

1985

69th Annual Meeting, 1985. Program

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Recommended Citation

Editors, Academy (1985) "69th Annual Meeting, 1985. Program," *Journal of the Arkansas Academy of Science*: Vol. 39, Article 4.

Available at: <https://scholarworks.uark.edu/jaas/vol39/iss1/4>

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PROGRAM

Arkansas Academy of Science

Sixty-ninth Annual Meeting
UNIVERSITY OF ARKANSAS
AT MONTICELLO
Monticello, Arkansas

meeting concurrently with sessions of:

The Collegiate Academy of Science

Friday, 5 April

SENIOR AND COLLEGIATE ACADEMIES -- Registration
SENIOR ACADEMY -- Executive Board Meeting
SENIOR ACADEMY -- First General Business Meeting
Lunch
SENIOR AND COLLEGIATE ACADEMIES -- Registration
SYMPOSIUM ON COOPERATIVE ACTIVITIES IN SCIENCE
EDUCATION
SENIOR AND COLLEGIATE ACADEMIES -- Paper [Concurrent
Sessions]:

Aquatic & Environmental I
Chemistry
Vertebrate Zoology I
Botany
Microbiology and Immunology

SENIOR AND COLLEGIATE ACADEMIES -- Banquet

POST BANQUET SPEAKER -- Dr. John Firor, National Center
for Atmospheric Research,
Boulder, CO

Saturday, 6 April

SENIOR AND COLLEGIATE ACADEMIES -- Registration
SENIOR AND COLLEGIATE ACADEMIES -- Papers [Concurrent
Sessions]:
Aquatic & Environmental II
Vertebrate Zoology II
Invertebrate Zoology
Parasitology & Biomedicine
Science Education
ARKANSAS SCIENCE TALENT SEARCH
SENIOR ACADEMY -- Second General Business Meeting

SECTION PROGRAMS

[Papers marked with * are presentations by Collegiate Academy members]

AQUATIC AND ENVIRONMENTAL I

Session Chairperson: Dr. Henry Robison (SAU)

GRAPHITE ELECTRODE FOR THE MEASUREMENT OF REDOX POTENTIAL AND OXYGEN DIFFUSION RATE IN SOIL: APPLICATION TO MONITOR BIODEGRADATION OF HAZARDOUS WASTES.

Ali U. Shaikh, Department of Chemistry, University of Arkansas at Little Rock, Little Rock, AR 72204; R. M. Hawk and R. B. Sims, Graduate Institute of Technology, Little Rock, AR 72203; and H. D. Scott, Department of Agronomy, University of Arkansas, Fayetteville, AR 72701.

WATERSHED LAND USES AND PHOSPHORUS EXPORT COEFFICIENT RELATIONSHIPS: A PLANNING TOOL FOR LAKE RESOURCES MANAGEMENT.

Carl R. Stapleton, Department of Biology, University of Arkansas at Little Rock, Little Rock, AR 72204.

A PRELIMINARY REPORT ON THE SURVEY OF ARKANSAS ELMIDAE (*Coleoptera*).

Alan D. Price, Department of Pollution Control and Ecology, Little Rock, AR 72209 and George L. Harp, Department of Biological Sciences, Arkansas State University, State University, AR 72467.

THE EFFECTS OF TEMPERATURE AND CROWDING ON THE PATHOGENICITY OF *Edwardsiella ictaluri* IN CHANNEL CATFISH *Ictalurus punctatus*.

Sharon L. Johnson and Lawrence W. Hinck, Department of Biological Sciences, Arkansas State University, State University, AR 72467.

COMPOSITION AND DIVERSITY OF ICHTHYOFAUNA OF THE BUFFALO NATIONAL RIVER.

Raj V. Kilambi, Department of Zoology, University of Arkansas, Fayetteville, AR 72701.

A SYNOPSIS OF THE HYDROMETRIDAE OF ARKANSAS.

George L. Harp, Department of Biological Sciences, Arkansas State University, State University, AR 72467.

HETEROGENEITY AMONG THE SPAWNING POPULATIONS OF SURF SMELT, *Hypomesus pretiosus*, IN THE STATE OF WASHINGTON.

Raj V. Kilambi, Department of Zoology, University of Arkansas, Fayetteville, AR 72701.

FURTHER DISTRIBUTIONAL RECORDS FOR ARKANSAS ANISOPTERA.

George L. Harp, Department of Biological Sciences, Arkansas State University, State University, AR 72467 and John Rickett, Department of Biology, University of Arkansas at Little Rock, Little Rock, AR 72204.

AN ANNOTATED LIST OF THE DYTISCIDAE OF RANDOLPH COUNTY, ARKANSAS.

Mark A. Pippenger and George L. Harp, Department of Biological Sciences, Arkansas State University, State University, AR 72467.

RESPONSE OF FISHES TO REVETMENT PLACEMENT.

C. H. Pennington, Scott S. Knight, and M. P. Farrell, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS 39180.

A SYNOPSIS OF THE NEPIDAE OF ARKANSAS.

George L. Harp, Department of Biological Sciences, Arkansas State University, State University, AR 72467.

PROJECT 205 (J): A DESCRIPTIVE ANALYSIS OF LEAST DISTURBED STREAMS WITHIN ARKANSAS.

Roland McDaniel, Department of Pollution Control and Ecology, Little Rock, AR 72209.

CHEMISTRY

Session Chairperson: Dr. Ed Wilson (HU)

ANALYSIS OF SOLAR COLLECTOR SURFACE THERMAL TRANSFER WITH DATA COLLECTION BY INTEGRATED CIRCUIT SENSORS AND MICROCOMPUTER INTERFACING.

Rudolph J. Eichenberger, Department of Physics and Engineering, Southern Arkansas University, Magnolia, AR 71753.

INFRARED AND X-RAY DIFFRACTION STUDIES OF ADSORBED GLYPHOSATE BY CLAY MINERALS.

J. S. McConnell, Southeast Research and Extension Center, Monticello, AR 71655 and L. R. Hossner, Texas A&M University, College Station, TX 77840.

*WATER-SURFACE COLLISION DYNAMICS.

Ricardo C. Davis and Ralph J. Wolf, Department of Chemistry, University of Arkansas at Little Rock, Little Rock, AR 72204.

REACTIONS OF HALOCARBON TOXINS WITH SUPEROXIDE RADICAL ANION IN APROTIC SOLVENT.

Ali U. Shaikh, Department of Chemistry, University of Arkansas at Little Rock, Little Rock, AR 72204 and Anthony R. Shoaf and Raymond D. Harbison, University of Arkansas for Medical Sciences, Little Rock, AR 72205.

THE MECHANISMS OF ACTION OF THE MAMMALIAN TOXIN ISOLATED FROM *Loxosceles reclusa* VENOM.

M. A. Rekow, J. N. Beasley, J. L. Jones, and C. R. Geren, Department of Chemistry, Department of Animal Science, and Student Health Center, University of Arkansas, Fayetteville, AR 72701.

THE SYSTEMIC E TOXIN OF *Crotalus horridus horridus* VENOM: STRUCTURE AND MECHANISM OF ACTION.

H. R. Allen, R. K. Tucker, and C. R. Geren, Department of Chemistry, University of Arkansas, Fayetteville, AR 72701.

CONCANAVALIN A-BINDING ENZYMES OF *Crotalus scutulatus scutulatus* VENOM.

M. W. Hinson, C. K. Childs, D. H. Sifford, and B. D. Johnson, College of Arts and Sciences, Arkansas State University, State University, AR 72467.

DOES THE MECHANISM OF PROTON TRANSFER IN THE COPE ELIMINATION REACTION CHANGE FROM LINEAR TO NON-LINEAR AS THE SOLVENT CHANGES FROM DMSO TO DIGLYME? A CARBON-14 ISOTOPE EFFECT STUDY.

Agnes Pulay, Daniel Wright, and Arthur Fry, Department of Chemistry, University of Arkansas, Fayetteville, AR 72701.

THERMAL ANALYSIS OF COAL COMBUSTION ASH DEPOSITS.

Luis Morales and J. Edward Bennett, Department of Chemistry, Arkansas State University, State University, AR 72467.

VAPORIZATION KINETICS AND THERMODYNAMICS OF MIXTURES OF POTASSIUM AND SODIUM SULFATE WITH GRAPHITE.

Jamie Dudley and J. Edward Bennett, Department of Chemistry, Arkansas State University, State University, AR 72467.

Arkansas Academy of Science

***THERMOSETTING ADHESIVE RESINS FROM WHEY AND WHEY BYPRODUCTS.**

Tito Viswanathan and Terry Gilton, Department of Chemistry, University of Arkansas at Little Rock, Little Rock, AR 72204.

POLYMER SUPPORTED ALCOHOLS AS BLOCKING GROUPS FOR DIACIDS.

Paul M. Nave and James W. Farris, Department of Chemistry, Arkansas State University, State University, AR 72467.

VERTEBRATE ZOOLOGY I

Session Chairperson: Dr. V. Rick McDaniel (ASU)

REPAIR OF RADIATION-INDUCED LETHAL DAMAGE IN A HAMSTER X *Xenopus* HYBRID CELL LINE.

Susan Kulp, Ann Page, and Gaston Griggs, Biology Department, John Brown University, Siloam Springs, AR 72761.

CORTICORTICAL PROJECTIONS OF A VISUALLY RESPONSIVE AREA IN THE CAT BRAIN.

Joseph McGrath, Department of Biological Sciences, Arkansas State University, State University, AR 72467.

GENETIC VARIATION IN TWO ABANDONED MINE POPULATIONS OF THE CADDO MOUNTAIN SALAMANDER (*Plethodon caddoensis*) IN ARKANSAS.

Alvan A. Karlan, Darrell R. Heath, and Derrick Sugg, Department of Biology, University of Arkansas at Little Rock, Little Rock, AR 72204 and David A. Saugey, United States Forest Service, Hot Springs, AR 71901.

FALL DEER FOOD PREFERENCES IN THE OUACHITA NATIONAL FOREST.

James D. Fenwood, United States Forest Service, Mount Ida, AR 71957, David A. Saugey, United States Forest Service, Hot Springs AR 71901 and Carl A. Racchini, United States Forest Service, Glenwood, AR 71943.

***GENETIC VARIATION IN THE ARKANSAS DEER HERD.**

Derrick Sugg, Alvan A. Karlin and Gary A. Heidt, Department of Biology, University of Arkansas at Little Rock, Little Rock, AR 72204.

FUR HARVEST RECORDS FROM ARKANSAS POST, LOUISIANA TERRITORY, 1805-1810.

Paul J. Polechla, Jr., Department of Zoology, University of Arkansas, Fayetteville, AR 72701.

***ANALYSIS OF ARKANSAS FUR HARVEST RECORDS - 1942-1984: I. STATE AND REGIONAL ACCOUNTS.**

Tina Sheldon, James Peck, and Gary A. Heidt, Department of Biology, University of Arkansas at Little Rock, Little Rock, AR 72204 and Joe Clark, Arkansas Game and Fish Commission, Little Rock, AR 72203.

***ANALYSIS OF ARKANSAS FUR HARVEST RECORDS - 1942-1984: II. SPECIES ACCOUNTS.**

Tina Sheldon and Gary A. Heidt, Department of Biology, University of Arkansas at Little Rock, Little Rock, AR 72204; Joe Clark, Arkansas Game and Fish Commission, Little Rock, AR 72203; and James Peck, Department of Biology, University of Arkansas at Little Rock, Little Rock, AR 72204.

ANALYSIS OF ARKANSAS FUR HARVEST RECORDS - 1942-1984: III. IMPORTANCE OF PELT PRICE TO TOTAL HARVEST.

Joe Clark, Arkansas Game and Fish Commission, Little Rock, AR 72203 and Tina Sheldon, James Peck, and Gary A. Heidt, Department of Biology, University of Arkansas at Little Rock, Little Rock, AR.

USE OF FUR HARVEST RECORDS IN ARKANSAS TO PREDICT FUTURE GRAY FOX HARVESTS.

Gary A. Heidt and James H. Peck, Department of Biology, University of Arkansas at Little Rock, Little Rock, AR 72204.

LONGEVITY RECORD OF REINTRODUCED BLACK BEAR (*Ursus americanus*) IN ARKANSAS.

Joseph D. Clark, Arkansas Game and Fish Commission, Little Rock, AR 72205.

RANGE EXPANSION OF THE PORCUPINE (*Erethizon dorsatum*) INTO SOUTHWEST ARKANSAS.

Joseph D. Clark, Arkansas Game and Fish Commission, Little Rock, AR 72205.

A COMPARATIVE STUDY OF LACTATE DEHYDROGENASE IN DIVING AND NONDIVING REPTILES.

Deborah Bursey and Dennis Baeyens, Department of Biology, University of Arkansas at Little Rock, Little Rock, AR 72204.

BOTANY

Session Chairperson: Dr. Don Culwell (UCA)

DWIGHT MUNSON MOORE, 1891-1985.

Gary E. Tucker, Department of Biological Sciences, Arkansas Tech University, Russellville, AR 72801.

NEW AND INTERESTING PLANTS FOR THE ARKANSAS FLORA.

Edward L. Richards, Department of Biological Sciences, Arkansas State University, State University, AR 72467.

LOUISIANA LOG FERN (*Dryopteris ludoviciana*) NEW TO ARKANSAS.

James H. Peck, Department of Biology, University of Arkansas at Little Rock, Little Rock, AR 72204; Eric Sundell, Department of Natural Sciences, University of Arkansas at Monticello, Monticello, AR 71655; and Carol J. Peck, Arkansas State Plant Board, Little Rock, AR 72203.

SOUTHERN WOODFERN, *Dryopteris Xaustralis*, NEW TO ARKANSAS.

S. L. Orzell, Arkansas Natural Heritage Commission, Little Rock, AR 72201 and J. H. Peck, Department of Biology, University of Arkansas at Little Rock, Little Rock, AR 72204.

OBSERVATIONS AND NEW RECORDS ON FERNS NATURALIZING IN ARKANSAS.

James H. Peck, Department of Biology, University of Arkansas at Little Rock, Little Rock, AR 72204; Lance Peacock, The Nature Conservancy, Little Rock, AR 72201; and William Shepard, Arkansas Natural Heritage Commission, Little Rock, AR 72201.

NOTES ON THREE PALUSTRINE NATURAL COMMUNITY TYPES IN THE ARKANSAS OZARKS.

S. L. Orzell and B. Pell, Arkansas Natural Heritage Commission, Little Rock, AR 72201 and Gary Tucker, Department of Biological Sciences, Arkansas Tech University, Russellville, AR 72801.

CHANGES IN FOREST SOILS FOLLOWING CLEARCUTTING OF PINE FORESTS IN THE OUACHITA MOUNTAINS OF ARKANSAS.

Harlan R. Stoin, Bajuri Bin Kadmin, and Lyell Thompson, Agronomy Department, University of Arkansas, Fayetteville, AR 72701.

THE EFFECTS OF GAMMA RADIATION ON *Salix nigra* CUTTINGS.

Roy Z. Gehring, Department of Biological Sciences, Arkansas State University, State University, AR 72467.

Program

EFFECTS OF LITTER ON AQUATIC MACROPHYTE GERMINATION AND GROWTH.

Mark F. Carter, Forest E. Lane, and James B. Grace, Botany Department, University of Arkansas, Fayetteville, AR 72701.

THE EFFECTS OF GROWTH TEMPERATURES ON THE FATTY ACID COMPOSITION OF ISOLATED CHLOROPLASTS.

Roy Z. Gehring, Department of Biological Sciences, Arkansas State University, State University, AR 72467 and Glenn W. Todd, Oklahoma State University, Stillwater, OK 74074.

MICROBIOLOGY AND IMMUNOLOGY

Session Chairperson: Dr. Dale Ferguson (UALR)

*DEMONSTRATION OF A HEAT-STABLE CYCLIC GUANOSINE MONOPHOSPHATE (CYCLIC GMP) PHOSPHODIESTERASE FROM THE MEDIUM OF THE MYXOMYCETE *Physarum flavicomum*.

Mark S. Ross and Thomas J. Lynch, Department of Biology, University of Arkansas at Little Rock, Little Rock, AR 72204.

PARTIAL PURIFICATION AND CHARACTERIZATION OF HEAT STABLE EXTRACELLULAR CYCLIC AMP PHOSPHODIESTERASE FROM THE PLASMODIUM OF *Physarum flavicomum*.

J. Scott Bryles and Thomas J. Lynch, Department of Biology, University of Arkansas at Little Rock, Little Rock, AR 72204.

AGE AND SEX RELATED DIFFERENCES IN THE LEVEL OF A CIRCULATING ANTIBODY AGAINST ESTROGEN RECEPTOR.

Ayad Mudarris and E. J. Peck, Jr., Department of Biochemistry, University of Arkansas for Medical Sciences, Little Rock, AR 72205.

ANTICANCER ACTIVITY OF COPPER COMPLEXES.

William M. Willingham, Department of Natural Sciences, University of Arkansas at Pine Bluff, Pine Bluff, AR 71601 and John R. J. Sorenson, Department of Biopharmaceutical Sciences, College of Pharmacy, University of Arkansas for Medical Sciences, Little Rock, AR 72205.

RADIOPROTECTANT ACTIVITY OF CU (II) (3,5-DIISOPROPYLSALICYLATE).

Hamid Salari and John R. J. Sorenson, Department of Biopharmaceutical Sciences, College of Pharmacy, University of Arkansas for Medical Sciences, Little Rock, AR 72205.

AQUATIC AND ENVIRONMENTAL II

Session Chairperson: Mr. Roland McDaniel (DPC&E)

LIME NEEDS AND TRENDS IN ARKANSAS.

C. S. Snyder and S. L. Chapman, University of Arkansas, Cooperative Extension Service, Little Rock, AR 72203.

DISTRIBUTION AND STATUS OF *Etheostoma craigini* GILBERT AND *E. microperca* JORDAN AND GILBERT IN ARKANSAS.

John L. Harris and Kenneth L. Smith, Arkansas Natural Heritage Commission, Little Rock, AR 72201.

FLUCTUATIONS AND RELATIONSHIPS OF SELECTED PHYSICO-CHEMICAL PARAMETERS IN DARDANELLE RESERVOIR, 1975-1982.

John D. Rickett and Robert L. Watson, Department of Biology, University of Arkansas at Little Rock, Little Rock, AR 72204.

REPORT ON FISH COLLECTIONS FROM THE OUACHITA RIVER BASIN, ARKANSAS.

John A. Baker, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS 39180.

AGE AND GROWTH OF THE BLUEGILL, *Lepomis macrochirus*, FROM AN UNMANAGED WATERSHED LAKE IN NORTHEAST ARKANSAS.

Stephen A. Sewell, Fish and Wildlife Division, Soil Conservation Society of America, Nashville, TN 37203.

POPULATION STRUCTURE OF *Etheostoma moorei* RANEY AND SUTTKUS FROM THREE HEADWATER STREAMS OF LITTLE RED RIVER ABOVE GREERS FERRY LAKE.

Roland McDaniel, Department of Pollution Control and Ecology, Little Rock, AR 72209 and George L. Harp, Department of Biological Sciences, Arkansas State University, State University, AR 72467.

REPRODUCTIVE BIOLOGY OF *Etheostoma moorei* RANEY AND SUTTKUS FROM THREE HEADWATER STREAMS OF LITTLE RED RIVER.

Roland McDaniel, Department of Pollution Control and Ecology, Little Rock, AR 72209 and George L. Harp, Department of Biological Sciences, Arkansas State University, State University, AR 72467.

COMPARISON OF THE FISH POPULATIONS AND THE ABIOTIC CHARACTERISTICS OF A CHANNELIZED AND UNCHANNELIZED STREAM IN THE DELTA AREA OF ARKANSAS.

William E. Keith, Department of Pollution Control and Ecology, Little Rock, AR 72209 and Ken Shirley, Arkansas Game and Fish Commission, Brinkley, AR 72021.

TAXA AND OCCURRENCES OF FISHES WITHIN THE SPRING RIVER SUB-BASIN (BLACK RIVER DRAINAGE) OF SOUTH CENTRAL MISSOURI AND NORTHEAST ARKANSAS.

Stephen A. Winters, Northeast Louisiana University, Monroe, LA.

PRELIMINARY ISOZYME ANALYSIS OF FOUR SPECIES OF ARKANSAS DARTERS.

Alvan A. Karlin and John D. Rickett, Department of Biology, University of Arkansas at Little Rock, Little Rock, AR 72204.

VERTEBRATE ZOOLOGY II

Session Chairperson: Dr. Dan England (SAU)

NEW VERTEBRATE OCCURRENCES FROM THE BROWNS-TOWN MARL (GULFIAN) OF ARKANSAS, WITH NOTES ON THE DISTRIBUTION OF GULFIAN TURTLES.

John T. Thurmond and John R. Hill, Department of Earth Science, University of Arkansas at Little Rock, Little Rock, AR 72204.

SURVEY OF ALBINO BIRDS IN ARKANSAS SINCE 1968.

EARL HANEBRINK, Department of Biological Sciences, Arkansas State University, State University, AR 72467.

A SEVEN-YEAR ANALYSIS OF BOBWHITE FOOD HABITS IN DREW COUNTY, ARKANSAS.

Mark R. Karnes, The Ross Foundation, Arkadelphia, AR 71923 and Robert W. Wiley, Department of Natural Sciences, University of Arkansas at Monticello, Monticello, AR 71655.

ABUNDANCE AND FOOD HABITS OF NORTHERN HARRIERS OVERWINTERING IN HOLLA BEND NATIONAL WILDLIFE REFUGE.

Charles R. Preston, Catherine Golden, and Patrice Turcotte, University of Arkansas at Little Rock, Little Rock, AR 72204.

POPULATION TRENDS OF THE LOGGERHEAD SHRIKE (*Lanius ludovicianus*) IN ARKANSAS.

Fred L. Burnside, Department of Biological Sciences, Mississippi State University, Mississippi State, MS 39762 and William M. Shepherd, Arkansas Natural Heritage Commission, Little Rock, AR 72201.

Arkansas Academy of Science

IDENTIFYING A PERPLEXING CHICKADEE RECORD FROM SKELETAL MATERIAL.

James D. Rising, Department of Zoology, University of Toronto, Toronto, Ontario M53 1A1, Canada and Douglas James, Department of Zoology, University of Arkansas, Fayetteville, AR 72701.

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PRELIMINARY ISOZYME ANALYSIS OF FOUR SPECIES OF ARKANSAS DARTERS.

Alvan A. Karlin and John D. Rickett, Department of Biology, University of Arkansas at Little Rock, Little Rock, AR 72204.

INVERTEBRATE ZOOLOGY

Session Chairperson: Dr. Peggy Rae Dorris (HSU)

SPIDERS OF ARKANSAS.

Peggy Rae Dorris, Department of Biology, Henderson State University, Arkadelphia, AR 71923.

A HYPOTHESIS TO EXPLAIN THE SUDDEN SPORADIC OCCURRENCE OF *Craspedacusta sowerbyi* MEDUSAE.

Peter P. Brussock, Lawrence D. Willis, and Arthur V. Brown, Department of Zoology, University of Arkansas, Fayetteville, AR 72701.

THE VISUALIZATION OF THE CENTROMERIC REGION OF *Drosophila* CHROMOSOME USING 5BRDU AND HOECHST 33258.

William C. Guest, Department of Zoology, University of Arkansas, Fayetteville, AR 72701.

A COLLECTION OF EUROPEAN DRAGONFLIES AVAILABLE FOR STUDY AT ARKANSAS STATE UNIVERSITY.

Norman Lavers, Division of English, Philosophy, and Languages, Arkansas State University, State University, AR 72467.

PARASITOLOGY AND BIOMEDICINE

Session Chairperson: Dr. James Daly (UAMS)

*INCIDENCE OF TULAREMIA, LEPTOSPIROSIS, TOXOPLASMOSIS, AND ROCKY MOUNTAIN SPOTTED FEVER IN FUR TRAPPERS AND TAXIDERMISTS.

Charles Harper, Gary A. Heidt, and Hal Harger, Department of Biology, University of Arkansas at Little Rock, Little Rock, AR 72204.

*INCIDENCE OF *Giardia* IN ARKANSAS BEAVER.

Ann H. Nichols and Gary A. Heidt, University of Arkansas at Little Rock, Little Rock, AR 72204 and James J. Daly, Department of Microbiology, University of Arkansas for Medical Sciences, Little Rock, AR 72205.

DETERMINATION OF RELATIVE DNA CONTENT AND PLOIDY BY FLOW CYTOMETRY IN SPECIES WITH NUCLEATED RED BLOOD CELLS.

E. R. Burns, Department of Anatomy, University of Arkansas for Medical Sciences, Little Rock, AR 72205; G. A. Heidt and D. A. Baeyens, Department of Biology, University of Arkansas at Little Rock, Little Rock, AR 72204; and W. G. Hinson, J. L. Pipkin, and J. F. Anson, Division of Mutagenesis, National Center for Toxicological Research, Jefferson, AR 72079.

THE EFFECT OF ESTROGEN, TESTOSTERONE AND PHENOBARBITAL ON UTERINE WEIGHT AND LIVER MICROSOMAL ENZYMES IN PREPUBERTAL MICE.

P. J. Thomford, Department of OB/GYN, University of Arkansas for Medical Sciences, Little Rock, AR 72205 and M. C. Wu, Department of Animal Science, University of Illinois, Urbana, IL.

THE CENTRIOLAR SPECIALIZATIONS OF CNIDARIAN SPERMATOCYTES AND SPERMATIDS.

Maurice G. Kleve, Department of Biology, University of Arkansas at Little Rock, Little Rock, AR 72204.

EFFECT OF MANGANESE (Mn + +) ON HUMAN PLACENTAL AND AMNIOTIC FLUID SPIN-LATTICE (T₁) AND SPIN-SPIN (T₂) RELAXATION TIMES.

P. J. Thomford and H. H. Kay, Department of OB/GYN, University of Arkansas for Medical Sciences, Little Rock, AR 72205 and Dr. R. Mattison, Duke University, Durham, NC.

METHEMOGLOBIN AND HEMOGLOBIN CONCENTRATION EFFECT ON METHEMOGLOBIN REDUCTION.

A. Mansouri, John L. McClellan Memorial Veterans Hospital and University of Arkansas for Medical Sciences, Little Rock, AR 72205.

SCIENCE EDUCATION

Session Chairperson: Dr. George L. Harp (ASU)

"LABORATORY MANAGEMENT" - A COURSE FOR SCIENCE TEACHERS.

Michael W. Rapp, Department of Chemistry, University of Central Arkansas, Conway, AR 72032.

RUTHERFORD SCATTERING SIMULATOR.

H. B. Eldridge, Department of Physics, University of Central Arkansas, Conway, AR 72032.

SCIENCE FAIRS IN ARKANSAS.

Michael W. Rapp, Department of Chemistry, University of Central Arkansas, Conway, AR 72032.

TEACHER EDUCATION IMPROVEMENT CONSORTIUM.

Richard H. Hanson, Department of Chemistry, University of Arkansas at Little Rock, Little Rock, AR 72204.

*MONTE CARLO CALCULATIONS: ANALYSIS AND APPLICATION.

Daniel J. Staton, Department of Physics, University of Central Arkansas, Conway, AR 72032.

WORKSHOP FOR HIGH SCHOOL CHEMISTRY TEACHERS.

Michael W. Rapp, Department of Chemistry, University of Central Arkansas, Conway, AR 72032.

CHEMISTRY FOR MODERN TIMES AND NEW EDUCATIONAL STANDARDS.

Robbin C. Anderson, Department of Chemistry, University of Arkansas, Fayetteville, AR 72701.

SIXTEEN YEARS OF QUANTITATIVE ANALYSIS.

Arthur M. Hoyt, Jr., Department of Chemistry, University of Central Arkansas, Conway, AR 72032.

A SUMMER CHEMISTRY PROGRAM THAT LASTS ALL YEAR.

Fred Watson and Richard Hanson, Department of Chemistry, University of Arkansas at Little Rock, Little Rock, AR 72204.