

Kansas Association of Biology Teachers

K A B T Newsletter

September 1991 Volume 32, No. 3
Paul G. Jantzen, Editor - Production by Osprey

Calendar - Looking Ahead

1991

September 28	Kansas Wildflower Society, Washburn University
October 5	Kansas Ornithological Society, Fort Hays State University, Hays.
October 5	Nature Conservancy, Konza Prairie, KS Chapter Annual Meeting
October 12	Kansas Mammalogists, Emporia State University, Emporia.
October 13	Fall Visitors Day, The Land Institute, Salina, KS 1-5 p.m.
October 18-21	Interdisciplinary Environmental Education Workshop, Rock Springs Ranch near Junction City, KS.
October 23-24	Biotechnology Workshop for Teachers, Wichita State University
October 24-26	NSTA Area Meeting, Omaha, NE.
October 25	Symposium on Human Genetic Disease, Wichita State University
November 6-10	National Association of Biology Teachers Convention, Nashville, TN.
November 15-16	Fall KABT Meeting , Rock Springs Ranch - Registration Form and information is located in this newsletter.

Please mail or phone meeting dates and other items of interest to biology teachers to Paul G. Jantzen, Editor, 107 North Madison, Hillsboro, KS 67063 (316) 947-5433.

Your membership expiration date can be found on your mailing label.

___KABT Notes

Has the greenhouse effect started or is this normal beginning-of-school Kansas weather? I hope your first weeks of school have been productive in the classroom in spite of heat schedules and organizational meetings.

Climatic records can be compared to determine normal, but what about other environmental conditions? Do we have baseline data of biota and their environment to allow comparisons in the future? As teachers, you and your students may be contributors to this data through KEMNET . . . Kansas Environmental Monitoring Network. Networking teachers and students throughout the state has many possibilities toward communication and sharing real scientific data and this is just the beginning. Think of it . . . every school in Kansas contributing to a poor of data! More information and KEMNET contacts are included in the newsletter.

The fall KABT meeting will be in conjunction with a planned KEMNET conference of students and teachers on November 15-16.

Several NABT offices will be decided this fall. Most national elections are determined by a nanofraction of the eligible voters, NABT is no exception. Bob Rose is a candidate for director at large and would represent the interests of Kansas biologists at NABT. If you are an NABT member, turn in your ballot before October 1.

Pat Wakeman, KABT President

KEMNET Conference / KABT Fall Meeting

The KABT fall meeting this year will take place on November 15th and 16th at Rock Springs 4-H center near Junction City. The meeting will be a joint conference with the KEMNET (Kansas Environmental Monitoring Network) program. All members having any interests in computer networking, environmental monitoring, student research and cooperation should find this informative and exciting.

The following is the proposed agenda for the weekend conference:

Friday Night	6:30 Registration and Welcome
	7:30 Speaker - Tentative - Lee Drogemueller , Commissioner State Department of Education
	Speaker - William Daley , Principle Scientist for Earth Observations for Lockheed Engineering, contracted to NASA. He will show space shuttle views of our planet and discuss implications involved.
Saturday	Teacher and Student Workshops:
	1) Networking Session
	2) Remote Sensing Utilization Session
	3) Aquatic Environmental Monitoring Session
	4) Student Sharing and Discussion Session??????
Cost:	KEMNET members - prepaid
	KABT members - Friday and Saturday - \$30
	Saturday Only - \$20

Fees will cover meals and housing. There will be male/female housing provided.

Pre-registration DEADLINE is November 1. Registration form is located in this newsletter. Mail to John Wachholz, 2311 Applewood Lane, Salina, KS 67401. Please make checks payable to KABT (Kansas Association of Biology Teachers).

PUBLISHING DATES FOR THE KABT NEWSLETTER are the first day of September, November, February and April. Manuscripts must reach the editor by the 15th day of the previous month. The KABT Newsletter includes abbreviated minutes of the official meetings, announcements of future activities, brief news notes, and other brief items of interest to biology teachers. Send your contributions to Paul G. Jantzen, Editor, 107 N. Madison, Hillsboro, KS 67063 (316) 947-5433.

Newsletter Information Needed: Articles are needed for the newsletter. Please forward them to Paul G. Jantzen, KABT Newsletter Editor, 107 North Madison, Hillsboro, KS., 67063. It would be most helpful if you could send information typed on Appleworks, Macintosh, or ASCII files.

Please pardon this late newsletter. The most helpful events that could occur would be for all individuals sending information to the newsletter to send it via PSINet-KEMNET or on a disk. Make sure it is as an ASCII file if it is not MacIntosh.

The Kansas Biology Teacher Is Off The Ground

The first issue of KABT's journal, The Kansas Biology Teacher, has been mailed. We hope you find its contents helpful and stimulating. While you examine its contents, think about what you can do to make the next issue even better. I'd suggest you plan to write your own contribution to the journal. Its purpose is to share ideas regarding the teaching of biology. And you have many, at least a few, ideas the rest of us would like to know about.

Send your article(s) to the editor this summer, at least by October, so we can suggest possible changes that can improve the manuscript for publication. pgj

JOIN NABT IN Nashville THIS FALL

Now in its final planning stages, the Nashville Convention promises a varied and stimulating program. Speakers include: *Thursday*: **John A Moore**, University of California at Riverside, "What Does Form Do?"; *Friday*: **Frederick K. Goodwin**, director, Alcohol, Drug Abuse & Mental Health Administration, "The Behavioral Biology of Mood Disorders and Other Addictions"; **Stephen G. Lisberger**, University of California School of Medicine, "The Current Climate for Using Animals in Research and Teaching"; *Saturday*: **Steven Wainwright**, Bio Design Studio, Duke University, "Images of Form and Function." **Stephen Jay Gould** will be the Banquet Speaker Saturday night. **Lamar Alexander**, U.S. Secretary of Education, has also been invited to speak.

Some members have found it useful to have a letter of support in order to obtain funds or time off to attend the National Convention. NABT would be happy to supply one. If you would like such a letter, please write to the national office at 11250 Roger Bacon Drive #19, Reston, Virginia 22090. 1991, November 6-10.

News About Kansas Bryology

An effort is being made to promote interest in the study of bryophytes of Kansas and the Plains region. Bryophytes of the central plains have received less study than those of other parts of the country, and there is still much to be learned about their distribution and ecology. Over 160 species of mosses occur in the state, and about 70 species of liverworts.

A quarterly newsletter, "Aschisma", devoted to bryology (the study of bryophytes) in Kansas and the Great Plains region, is being sent **free** to a wide mailing list of schools and individuals across the state and is now in its third issue. It includes articles on bryophytes, news notes, and tips for study of difficult general and species. A brochure called "Kansas Mosses" is also available. A new organization, the Plains Bryological Society, met for the first time at the Kansas Academy of Science meetings in April. There will be an annual PBS Foray (field trip) and an annual meeting, probably together with the KAS. The Reed Bryophyte Herbarium, part of the Kansas State university Herbarium, was established in 1989 and serves as a permanent reference collection for mosses collected in the state. Dr. Steve Timme has established a similar collection of Kansas liverworts at Pittsburg State University. Lists of bryophyte species have been compiled for each Kansas county, and are available on request.

An identification service is available to assist beginners with the study of masses. To get started, gather some samples locally of mosses that look different, divide each sample, keep half for yourself,

and send the other half to the address below. Be sure to give each sample a unique number, note the location of the place of collection, and include a brief description of the habitat. You will receive a list of names for your plants, and soon you will have your own reference collection, with expertly named specimens.

Bryophytes are the easiest of all plants to collect, which makes them fair game for anyone whose time for scientific work is limited. Unlike flowering plant specimens, bryophytes do not need to be pressed, but can be simply air-dried and preserved indefinitely. You can easily learn to recognize many of the common Kansas mosses with a 10X or 15X hand lens, although experts usually depend on the compound microscope for precise identification of moss species. Many of the structures mentioned in moss books can be seen only with these aids. Many schools will have a dissecting microscope and a compound microscope that may be available for you to use.

By studying the bryophytes in your part of the state you can make an important scientific contribution, since knowledge of bryophytes in the state is still in the beginning stages. Most lists of species for Kansas countries are sketchy and incomplete, and a typical afternoon's collecting often yields several new county records. Bryophytes provide a unique opportunity to learn about the biology and specialized ecology of this unusual group of plants, learn the techniques of plant classification and identification, and most important, to do some "real science."

For further information, write to: Dr. Gary Merrill, Reed Bryophyte Herbarium, Division of Biology, KSU, Manhattan, KS 66506-4901.

GEMS Awareness Workshop

Learn more about GEMS -- Great Explorations in Math and Science -- at this workshop for teachers of kindergarten through 10th grade. GEMS is a flexible, hands-on curriculum using easy-to-obtain, inexpensive materials. GEMS units foster critical thinking and positive attitudes in students, and do not require that teachers have special training in math and science. Registrants will participate in two TEMS activities and will receive a GEMS teacher's Handbook.

When: Saturday, November 23, 1991, 9:00 a.m. - 12:00 noon

Where: KU Museum of Natural History, Lawrence

Fee: \$25.00

Registration deadline: October 23, 1991

For more information contact the KU Museum of Natural History, Office of Public Education, (913) 864-4173.

Sabetha Student Winner

Stephanie Kanel, Sabetha (Kansas) High School, is a 1991 NABT Student Science Fair winner. Her project was "The Effects of Electrical Shock on Regeneration of Planarians." Her teacher is **Candy Surdez**.

Awards

Two Olathe South High School teachers, **Brad Williamson** and **Steve Case**, received a \$10,000 grant from Toyota Motor Sales, USA to implement an innovative classroom science project. Brad also received the \$33,000 Christa McAuliffe Fellowship for the 1991-92 school year.

Barry Schartz's picture was spotted in *Newsweek* magazine in a recognition of outstanding teachers in the nation.

Book Dedicated to Maben

A new book, "The Ecology of Mycorrhizae," published by the Cambridge University Press, is dedicated to **Bill Maben**, late professor of biology at Hutchinson Community College and a member of KABT. The author, Michael Allen of San Diego State University, was Maben's student at HCC.

The "Bird Lady" of Dillon Nature Center

One of the Dillon Nature Center's first volunteers is still on the job and working harder than ever. Lorena Combs started leading tours for school groups about 13 years ago. She still shares her knowledge and enthusiasm with hundreds of children every year and helps the center in many other ways. Lorena conducts slide programs for senior citizen groups, garden clubs, and other organizations; serves on the center's advisory committee; and assists with various fund raising projects.

Lorena, raised in Reno County, became a science teacher. She was the entire science department at the northern Kansas high school where she taught. After her retirement in the mid 1970's, she returned to Reno County and now lives in Hutchinson. She was a member of KABT. Dillon Nature Center Naturalist's Notebook

Have You Developed Environmental Labs?

The National Association of Biology Teachers is putting together a hands-on environmental lab manual. If you have original labs to contribute, contact Nancy Ridenour, NABT President, 346 Warren Rd., Ithaca, NY 14850. This year they are working on elementary/middle grades. Next year high school/college.

Field Guide Available

A Field Guide to Reptiles and Amphibians, Eastern and Central North America, Third Edition, by Roger Conant and Joseph T. Collins, was published in May. Conant was formerly director of the Philadelphia Zoo; Collins is a zoologist and editor at the KU Museum of Natural History. The book is one of the popular Peterson Field Guides published by Houghton Mifflin Company, Boston. Copies are in the Museum Shop. Panorama

ECOL-O-KIDS Catalogue Available

Four different catalogues per year showing Earth-friendly gifts, books, T-shirts, educational items, and environmental ideas are available from ecol-o-kids. They say, "When you have finished with our catalogue, please recycle it to a friend !!!" ecol-o-kids, 3146 Shadow Lane, Topeka, KS 66604, 913 232-4747.

A Common Saying

A detached fragment of the terrestrial lithosphere, whether of igneous, sedimentary, or metamorphosis origin, and whether acquiring its approximation to sphericity through hydraulic action or other attrition, when continuously maintained in motion by reason of the instrumentality of gravitational forces constantly acting to lower its center of gravity, thus resulting in a rotational movement around its temporary axis and with its velocity accelerated by any increase in the angle of declivity, is because of abrasive action produced by the incessant but irregular contact between its

periphery and the contiguous terrain, effectively prevented from accumulating on its external surface any appreciable modicum of the cryptogamous vegetation normally predicated in umbrageous situations under optimum conditions of undeviating atmospheric humidity, solar radiation, quiescence, and comparative sequestration from erosive agencies.

(**Translation:** *A Rolling Stone Gathers No Moss*)

Citizenship

Ten percent of Kansas' 109 members of NABT voted in a recent NABT election. That compares to 14 percent of the total 6318 membership.

Call For Student Research Ideas

My students often ask for research ideas. I would like to respond with a long, varied list of biological hypotheses testable by experiments that use easily accessible equipment. If you take ten minutes to prepare a list and send it to me, I just might share it with the entire KABT membership in the next issue of this Newsletter. If necessary, special procedures could be included. Remember that students vary in ability. All of us need your ideas. Sent them to Paul G. Jantzen, 107 N. Madison, Hillsboro, KS 67063. Following are some samples:

1. Drying a toothbrush (with towel, hair drier, sun) immediately following use, reduces bacteria count prior to next use.
2. Green light (red, blue, ultraviolet) energizes photosynthesis.
3. There is an optimum sugar concentration that produces more (or longer) pollen tubes for a specific species.
4. An extract of milkweed (ragweed, spotted spurge, flowering spurge), leaves inhibits the percentage (or rate of) germination of radish (tomato, lettuce) seeds.
5. Phosphates increase the growth rate of duckweed populations.
6. Plants with surface-floating leaves have higher top-over-bottom stoma concentration ratios than land plants do.
7. Human hair thickness is related to hair color (source location, age of bearer, race, base of tip).
8. Crickets are repelled by Osage Orange fruits.
9. Planaria (pillbugs) respond positively (negatively) to red (other color) light.
10. Goldfish activity is stimulated by caffeine (aspirin).

Project WILD is Here !!

Project WILD, an educational program which emphasizes an awareness, appreciation and understanding of wildlife, is now available throughout Kansas. A network of Project WILD Coordinators have been established within seven regions across the state. Starting this fall, these coordinators will plan, organize and implement training sessions for Project WILD facilitators and staff development workshops for educators.

Through these sessions participants are given the opportunity to learn basic concepts about wildlife, its needs, and relationship and importance to people and the environment. It also increases the awareness and confidence of educators in utilizing the outdoors as an effective learning setting.

Project WILD also addresses two other major concerns: 1) the time restraints all educators face in our educational system; 2) the lack of practical experience or knowledge some educators face when presenting subject matter related to the outdoors.

The time restraints is very real. More and more requirements are being added to the daily instructional sequence. Because of this situation educators may have lost the insight into incorporating outdoor learning experiences as part of their on-going curriculum. The beauty of Project WILD is it demonstrates how easily one can integrate outdoor learning experiences into one's daily instructional plans. Math, science, social studies and art are natural, but music, physical education and language arts are just as integrative. The myth one is losing demanded instructional time just is not true. In essence one experiences a doubling effect: bring across an environmental concept while presenting part of the required on-going curriculum.

While it may be true many educators have not been exposed to outdoor learning experiences in their professional training, it does not necessarily mean these opportunities are lost forever. Project WILD is designed to assist educators in providing a hands-on learning approach for their students in an outdoor setting. The six hours of training and the activity guides, would enhance the knowledge, understanding and teaching abilities of any educator regarding wildlife and the environment.

For additional information regarding Project WILD and its possibilities for you as a concerned individual contact Roland Stein, Project WILD's Program Director at: Kansas Depart of Wildlife & Parks, RR 2 Box 54A, Pratt, KS 67124 or call 316/672-5911, extension 108.

BIOTECH Workshop For Teachers At WSU

WSU is inviting you to the Biotechnology Workshop for Teachers to be held on October 23 and 24 in conjunction with the Watkins Life Science Conference on Biotechnology at Wichita State University. The focus of the two-day workshop will be to introduce biotechnology concepts and laboratory techniques to advanced pre-college and introductory level college faculty to enable them to begin incorporating biotechnology in the biology and chemistry curricula. The workshop, co-sponsored by the National Science Foundation, Georgetown University, EDVOTEK Inc. and The Wichita State University, will include theoretical presentations but will emphasize "hands-on" experiments, which include purification of DNA, agarose gel electrophoresis, restriction enzyme analysis of DNA, transformation and gel filtration chromatography.

The anticipated cost for the workshop is \$145 which includes lunches for two days. Registration will be limited to 36 participants. Further information follows in this newsletter.

Registration Form Watkins Life Science Conference

Name _____

Organization _____

Address _____

City _____ State _____ Zip _____

I plan to attend/want more information on the following events:

- Biotech Workshop for Teachers
- Biotech Business Workshop
- Symposium on Human Genetic Disease
- Scientific Session
- Submit a paper for presentation

Return form to:
Watkins Conference
Department of Biological Sciences
1845 Fairmount, Wichita, KS 67208
(Fax) 316 689-3772 (Tel) 316 689-3111

Animal Rights Groups Target Dissection This October:

Page 8 of the summer 1991 PETA News declares: "National 'Cut Out Dissection' Month. October is an important month for frogs, student and other beings. It will be a month of education, street theatre, and, in some places, no doubt, confrontation, as students, teachers, and activists highlight alternatives to dissection." PETA is distributing packets of information to bring this issue to the public, and they encourage members to "Stock up on green ribbons to tie around trees, flagpoles, and light posts as symbols of frogs, the main victims of dissection." The New England Antivivisection Society early this year had already issued a news release to students for a competition for awards for community activism, including securing the adoption of dissection alternatives and informing to the media and authorities (in that order) on "animal abuse at a school."

Meanwhile, a survey by Clare Dunsmoor just published in the May 1991 Kansas Biology Teacher confirmed 97 percent of Kansas biology teachers included dissection in their laboratories, compared to 94 percent of Ohio teachers and 90 percent in an NSTA nationwide survey. While this practice has the preponderant, indeed overwhelming, support of the professions biology teaching community, the animal rights media drive scheduled for October states it is aimed at promoting confrontation. As an experienced biology teacher, you are the best position to decide if this issue is likely to cause classroom disruption. Keeping in mind that legitimate teaching activities have to be cancelled if they result in disruption, some teachers may wish to move dissection to the spring 1992 semester and sidestep the controversy in October. Also be aware that the KABT has rejected the NABT policy discouraging dissection, and supports your professional decision-making responsibility on this issue. I will be glad to send Kansas biology teachers a reprint of the Kansas School Naturalist on "Dissection" and related materials upon request. John Richard Schrock, Division of Biological Sciences, Emporia State University, Emporia, KS 66801.

Stan Roth & Bob Rose Trip

Stan Roth and I took our wives and 14 students to the big island of Hawaii for a two-week field trip in June and July. The Lawrence students enrolled in a four-credit course for Hawaiian Ecology with their school, while the Wichita students joined the group for the personal enrichment. Trip preparation included student and sponsor reports, slide and video presentations, and, for some of the students a lot of hard work with a paper drive to help defray some of the expenses. Highlights of the field trip included: a night hike to watch lava from Kilauea volcano flow into the Pacific Ocean; a day hike to the top of Mauna Kea (13,796 MSL); tide pooling at South Point, birding at Kipuka Puauulu "Bird Park;" seeing about 40 bird species, including one endangered hawk and nine geese; snorkeling on all sides of the island and identifying about 50 kinds of fish; including the state fish-jumujumunukunukuapuaa; camping in Kalapa native forest park; lava tubes: tree fern forests; sugar fields; Macadamis nut orchards; hiking into and across the (steaming) Kilauea Iki crater; beaches of

black, gray, white, tan, and green sands; water falls; historical parks; petroglyphs; and much more. Stan and I have hundreds of slides that could easily be condensed into tolerable slide presentations to KABTers or their students.

Stan Roth is planning on driving to the NABT convention in Nashville. He would like to have other interested teachers ride along with him and share some of the expenses.

Awards

1991 Presidential Awards:

Elementary Science: Wendy Rose (Kindergarten) Wichita Collegiate School

Secondary Science: Bob Rose (High School Biology) Wichita Collegiate School

OBTA Award For 1991:

Terry Callender (Wamego High School)

Bob Rose Nominated

Bob Rose has been nominated for Director-At-Large of NABT. Of the 109 Kansas NABT members, only 10 voted last year.

