGHLIN, RCMP LAB, VANCOUVER, B.C.
ROGER ELY, STATE LAB, KELSO, WASHINGTON
KERSTIN GLEIM, STATE LAB, SEATTLE, WASHINGTON
JULIE LONG, STATE LAB, MISSOULA, MONTANA
DALE MANN, STATE LAB, SEATTLE, WASHINGTON
KEN MC DERMOTT, STATE LAB, KELSO, WASHINGTON
RON RIVERS, MEDICAL EXAMINER, MISSOULA, MONTANA
ED SUZUKI, STATE LAB, SEATTLE, WASHINGTON
STEVE TAORMINA, COLUMBUS HOSPITAL, GREAT FALLS, MONTANA
GLENN WELKER, STATE LAB, MISSOULA MONTANA

6. THE CONSTITUTIONAL REQUIREMENT TO ATTEND AT LEAST ONE OF SIX CONSECUTIVE MEETINGS WAS WAIVED FOR ONE MORE YEAR.

7. NEW OFFICERS:

PRESIDENT - DON MAC LAREN, STATE LAB, SEATTLE, WASHINGTON
VICE PRESIDENT - RICH BROOKE, STATE LAB, PORTLAND, OREGON
SECRETARY-TREASURER - LIONEL TUCKER, DEA LAB, SAN FRANCISCO, CALIFORNIA
MEMBER-AT-LARGE - WALLY BAKER, STATE LAB, BOISE, IDAHO

8. AWARDS

THE ANNUAL AMERICAN ACADEMY OF FORENSIC SCIENCES AWARDS WERE PRESENTED TO:

BRAD TELYEA, STATE LAB, MEDFORD, OREGON
PAMELA SERVER, STATE LAB, BOISE, IDAHO

OUR THANKS TO THESE MEMBERS FOR OUTSTANDING SERVICE TO THE FORENSIC SCIENCE COMMUNITY AND FOR THIS ASSOCIATION.

9. TOTAL MEMBERSHIP - 142

G. OLD BUSINESS - NONE

H. NEW BUSINESS

1. MEETING SITES

- A. SPRING 1984 - MAY 2-4, NORTH SHORE CONVENTION CENTER, COEUR D'ALENE, CHAIRPERSON: BOB MARTIN, WITH ASSISTANTS WALLY BAKER AND PAM SERVER.
- B. FALL 1984 - MEETING TO BE HELD IN MEDFORD, OREGON. BRAD TELYEA WILL BE CHAIRPERSON.
- C. SPRING 1985. WE HAVE AGREED TO TRY FOR A JOINT MEETING IN DENVER WITH THE SOUTHWEST AND MIDWEST ASSOCIATIONS. PRESIDENT DON MAC LAREN WILL SUBMIT OUR PROPOSAL TO THESE GROUPS.
- D. WE HAVE AGREED TO TRY FOR A JOINT MEETING IN 1987 WITH THE INTERNATIONAL AND CANADIAN ASSOCIATIONS IN VANCOUVER. PRESIDENT DON MAC LAREN WILL FOLLOW-UP ON THIS PROPOSAL.

2. THE ASSOCIATION APPRECIATES THE WORK BY CAROLYN KIRKWOOD TO PUT THIS MEETING TOGETHER.

RESPECTFULLY SUBMITTED


LIONEL A. TUCKER, JR.
SECRETARY-TREASURER

NOTE FROM THE VANCOUVER MEETING:

Bob McClymont with the Fish & Wildlife Division in Alberta requests that anyone in the Northwest Association who asked him for information on his acrylamide method contact him again if they are still interested in receiving the information. The names and addresses of these individuals were inadvertently destroyed. Bob's address is:

Fish & Wildlife Division
Alberta Energy & Natural Resources
7th Floor O.S. Longman Building
6909 116 St.
Edmonton, Alberta, Canada T6H4P2

CONTINUING EDUCATION REPORT:

Continuing education is a major focus for the upcoming year. As most of our labs have been experiencing budget problems, an attempt is being made by the NWAFS to assist in training our members. Several subcommittees have been formed with the intent that these individuals will be able to identify and initiate needed training in their respective areas.

Drugs: Larry Pederson, Ed Suzuki
Trace: Chesterene Cwiklik
Arson: Tom Jenkins, Bill Gresham
Firearms/Toolmarks: Terry Bekkedahl
Toxicology/BA: Carolyn White, Wayne Jeffrey
Crime Scenes: Joe Rynearson
Serology: Ken Konzak

I would encourage you to contact these people or myself with your ideas and needs.

In addition to the workshops mentioned in the president's letter, a statistic workshop is being considered. Some of the workshops will be held prior to the regular meetings but it is the intent that others will be held at times and sites separate from the meetings. One available location is the RCMP Training Center in Vancouver, BC. The costs for room and board are minimal and the facility is available during May, June, July and August.

Your input is also requested for the newly formed library. The intent of the library is to supply seldom used but valuable information available to members on request. Our meager inventory currently consists of a set of McCrone animal spermatozoa slides. Audio tapes have been ordered from the American Chemical Society on Atomic Absorption, Gas Chromatography, Probability and Statistics, and Thin Layer Chromatography. The DEA has additional tapes which are available to the membership. These tapes are on Infrared Spectroscopy, Mass Spectroscopy, Nuclear Magnetic Resonance and Organic Synthesis. Our librarian will be James Gaskill.

Elizabeth Carpenter

PROFICIENCY TEST ORGANIZERS, NWAFFS 1983-84

JULY 1983, SEROLOGY (NWAFFS 83-7)
Paul Norvell
Vancouver City Analyst Lab

SEPTEMBER 1983, HAIR (83-9)
Dick Lehman
Colorado Bureau of Investigation

This is a rotating test. In other words, the same set of questioned & standard hairs are sent from lab to lab so that everyone will look at the same samples. Should be completed in about 1 year.

OCTOBER 1983, DRUGS (83-10)
Bill Gresham
Washington State Patrol, Seattle

NOVEMBER 1983, PHYSICAL MATCH (83-11)
Bill Newhouse
Montana State Crime Lab

DECEMBER 1983, SEROLOGY (83-12)
Enrico Togneri
Washoe Co. Crime Lab

JANUARY 1984, DRUGS (84-1)
Bob Sager
DEA, San Francisco

FEBRUARY 1984, FIREARMS (84-2)
Gaylan Warren
Washington State Patrol, Spokane

APRIL 1984, SEROLOGY (84-4)
Don MacLaren
Washington State Patrol, Seattle

MAY 1984, DRUGS (84-5)
Kurt Scudder
Boise, Idaho

JUNE 1984, FIBERS (84-6)
Gary Knowles
Oregon State Police, Portland

FIRST SYMPOSIUM OF THE COMMITTEE ON FORENSIC HAIR COMPARISON

The ad-hoc Committee on Forensic Hair Comparison held their first symposium at the FBI Forensic Science Research and Training Centre in Quantico, Virginia from May 31 to June 3, 1983. In attendance were hair examiners from a number of different forensic laboratories in the U.S.A., Canada and Britain as well as representatives from university forensic science programs, McCrone Associates Inc. and the National Bureau of Standards. This symposium was mainly concerned with three aspects of forensic hair comparison:

- (1) Definition and Standardization of Terminology;
- (2) Establishment of a Protocol for Hair Comparison; and
- (3) Illustration of Hair Comparison Characteristics.

Each of these three areas was discussed by a sub-committee. Their recommendations were then presented to the symposium as a whole for discussion. The sub-committees then met again to revise and complete their recommendations.

The work product of the symposium will consist of two publications. The first will include a report on the meeting, a list of recommended terms and definitions relating to forensic hair comparison, a recommended hair-comparison protocol and a list of macroscopic and microscopic hair characteristics. The second will be in the form of an atlas illustrating a wide range of macroscopic and microscopic hair characteristics. An announcement will be made in this journal as soon as these can be completed and made available.

It is the committee's plan to hold a second symposium in the spring of 1984. At that time, in addition to the continued discussion of hair comparison characteristics, three other areas will be addressed. These are:

- (1) Conclusions and Court Testimony;
- (2) Training of Hair Examiners; and
- (3) Collaborative Testing.

The final day of the first symposium was devoted to formation and initial meeting of sub-committees to deal with these topics.

Anyone who has any ideas or material they would like to share with the Committee and anyone who would like further information can contact the chairman, Barry Gaudette, at (613) 993-0554, or write:

Barry Gaudette,
Royal Canadian Mounted Police,
Chief Scientist - Hair & Fibres,
Central Forensic Laboratory,
P.O. Box 8885, Ottawa, Ontario,
Canada. K1G 3M8

The following excerpts are from PICOGRAM, a publication of the Washington State Patrol Crime Laboratory edited by Kerstin Gleim and Chris Sewell in Seattle. The excerpts are reprinted here with the individual contributor's permission.

CHEMISTRY

From the Seattle Lab:

Valium injectable contains DIAZEPAM and 40% propylene glycol. A simple base/ether or base/chloroform extraction will extract the propylene glycol in addition to the diazepam. An IR of the organic phase shows strong absorptions of propylene glycol. To remove the propylene glycol, wash the ether or chloroform layer several times with water. The propylene glycol is more soluble in water than in ether or chloroform. In this way, the propylene glycol is removed, and the diazepam remains in the organic layer.

--Ed Suzuki

From the Spokane Lab:

A clandestine COCAINE laboratory was found in Whitman County. A tan powder in the laboratory was determined to be 2-carbomethoxytropinone which is two steps away from cocaine (see "Clandestine Laboratory Guide for Agents and Chemists", Synthesis II for cocaine). Several other intermediates were found and identified. The Spokane Lab finished the synthesis for court purposes demonstrating that the 2-carbomethoxytropinone was an intermediate in the synthesis of cocaine.

In several submissions of poppy plants that may not be Papaver somniferum a difference in the concentrations of codeine, morphine, thebaine, and papaverine has been noted. These differences seem to be related to the geographical area in Washington where they were grown.

--Daryl Brender

From the Kelso Lab:

COCAINE and ephedrine were found in an exhibit of white powder in a recent case from Tacoma. An IR spectrum of the sample of cocaine was obtained using the tartaric acid derivative method of Sorgen¹.

¹G. Sorgen, Microgram, April 1977 and August 1983.

The resultant IR spectrum showed some similarities to the standard (-)cocaine-(+)-di-p-toluoyl-(D)-tartaric acid [(+)DpTDTA], but contained a major absorption band at 1600 cm-1 and a band at 2490 cm-1 (see attached fig. 1). The problem seemed to be that ephedrine followed the extraction path of the cocaine, even as far as being resolved as an optically active compound by the (+)DpTDTA. It became necessary to selectively extract the cocaine, isolating it from the interfering ephedrine.

The following method was found to isolate the cocaine from the ephedrine, and the proper IR spectrum for the (-) cocaine was obtained:

1. A sample of the powder is dissolved in aqueous sodium bicarbonate.
2. The aqueous layer is extracted once with petroleum ether.
3. The petroleum ether layer is transferred to another culture tube where it is washed once with more aqueous sodium bicarbonate.
4. The volume of the petroleum ether is reduced, and the (+)DpTDTA in acetone is added, as in the normal procedure.

It seems that some amines have a greater affinity for extraction into petroleum ether than others. This method also works in the isolation of amphetamine and methamphetamine from ephedrine^{2,3}.

--Roger Ely

From the Tacoma Lab:

A clandestine METHAMPHETAMINE laboratory was seized in Tacoma. Several empty or partially empty containers were found with sulfuric acid, benzyl cyanide, ether, and ethanol, respectively. The benzyl cyanide was an oily residue that was applied to silver chloride plates and confirmed by IR. The ethanol was also identified by IR. In addition, packets of off-white powder were found. An IR of the hydrochloride salt made after extracting with chloroform from an aqueous basic solution indicated interfering substances. A good IR of methamphetamine was obtained by washing the powder with several portions of ether, then making a KBR pellet on the remaining powder. Strong micro-crystals were also obtained on the cleaned powder. It was thought that the benzyl cyanide was used to make phenyl-2-propanone, and that residues of this and other intermediates were still present in the powder. Since methamphetamine hydrochloride is not very soluble in ether and many of the intermediates are, washing with ether is a simple purification process. See "Clandestine Laboratory Guide for Agents and Chemists" for synthesis routes.

--Larry Hebert

²J. Heagy, DEA San Francisco, personal communication, August 25, 1983

³A. VanderVeer, Fresno County Sheriff's Department Crime Laboratory, personal communication, August 25, 1983.

CRIMINALISTICS

From the Tacoma Lab:

In an arson case, two pieces of green wood were used to start the fire. A detective looked through a woodpile at the suspect's home and found one piece that appeared to match one of the partially burned pieces of wood from the fire. This piece along with the two from the fire were submitted to the lab. A piece match was done with one of the wood pieces from the fire and the wood piece from the suspect's home using characteristics such as deformations in the bark, saw marks along the cut ends, and a splinter piece that was not sawed through. In addition, the two ends were sanded and burned lightly to bring out details in the growth rings. The combination of class and individualizing characteristics confirmed the match.

--Larry Hebert

FOR YOUR INFORMATION

The Seattle Lab has a product catalog from "Modern Drug Co., Inc." (RUGBY) to aid in identification of their products. A catalog can be obtained by calling 800-423-4312.

--Chris Sewell

Dr. Paul Catts from the Department of Entomology at Washington State University, Pullman, WA 99164, (509) 335-5504, is a forensic entomologist whose services are available to identify insects or insect larvae. His specialty is judging time of death when a corpse is old enough to have insects or insect larvae growing in it. He may also be able to look at the fauna around the corpse and establish whether a body has been moved.

--Kerstin Gleim

Samples of non-controlled bromazepam (as primary) and hectopam (the Canadian pharmaceutical preparation of bromazepam) are available free of charge from:

Peter Sorter, PhD
Hoffman-LaRoche, Inc.
Department of Clinical Pharmacology
Nutley, N.J. 07110

A letter requesting samples should include:

- 1) quantity desired.
- 2) what it is to be used for: e.g. laboratory standard and/or instrument search systems.
- 3) a statement that it will not be used in humans.
- 4) your DEA license number.

--Carol Murren

CALL FOR PAPERS

Abstract of paper to be presented

NWAFS Meeting Missoula Meeting, Spring 1983

Vancouver Meeting, Fall 1983

Title Improving the Quality of Rape Evidence Collection: Idaho's Approach

Author(s) Pamela Server, State Crime Lab, 2220 Old Pen. Rd., Boise, ID 83702

Amount of time required for presentation 1 hr. 15 min.

Audio-Visual Equipment Needed Slide Projector

Abstract (Please limit to 100 words)

A new source of grant money for crime labs was described. In 1981, Congress passed the Omnibus Reconciliation Act - Preventive Health & Health Services Block Grant. Each state's share of the three million dollars available each year is based on population. The Idaho Crime Laboratory shares the \$12,000 each year with the Rape Crisis Group. Great latitude is allowed for grantees on the use of the money. The emphasis of the grant is on "Rape Prevention" so the repetitive nature of rapists was emphasized. Since the Crime Lab assists in the successful prosecution and subsequent removal of the rapists from the community, the lab's request was approved. Slides were shown that are used in training emergency room personnel, police officers and prosecutors at training seminars with an explanation of the sex crime kit being used in Idaho.

Send to: Missoula Meeting
Arnold Melnikoff, Program Chairman
Division of Forensic Science Lab
275 West Front
Missoula, Montana 59802



STATE OF WASHINGTON

WASHINGTON STATE PATROL

Public Safety Building • Seattle, Washington 98104 • (206) 464-7038 • (SCAN) 576-7038

"Unusual and Possibly Misleading Manufactured Characteristics in the Soles of Tennis Shoes," by Cindi Jay, Washington State Patrol Crime Laboratory, Seattle, Wa.

Over the past five years a new type of athletic shoe sole has been manufactured and marketed. This is a polyurethane sole and is used almost exclusively on shoes made for tennis to be played on asphalt. Numerous polyurethane soled shoes were looked at. The soles of each exhibited defects which when translated into a print could be mistaken for randomly caused nicks and cuts. When comparing the pattern of these defects on two new shoes of the same type and size, it was found that the location and size of the defects were very similar. Therefore, prints from these shoes would be virtually indistinguishable. This type of defect was not observed on any of the numerous rubber soled shoes also examined. Photographs depicting the defects in several polyurethane soled shoes were presented, along with photographs showing the differences between polyurethane and rubber soled shoes.

ABSTRACT

INCIDENCE OF THC METABOLITES AS ANALYZED BY EMIT IN DRIVERS INVOLVED IN
MOTOR VEHICLE FATALITIES IN MONTANA WITH BLOOD ALCOHOL LEVELS OF LESS THAN
0.10%

by Jim Hutchison and Janis Fulton
Montana State Crime Lab

In March, 1982, the DWI/Toxicology section of the Montana State Crime Lab was granted funding for equipment and reagents for a two-year study to determine the incidence of THC in Montana drivers involved in motor vehicle accidents.

Only those subjects from motor vehicle accidents involving fatalities where blood alcohol levels were .10 or less (the legal presumption) were screened. They were screened on Syva's CP-5000 EMIT Immuno Assay System.

As of March 1, 1983, a total of 257 samples had been screened. Of the 202 blood samples screened, 10.8% were positive for THC cannabinoids (Note: 95% men, 5% women). Of the 55 urine samples screened 29% were positive for THC cannabinoids (Note: 68% men, 32% women). In addition, approximately 12% of the 257 samples tested were positive for the presence of drugs; as determined by dual NPD/Gas Chromatography and FID/Gas Chromatography.

Preliminary report on nuclear sex determination of big game. Daniel B. Pond
Montana Cooperative Wildlife Research Unit, Missoula, MT.

Sex chromatin has been reported in fresh embryonic fluids, fetal membranes, gingiva, and white blood cells of deer and frozen skeletal muscle of deer and elk. In this study, skeletal muscle tissue from 31 road killed deer were examined for sex chromatin. The deer had been dead an average of 4 days (Range: 10 min. - 2 weeks) before samples were taken. Samples were fixed in Davidson's fixative and changed to 75% alcohol after 24 hours. Slides were prepared by teasing tissue onto microscope slides and stained for X and Y chromatin with Feulgen and quinacrine dihydrochloride stains. Autolytic changes were noted and 100 whole cells showing no signs of pyknosis or nuclear folding were counted. Cells were considered chromatin positive if a planoconvex body approximately $0.8 \times 1.1 \mu$ lying against the inner surface of the nuclear membrane in a polar position was observed. X chromatin was observed in 40% of the cells in 17 females (SD=3.8) and 4% of the cells in 14 males (SD=2.3) by the Feulgen method. Staining for Y chromatin were inconclusive. Muscle tissue was very resistant to autolytic changes and can be used reliably for sex determination. Autolytically changed females occasionally appeared as males but these changes can be taken into account so a correct determination can be made or none at all.

THE USE OF BIOCHEMICAL GENETICS IN FORENSIC ANALYSIS

Kathy L. Knudsen, Department of Zoology, University of Montana, Missoula,
Montana 59812

Starch gel electrophoresis can be used to distinguish between muscle samples of big game animals. We determined the electrophoretic mobilities of ten enzymes coded by 12 gene loci for the following eight species: black bear (*Ursus americanus*), antelope (*Antilocapra americana*), bighorn sheep (*Ovis canadensis*), bison (*Bison bison*), moose (*Alces alces*), elk (*Cervus canadensis*), white-tailed deer (*Odocoileus virginianus*), and mule deer (*O. hemionus*).

The black bear is distinct from every other species for all twelve loci. All other pairwise comparisons, with one exception, are distinct at four to seven loci. The white-tailed and mule deer samples had identical enzyme mobilities for all loci. Electrophoretic differences do exist, however, between these two species at other loci. Baccus et al. (1983) found mobility differences between white-tailed and mule deer at two out of 17 loci examined.

Starch gel electrophoresis of enzymes can be a valuable tool in forensic analysis. Up to 40 or more samples can be identified to species in a few hours. This is much simpler and faster than the usual procedures that oftentimes can identify only the genus of a sample.

Baccus, R., N. Ryman, M. H. Smith, C. Reuterwall and D. Cameron. 1983. Genetic variability and differentiation of large-grazing mammals. *Journal of Mammalogy* 64:109-120.

ANALYTICAL PROBLEMS RELATED TO SILICA GEL COLLECTION DEVICES

by William Newhouse Montana Crime Laboratory

In response to a potential problem encountered in Mobat analysis, a study was undertaken to determine the effect on ethanol quantitation of a variable silica gel amount in the Mobats. A peak height quantitation technique was employed since this technique was employed in the laboratory until October, 1982. Subsequent to October, a peak area/internal standard method of quantitation was adopted. Experiments demonstrated that the problems described below do not influence quantitative results with the latter technique.

For some time Mobats supplied by the manufacturer contained 230 mg quantities of silica gel. This quantity was then changed to 460 mg of silica gel and a mixture of the two types of Mobats was then present in the field. A peak height difference was noted between a series of standard Mobats run off the same simulator solution. The difference arose from the silica gel amounts present in the Mobats. Specifically, if an unknown sample from a 460 mg tube is compared to a reference standard from a 230 mg tube (or vice versa), a peak height difference is present that is indistinguishable from peak height differences due to varying ethanol concentrations. Analytical results reported will either be accurate, low by approximately 20% or high by approximately 26%, depending on which tube was used as a standard and which tube was being measured. Effects due to any mesh size variances would be included in these percentages and were not defined independently.

The chart below illustrates the quantitative differences encountered at various blood alcohol concentrations.

ETHANOL CONCENTRATIONS (GM%)			
Reference Standard	Analytical Results	Reference Standard	Analytical Results
230 mg tube	460 mg tube	460 mg tube	230 mg tube
.100	.08	.100	.126
.200	.16	.200	.252
.300	.24	.300	.378

Any use of silica gel breath collection devices should be implemented in conjunction with a quality control program by the user agency to monitor the manufacturer's own quality control of the silica gel amounts and mesh size.

Title: Organization and Management of a Small Crime Lab

Abstract: The South Dakota Criminalistics Laboratory serves the state's 690,000 people and the law enforcement community by conducting scientific examinations to assist criminal investigations, by instructing investigators on methods of collecting and preserving physical evidence and providing expert testimony on the results of examinations. Three full-time employees conduct the daily business of the crime lab in approximately 1150 square feet of laboratory space that was, for the most part, designed for offices.

Presented to: Northwest Association of Forensic Scientists, Missoula, Montana, May 4, 1983.

By: Rex E. Riis, Criminalist, S. D. Crime Lab, Criminal Justice Training Center, Pierre, SD 57501.

- Outline:
- I. History to Present
 - A. Personnel management within lab
 - B. Organization
 - C. Budget
 - II. Services Offered
 - III. Workload Management
 - IV. Conclusions

SEX DETERMINATION FROM DRIED BLOODSTAINS USING GC/MS?

T. O. Munson, B. L. Brown, and D. J. Reutter; Forensic Science Research and Training Unit, FSRTC, FBI Academy, Quantico, Virginia 22135

A radioimmunoassay (RIA) technique was recently developed for the purpose of determining the sex of an individual by measuring the steroids testosterone, progesterone, and estradiol-17 β extracted from dried bloodstains (B. L. Brown, Journal of Forensic Sciences, Vol. 26, No. 4, Oct. 1981, pp 766-781). Although the method does allow sex determination from dried bloodstains, the necessary steroid measurements (involving sample extraction, a chromatographic cleanup/steroid separation step, and RIA quantitation of the steroids) are quite time consuming. Additionally, the RIA technique is best suited for analyzing a large number of specimens at one time. Thus, this method is not efficient in terms of time and reagents for the analysis of a single specimen. The purpose of the research project described in this report is to test the feasibility of determining the steroid concentrations by GC/MS.

Although it was found that standards of the free steroids could be separated and measured satisfactorily by splitless capillary column GC/MS, the sensitivity using either EI or CI selective ion monitoring was nowhere near that required to measure the steroids extracted from 0.1 ml dried bloodstains (about 2, 0.6, and 0.4 picograms for testosterone, estradiol-17 β , and progesterone, respectively). Reaction of the free steroids with heptafluorobutyric anhydride (HFBA) to form the HFB derivatives allowed the use of negative ion chemical ionization (NICI). Preliminary results show great promise for success using this technique. Although problems were encountered with background contamination in the GC/MS instrument; sufficient sensitivity appears to be available. In addition, a bloodstain extract appeared not to contain interfering materials.

Abstract: Morphological Properties of Primate Hair/and Some Unusual Animal Hair Cases; presented by Arnold Melnikoff, Montana State Crime Lab

Photomicrographs were presented showing morphological characteristics of primate hair in longitudinal view and cross-section. Examples of hair included lemur, old and new world monkeys and the great apes. Similarities to human hair were discussed. Also presented was a case where cattle had died of malnutrition and their hair demonstrated morphological characteristics not usually associated with hair from healthy cattle. Another case involved identification of hair from an individual dog where all dorsal guard hair examined contained ovoid bodies, a morphological characteristic usually associated with cattle hair.

ATTENTION: ALL CALIFORNIA AND OREGON AGENCIES AND LABORATORIES

RE: Open Homicides with .22 or .30 caliber Projectiles

Ward Francis Weaver, Jr. of Oroville is being held awaiting trial on homicide/rape charges. Prior to his arrest in Kern County, he was a trucker working throughout California and Oregon. (See attached BOCCI flyer) Two weapons were recovered in connection with this subject - a Model 55 Winchester .30 WCF lever-action and a Ruger Single Six .22LR revolver. The rifling characteristics of these two weapons are as follows:

Winchester .30 WCF 6R

NOT FOR RELEASE TO THE MEDIA

Bullet Diameter .307" - .308" (land-to-land)
Land impression width 0.061" - 0.064"
Groove impression width 0.090" - 0.093"

Ruger .22LR/.22 Mag. 6R

Bullet Diameter .223 - .224" (land-to-land)
Land impression width .044 - .046" (Mag), .045 - 0.46 (LR)
Groove impression width .064 - .065" (Mag), .066 - .067 (LR)

These weapons were test-fired by DOJ Sacramento on July 6, 1983. (re: SC-C-263-83). The Ruger weapon presently has an unmarked .22 Mag cylinder and it was test-fired using both .22 Mag and .22LR (with replacement auxiliary cylinder). If you have open homicides with projectiles matching these class characteristics contact John DeHaan (916) 739-5136 to arrange for test-firings.

Weaver was a long distance truck driver who traveled throughout California, and to Washington, Oregon, Idaho, Utah, Nevada, and Arizona. He is suspected of committing numerous rapes and several homicides during the course of his trips.

Weaver's method of operation was to pick up young female hitchhikers, rape them, and then either kill or release them. He has killed, or attempted to kill, male companions of some of the rape victims. He has also been known to strike victims on the head with a blunt object, bind with tape or rope, and strangle them with a cloth. Weaver has brandished .22 caliber weapons, but it is not known whether or not he has shot any of his victims.

Weaver has been in custody since May 7, 1981. From 1980 to 1981 Weaver was employed by a trucking firm in Oroville, and one in Ripon in 1979. During that time period he hauled miscellaneous truck loads throughout the western United States. From May 2, 1977 to February 2, 1979, Weaver was again incarcerated. Prior to that, in the later part of 1976, he traveled mainly from Red Bluff to Stockton, California, and occasionally made trips to the California coast. In early 1976 and prior years, Weaver's activities were centered mainly in the Eureka area.

Departments are requested to check their records for unsolved female homicides and rapes in which Weaver might be a suspect. The California Department of Justice, BOCCI-Homicide Unit, has detailed information regarding Weaver's locations and activities.

Questions or information should be directed to either Bill Opferman or Fred Shirasago, California Department of Justice, BOCCI, Homicide Unit, P.O. Box 13357, Sacramento, CA 95813, (916) 739-5745.

Source:

Forensic Science Study Committee*

Electrophoresis Society

Dr. Bruce Budowle, Forensic Science Training & Research Center,

FBI Academy, Quantico, Virginia

Dale Dykes, Minneapolis War Memorial Blood Bank, Minneapolis,
Minnesota

C. R. Longwell, SEMO Regional Crime Lab, Cape Girardeau, Missouri

Membership in Electrophoresis Society:

At the recent meeting of the North American Section of the Electrophoresis Society, a group of individuals with interests in Forensic Serology and Paternity Testing got together and as a result of their discussions proposed formation of a subsection to include practitioners in those fields. The purpose of this letter is to inform these individuals of the existence of the society and some of the reasons for membership.

The Electrophoresis Society was formed by a group of investigators in the field after successful symposia held in the late 1970's. The first international meeting in the spring of 1981 at Charleston, S. C., was attended by several hundred participants. The society presently has a membership in excess of 600 worldwide, with approximately 50% being from North America. The purpose of the society is the timely exchange of information in all aspects of electrophoresis among practitioners in the field. This is carried out through publication of articles in the society journal Electrophoresis, annual meetings of the Regional sections and international meetings to be held every two or three years.

As charter members of the society, the three individuals of the study group previously listed can attest to the extreme benefits they have accrued. In light of the tremendous strides being made in this field, we feel strongly that serologists in paternity testing and criminalistics laboratories become members of the society.

To aid prospective members in making a decision, the following ideas were discussed and are being offered:

1. At present, there is no organized group specifically addressing the entire field of electrophoresis as it effects forensic serology. It is felt that the Electrophoresis Society offers a ready made vehicle for this purpose.
2. The society, through its meetings and publications, can offer a rapid means for transmittal of new techniques to the forensic community. A newsletter has been proposed which would contain methods type articles, along with population genetics studies and other items of interest.

3. At national meetings, workshops of a hands-on nature would be held. These would be jointly sponsored by the society and industrial firms.
4. The formal and informal dissemination of information at meetings by noted experts in the field can be of invaluable assistance. It is in this aspect that the members of the study group have been most impressed at meetings attended.

It is strongly urged that every member of the forensic serology field consider membership in the Electrophoresis Society. Membership is \$22.50 per year without journal subscription and \$92.50 with journal. Billing for membership with journal can be such that the journal portion can be paid by ones laboratory. This would allow all serologists in a laboratory to be members without undue financial burden.

The members of the study group hope to see a large number of the forensic serology community at the next North American Section meeting at Tucson, Arizona, in October 1984.

To obtain membership application forms, write:

Dr. R. C. Allen
Electrophoresis Society
P.O. Box 956
Mt. Pleasant, S.C. 29464

*For reasons of brevity, the term forensic science has been used here to include all persons involved with serological testing which may be used in legal proceedings (i.e. criminalistics and paternity testing).

1984 SPRING CONFERENCE
of
THE SOUTHWESTERN ASSOCIATION
OF FORENSIC SCIENTISTS

*Hosted by the
Arizona Department of Public Safety Crime Laboratory - Phoenix*

You are invited to attend the Spring Conference to be held in the Phoenix area —
May 3 - 5, 1984

Tentative Schedule:

An informative program is being planned to include workshops, discussion groups and papers.

Thursday May 3	Blood Spatter Workshop Head Lamp Workshop Capillary Column Gas Chromatography School presented by Hewlett Packard
Friday May 4	Papers, Discussion Groups, Business Meeting, Banquet
Saturday Morning May 5	Papers

The Conference will be held at the **Doubletree Inn** on the Mall in Old Town Scottsdale, a center for tourist attractions, shopping and entertainment. Special room rates for this Conference will be \$45.00 single or double occupancy.

For any additional meeting information contact **Todd Griffith, Meeting Chairman**, at the address given below.

We encourage all who are interested in presenting papers to contact **Terry Hogan, Program Chairman**.

*Arizona Department of Public Safety Crime Lab
P.O. Box 6638
Phoenix, AZ 85005
(602) 262-8394*

NORTHWEST ASSOCIATION OF FORENSIC SCIENTISTS

Spring Meeting

Coeur d'Alene, Idaho

May 2-4, 1984

CALL FOR PAPERS

NAME _____

ADDRESS _____

PHONE _____

TITLE OF PAPER _____

ABSTRACT _____

ESTIMATED LENGTH OF PRESENTATION _____

AUDIO-VISUAL EQUIPMENT NEEDED _____


Send to:

Wally L. Baker, Program Chairman
Bureau of Laboratories, Forensic Section
2220 Old Penitentiary Road
Boise, ID 83702
(208) 334-2231

"THE MEANING OF THE LOGO"

The color scheme is in three parts: Gold meaning Science, Blue meaning Truth and Purple meaning Justice.

The four pictures of equal balance are The Scales of Justice, The Torch of Knowledge, The Microscope denoting Criminalistics or Forensic Science and The Fasces, the Symbol of Authority.

The Association's name is part of the Logo and the pharmaceutical symbol  denotes the association as having scruples.

The Editor

THE NEWSLETTER

A Newsletter published by the Association dedicated to the:

1. encouragement of the exchange of ideas and information within the field of forensic sciences through improving contacts between persons and laboratories engaged in the forensic sciences;
2. stimulation of research and the development of new and/or improved techniques; and
3. promotion of the improvement of professional expertise of persons working in the field of forensic science.

Suggestions for Contributors

The Newsletter includes the following regular features:

1. Correspondence and Inquiries (letters)
2. Methodological Notes (Bench Top)
3. Abstracts of papers presented at NWAFS meetings
4. Short Technical Reports
5. Case Reports
6. Employment Opportunities
7. News of meetings, schools, workshops, training opportunities
8. Legal News
9. Editorials

Contributions should be titled, include author credits and any pertinent references. The contributions should be typed, single spaced on plain white paper and compacted as much as possible.

Submit all contributions to the Newsletter Editor:

George K. Matsuda, Lieutenant
Oregon State Police Crime Laboratory
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Portland, OR 97204

**OREGON STATE POLICE
CRIME LABORATORY
1111 S. W. 2nd AVENUE, 12th FLOOR
PORTLAND, OREGON 97204**

The Newsletter is published four times a year. Contributions should be submitted by February 1, June 1, August 1 and November 15, each year.