

# Kansas Association of Biology Teachers

Volume 41 Number 2 - April 2000

## Calendar & Activities

Please send meeting dates and other items of interest to biology teachers to: John Wachholz, 2311 Applewood Lane, Salina, Kansas 67401-3707, 913- 825-7742 - E-mail: [jwachholz@midkan.net](mailto:jwachholz@midkan.net)

<b>Date</b>	<b>Event</b>
May 12-14, 2000 .....	Morton County Field Trip
<b>Meet At 8:30 AM, Saturday, May 13, 2000 at the Cimarron National Grassland Forest Service Office, PO Box 300, 242 Hwy 56 E. Elkhart, KS 67950, Phone 316-697-4621</b>	
<b>Contact Todd Carter ( <a href="mailto:tcarter@sccc.sccc.cc.ks.us">tcarter@sccc.sccc.cc.ks.us</a> ) or Lisa Volland ( <a href="mailto:lvolland@topeka.k12.ks.us">lvolland@topeka.k12.ks.us</a> ) who are working on arrangements for the trip.</b>	
May 19-21, 2000 .	KOS Field Trip with Base Camp at Camp Billy Joe Near Kenton, OK
September 16, 2000.....	Fall Meeting – Great Plains Nature Center, Wichita
October 21-22, 2000.....	KHS Fall Meeting—Adam’s Mark Hotel in Kansas City, MO
October 25-28, 2000.....	NABT National Convention – Orlando, Florida
May 12, 2001 .....	Northeast KS Field Trip
September 15, 2001.....	KSU Manhattan



KABT Web Site - <http://kabt.org>  
 Made Available by KanCRN - <http://kancrn.org>  
 Send comments to: [jwachholz@midkan.net](mailto:jwachholz@midkan.net)  
 NABT Web Site - <http://www.nabt.org>

Your membership **expiration date** can be found on your mailing label. All dues are now payable on September 1st of each year. The membership list was last updated on **May 1, 2000**. If you sent dues in after this date they were not recorded before the mailing list was printed.

### **Publishing Dates For Newsletter**

The newsletter is published during the months 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 John Wachholz, Editor, 2311 Applewood Lane, Salina, KS 67401 785-825-7742. You may send you information to [jwachholz@midkan.net](mailto:jwachholz@midkan.net).

### **Newsletter & Journal Articles**

Articles are needed for the newsletter and journal. Send them via e-mail to [jwachholz@midkan.net](mailto:jwachholz@midkan.net) or on a disk. If you send it on a disk, any format is acceptable. Your help is appreciated.

Articles for the Kansas Biology Teacher should be sent to John Richard Schrock, editor KBT, Division of Biological Sciences, Box 50, Emporia State University, Emporia, KS 66801-5087. E-mail: [ksnaturl@esumail.emporia.edu](mailto:ksnaturl@esumail.emporia.edu)

Please remember to keep your dues up to date so you will continue to receive KABT publications.

### **Outstanding Biology Student Certificates**

These are available for students who you feel have completed a biology course under you and have shown outstanding achievement. We have just updated our supply. Send your name and address to KABT Student Certificates, 2311 Applewood Lane, Salina, KS 67401-3707.

Please use these certificates as valuable awards for outstanding students.

### **NABT Contact Information**

**Address (New):** . 12030 Sunrise Valley Drive, Suite 110  
Reston, VA 20191-3409

**Web Site:**..... <http://www.nabt.org>

**Phones:** ..... 703-471-1134 or 800-406-0775

**Fax:** ..... 703-435-5582

**E-mail:** ..... [NABTer@aol.com](mailto:NABTer@aol.com)

### **From the President**

It is an exciting time of the year to be a biology teacher! With the onset of spring, suddenly the biology teacher has direct access to dozens of newly hatched, blossomed, and emerged specimens to take our students to see or else to bring into our classroom for a closer look!! It is a privilege that any good biology teacher would not pass up. Last week, I had the opportunity and

privilege to be sent to an AIBS (American Institute of Biological Sciences) meeting in Washington D.C. The cherry blossoms were in full bloom--how beautiful they were! And as I returned to Kansas by way of I-70, I got to enjoy the greens, purples, pinks, whites, and yellows of other blooming trees and shrubs. Spring is great!

I bring up this seasonal change along with the fact of me attending this wonderful conference for a reason. As we listened to various plenary speakers discuss various topics in evolution, biodiversity, and classification, one theme kept being repeated--use living organisms with students. This common thread amongst all of these naturalists was the hands-on experience with organisms in nature. Many of the attendees, in a synthesis session that followed several of the speakers, expressed similar views. Students need hands-on contact with living organisms. Several professors expressed the need for a \*re-birth\* of the classical organismal biologies--a need for integrating these disciplines, such as botany and zoology, with other disciplines. Another person stated that students need to get out into the field instead of watching everything on the Discovery Channel. Well, I personally love the channels like the Discovery Channel and The Learning Channel--but I do see the need for this early exposure. Ernst Mayr, the honored guest of this AIBS meeting, talked of how both of his parents were amateur naturalists. He told of how his mother always had him looking at birds and other organisms in the world around him. It was these experiences that captured his interests and caused him to break a family tradition of becoming a physician. Instead, Ernst Mayr spent his early research years in the field, giving him a lifetime of experiences on which to support Darwin and Natural Selection.

Going to this conference was a great experience. Anytime that a biology teacher can be with other biology educators--it is a good thing! KABT has a spring field trip coming up in May. This trip is a great way to get yourself out in nature and see first hand, the biology of the Cimarron National Grasslands. Every field trip and conference KABTers go on is an experience to treasure! I have so many great memories! It's a really good way to end a school year and renew yourself just in time to tackle the end-of-the-semester grading!

### **KABT SPRING FIELD TRIP MAY 12-14, 2000**

Todd Carter, Region 4 representative, is arranging the spring field trip in the Cimarron National Grasslands near Elkhart, Kansas on May 13, 2000. A camp ground is available for those coming down Friday night right on the Cimarron Grasslands. We will plan to camp together in that area. Directions to the campground can be found in this article. Todd has listed hotels/motels for anyone wishing to stay on Friday or Saturday night. We are doing an auto tour, beginning with a short meeting at the Forest Service. We will gather as a group at the Cimarron National Grasslands Forest Service office at 8:30 a.m. We will plan for a picnic (brown bag) around noon. Be sure to bring plenty to drink! If you are planning to attend, please give me an e-mail ([lvolland@topeka.k12.ks.us](mailto:lvolland@topeka.k12.ks.us)) by May 8th. This will allow us to make accurate plans. If you do not know until closer to the date of the field trip (May 13), go ahead and give me an e-mail. It is always a good day when KABT meets!

You can also contact Todd Carter ( [tcarter@sccc.sccc.cc.ks.us](mailto:tcarter@sccc.sccc.cc.ks.us) )

who is working on arrangements for the trip.

Following are some web sites to check out for our spring field trip to the Cimarron National Grasslands near Elkhart, KS. We will be camping and gathering on Friday night for the big Saturday excursion. We will need commitment from all who plan to attend ahead of time. We will have complete information in the April Newsletter. If you have questions we will get the information posted on the KABT website.

<http://www.fs.fed.us/grasslands/>

<http://www.fs.fed.us/r2/psicc/cim/cimrd.htm>

<http://www.lasr.net/leisure/kansas/morton/elkhart/ff3.html>

<http://www.llbean.com/parksearch/parks/html/2011lf.htm>

<http://www.lasr.net/leisure/kansas/morton/index.html>

Information Concerning Cimarron National Grasslands

Address: Cimarron National Grassland, PO Box 300, 242 Hwy 56 E. Elkhart, KS 67950, Phone 316-697-4621.

Cimarron Recreation Area Information:

Access: Travel seven miles north of Elkhart on Highway 27, turn east on FS 700, continue east 4 miles.

Special Considerations: Campsites, restrooms and water hydrants are all handicap accessible, as is the fishing dock on one of the fishing ponds.

Facilities: 14 campsites, some with pull-throughs, water, SST vault toilets, handicap-accessible sites and fishing dock, fishing ponds, hiking trail access.

Maps: Maps of the Cimarron National Grassland are available at the District Office (Address is located above.)

## MOTELS & RESTAURANTS OF ELKHART, KS

### Motels:

El Rancho Motel

604 Hwy 56 E

Elkhart, KS 67950 316-69 1-2117 "Rates vary with season, occupancy & group size. Call early-it fills up during pheasant season.

Elkhart Motel

329 Morton Avenue (across from the post office Elkhart, KS 67950 316-697-2168 \*\*Rates start at \$21 \*\*Dogs allowed at no charge.

### Bed & Breakfast:

The Cimarron Bed & Breakfast P.O. Box 741 Elkhart, KS 67950 580/696-4672 Located in the country a few miles west of Elkhart. Home style comfort, with a snack and full breakfast, pool table and hot tub. Rates vary from \$30 to \$45. Call early for hunting Season.

### Restaurants (all in Elkhart):

Spangles - 634 Hwy 56 - 316-1397-9886

Downtown - 329 Morton - 316-697-9895

Pizza Hut - 460 Hwy 56 - 316-697-4555

Dairy Kreem - 411 E. Colorado - 316-6974619 or 4593

### Additional sources of information are:

Elkhart Chamber of Commerce      KS Dept. of Wildlife & Parks

411 Morton                                      512 SE 25th Ave.

Elkhart, KS 67950                              Pratt, KS 67124

316-697 46010                                      316-672-5911

Internet site: [www.kdwp.state.ks.us](http://www.kdwp.state.ks.us)

## KOS Spring Field Trip

Dates: May 19-21

Location: Lodging will be at Camp Billy Joe, near Kenton,

Oklahoma.

The formal event begins with a supper and program at the camp on Friday night the 19th. Speaker will be our own Max Thompson. We will have some Kansas field trips departing from Elkhart on the 19th, with the final destination being Kenton in time for dinner.

Saturday field trips will visit a variety of locations in Oklahoma, New Mexico, Colorado, and Kansas. Another speaker yet to be announced for the Saturday night.

Sunday more field trips, and possibly a lot of the Kansas trips will depart from the camp well before dawn, and then disperse for home as the leaders and conditions deem proper.

Meals will be catered, including options for all meals from Friday night through Sunday breakfast. Sack lunches will be prepared.

The camp has good facilities for up to 160 people, including ample showers, large meeting hall, and cabins. This will be dormitory style lodging for the most part, so couples/families wanting to get away for a quiet weekend might want to consider camping on the grounds, or staying in Elkhart or Boise City motels.

## COLLINS APPOINTED CURATOR

Dr. Jerry Choate, Director of the Sternberg Museum of Natural History at Fort Hays State University announced the appointment of Joseph T. Collins, Lawrence, as Adjunct Curator of Herpetology. Collins recently retired from the University of Kansas, where he is Herpetologist Emeritus at the Natural History Museum and Adjunct Herpetologist for the Kansas Biological Survey. He has published more than 200 scholarly articles and 23 books, and in 1996 Governor Graves proclaimed him "The Wildlife Author Laureate of Kansas," a lifetime honor, and the first Laureate ever recognized by the state of Kansas.

Collins joins Emeritus Curator of Herpetology Eugene Fleharty and Curator of Herpetology Travis W. Taggart at the museum in Hays, Kansas. As curator, he will present seminars, advise and assist with curation of the collection of amphibians, turtles, reptiles and crocodilians, make collections for the museum's research holdings, and assist with fund-raising for the museum and its programs. Currently, he continues to teach courses on Kansas Herpetology and North American Herpetology at KU and Washburn University.

## Hot Dog Lab

I have done this "hot dog lab" as part of an integrated discipline course called "Nutrition Science". We use regular lighter fluid as the solvent, and teaching the students the concept "like dissolves like", have gotten terrific results every time! Cut and mass approx. 3 gins of any hot dog, use a stirring rod (and good ventilation!) to stir hot dog pieces with approx. 10 mL lighter fluid (the fluid will turn pale and cloudy), decant through filter paper, repeat the process with lighter fluid and same pieces of hot dog for a total of 3 times. Let the resulting evaporating dish of fluid sit overnight (2 nights if at room temp or 1 night at approx. 98 C) and you will get unmistakable fat (kids describe it as looking just like veg. oil) in the bottom of the dish. We have done this with different brands (generic vs. brand name) and different content (chicken vs. turkey vs. beef or no-fat) with terrific results! This is one of those labs the kids remember and talk about the rest of the year!

By Becky Ashe

## INTRODUCTORY EVOLUTION ACTIVITY

By: Harry McDonald  
Blue Valley High School  
6001 W. 159<sup>th</sup> , Stilwell, KS 66085  
913-681-4200  
[biologyctrackdhotmail.com](mailto:biologyctrackdhotmail.com)

Here is an introductory activity for evolution. Use it the first day, before you even let the kids know that the next unit is evolution. That way they have no preconceived notions about what you “want” from the activity. In my classes we will have just covered molecular genetics. We will have previously covered ecology and they know the concepts of limiting factors and adaptation to the environment.

Have the students pick an animal (a plant would do but they identify better with animals). Have each of them draw a table with seven columns as shown below.

Organism	1	2	3	4	5	Summary
Environment						
Feature 1						
Feature 2						
Feature 3						
Feature 4						
Feature 5						

After you identify the organism, agree on its habitat. Then ask the students five or six questions about the traits of the organism. Select traits which are adaptive to that environment or which relate to successful mating.

Example: One of my classes chose a Gila monster. We decided it lived in the desert. I then had them decide what it ate. If students don't know, you can always have them look it up but to keep this to one class period, I just have them vote. Ultimately the point is not to teach about the organism but about evolution. I also asked them how it avoided becoming prey; what primary feature helped it catch prey; whether it was nocturnal or diurnal and what was the primary sexual attractant. We listed all of this in the column headed “Organism.”

Next we discuss which of these traits are controlled or primarily influenced genetically. Most of the time, they vote for everything except the environment. I of course pick features which are strongly genetic so this is no surprise. Should they vote that a certain feature is not genetic, just accept it and go on. Again the purpose is not to learn which features are genetic.

I then ask each student to choose one trait and mutate it. They are restricted to mutating in some believable way. I don't argue about this. In fact I don't even check what each mutation is. By giving this instruction, they tend not to make a case that evolution could not really occur because they chose mutations that couldn't really happen. Students are to list this new feature in column one next to the feature they mutated.

Ask students to repeat this four more times. They may mutate the same gene every time or they can choose five different genes to mutate or any combination.

Students are then to list all features that the animal currently has in the summary column.

At this point, have a change in the environment, such as weather patterns change and the southwest deserts become grasslands

At this point, ask the students two questions.

1. Can your animal still live in this changed local environment? They get to decide, not the teacher. I have never had it fail that some decide their organism can live and some decide theirs can't. I discuss the idea of limiting factors affecting populations and point out that the development of mutations that are advantageous is called adaptation and occurs by selection of nature (now I throw in the term, natural selection.

I point out that the mutations happened at random; that no advance warning occurred to forewarn the organism on what mutations would be needed and that the death of the non-adaptive organisms establishes that adaptation is not done purposely but rather is the consequence of fortuitous, prior variation.

2. Could your animal still mate with the original animal if they could be brought together in time? Again, I have never had it fail that some decide yes and some decide no. For the students who say no, I ask them what has just happened if the current organism can no longer mate with their ancestors. Someone eventually says that we have formed a new species. I take the opportunity to point out that genetic variation (mutation) and natural selection can, without advanced planning, eventually lead to the formation of a new species. I point out that these are the two main events in evolutionary theory, adaptation and speciation, and that they seem to be the natural consequence of natural events. All the rest of what we will study is details.

Related web sites you will find useful.

<http://www.ncbe.nlm.nih.gov> - This site will allow you to obtain complete base-pair sequences for a variety of genes, as well as the location of introns, mutations, precursors, and more. You can obtain information on what other organisms have been identified to possess this gene.

<http://vector.cshl.org/resources/bioserver.html> - This site allows much of the same as the above site except for mitochondrial DNA. It also will identify locations of variations with other organisms. The site contains mtDNA sequences for a variety of current individuals USA, European, Asian, African, etc., various primates, Cro-Magnon, and Neanderthal.



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KABT Membership Application - Renewal - Form

Name: \_\_\_\_\_  
(Mr.-Mrs.-Ms.-Dr.-Miss) First Name Last Name

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_ Zip: \_\_\_\_\_ - \_\_\_\_\_

School/Institution: \_\_\_\_\_

Position: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_ Zip: \_\_\_\_\_ - \_\_\_\_\_

Phone: Work (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_ Home: (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

FAX: (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_ Internet Address: \_\_\_\_\_@\_\_\_\_\_

Enclosed Dues For KABT **\$15** / Year  
Life Membership Available For **\$300**  
National Association of Biology Teacher Dues: **\$59.00** / Year  
Yearly Due Date is September 1st - Make Check Payable To KABT - Tax ID #: 48-0945206  
Send Dues & Information To:  
Kansas Association of Biology Teachers  
2311 Applewood Lane  
Salina, KS 67401 - 3707

# The Kansas Association of Biology Teachers Officers - Representatives - Board Members

## President

Lisa Volland  
2609 SW Morningside Dr  
Topeka, KS 66614  
(785) 273-1810  
Topeka West High School  
2001 SW Fairlawn  
Topeka, KS 66604  
(785) 271-3529  
lvolland@topeka.k12.ks.us

## President Elect

Harry McDonald  
11917 W 143<sup>rd</sup>  
Olathe, KS 66062  
(913) 897-9630  
Blue Valley High School  
6001 W. 159th Street  
Stilwell, KS 66085  
(913) 681-4200  
biologyctrack@hotmail.com

## Vice-President

Sandy Collins  
906 E. 543 Road  
Lawrence, KS 66047  
(785)-841-2375  
West Junior High School  
2700 Harvard  
Lawrence, KS 66049  
1-785-832-5500  
scollins@raven.cc.ukans.edu

## Past President

Terry Callender  
15960 Snodgrass  
Wamego, KS 66547  
(785) 456-7924  
Wamego High School  
801 Lincoln  
Wamego, KS 66547  
(785) 456-2214 Ext. 123  
FAX (785) 456-8125  
callendet@usd320.k12.ks.us

## Treasurer and Newsletter Editor

John Wachholz  
2311 Applewood Lane  
Salina, KS 67401-3707  
(785) 825-7742  
Salina High School Central  
650 E. Crawford Street  
Salina, KS 67401-5119

(785) 826-4751  
FAX (785) 826-4740  
jwachholz@midkan.net

## Secretary and

### KACEE Representative

Pat Wakeman  
24549 Sandusky Rd.  
Tonganoxie, KS 66086  
(913) 845-3208  
Tonganoxie High School  
Box 179 24-40 Highway  
Tonganoxie, KS 66086  
(913) 845-2654  
FAX (913) 845-3716  
pwakeman@nehub.nekesc.  
k12.ks.us

### Region 1 Representative

Ernie L. Brown  
825 Main  
WaKeeney, KS 67672  
(785) 743-2972  
Trego Community High  
School  
1200 Russell Avenue  
WaKeeney, KS 67672  
(785) 743-2061  
FAX (785) 743-2449  
ebrown@ruraltel.net

### Region 2 Representative

Pat Lamb  
3014 Sunnyside  
Manhattan, KS 66502  
(785) 776-1438  
Manhattan High School  
2100 Poyntz  
Manhattan, KS 66502  
(785) 587-2100 Ext. 802  
**Region 3 Representative**  
John Tollefsen  
24015 Loring Road  
Lawrence, KS 66044  
(785) 749-3280  
Highland Park High School  
2424 California Avenue  
Topeka, KS 66605  
(785) 266-7616  
jtollfsn@falcon.cc.ukans.edu

### Region 4 Representative

Todd Carter  
Box 346

Forgan, OK 73938  
(405) 487-3547  
Seward County Community  
College  
Box 1137  
Liberal, KS 67905-1137  
(316) 629-2643  
FAX (316) 629-2725  
tcarter@sccc.sccc.cc.ks.us

### Region 5 Representative

Mike Fell  
Rt 1 Box 273  
Winfield, KS 67156  
(316)-221-5160 W  
mafell@terraworld.net

### Region 6 Representative

Jim Foresman  
306 Park  
Pittsburgh, KS 66672  
Pittsburgh High School  
(316) 235-3200 W

### Representative At Large

Nathan Brown  
307 Walnut  
Wamego, KS 66547  
1-785-456-9823 (H)  
1-785-456-8333 (W)  
ntbrown@kansas.net

### Representative At Large

Eric Kessler  
Blue Valley North High  
School  
12200 Larmar  
Overland Park, KS 66209  
1-913-345-7300

### Journal Editor

John Richard Schrock  
1101 W. 18th Avenue  
Emporia, KS 66801

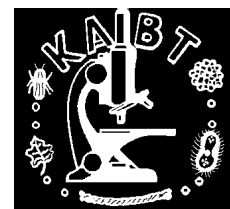
(316) 342-3879  
Emporia State University  
Division of Biological Sci-  
ences  
Box 4050  
Emporia, Ks 66801  
(316) 341-5614  
FAX (316) 341-5997  
ksnatur@esumail.emporia.edu

### NABT Representative

Brad Williamson  
Olathe East High School  
14545 W. 127th Street  
Olathe, KS 66062  
(913) 780-7120  
(913) 780-7137 FAX  
bwilliam@sound.net

### KABT Historian

Stan Roth  
532 Oklahoma St.  
Lawrence, KS 66046  
(785) 843-4764  
jroth@ukans.edu



KABT Regions

Cheyenne	Rawlins	Decatur	Norton	Phillips	Smith	Jewell	Republic	Washington	Marshall	Nemaha	Brown	Doniphan
Sherman	Thomas	Sheridan	Graham	Rooks	Osborne	Mitchell	Cloud	Clay	Riley	Pottawatomie	Jackson	Atchison
Wallace	Logan	Gove	Trego	Ellis	Russell	Lincoln	Ottawa	II	Geary	Wabaunsee	Lawrence	III
Greeley	Wichita	Scott	Lane	Ness	Rush	Barton	Ellsworth	Saline	Dickinson	Morris	Osage	Franklin
Hamilton	Kearny	IV	Finney	Hodgeman	Pawnee	Stanton	Reno	Harvey	McPherson	Marion	Chase	Lyon
Stanton	Grant	Haskell	Gray	Ford	Edwards	Starbuck	Kingman	Sedgewick	V	Butler	Greenwood	Woodson
Morton	Stevens	Seward	Meade	Clark	Comanche	Barber	Harper	Sumner	Cowley	Chautauque	Elk	Wilson
											VI	Neosho
												Crawford
												Montgomery
												Labette
												Cherokee

**Plan on attending the SPRING KABT FIELD TRIP  
May 12-14, 2000**

**Cimarron National Grasslands, Morton County**

Gather on Friday night—Camp—Field Trip All Day Saturday  
Information In This Newsletter  
Check Your Upcoming April Newsletter For Complete Details

**YOU MUST!  
Check Out The KABT Website  
<http://kabt.org>**



KABT Membership Application - Renewal - Form

Name: \_\_\_\_\_  
(Mr.-Mrs.-Ms.-Dr.-Miss) First Name Last Name

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_ Zip: \_\_\_\_\_ - \_\_\_\_\_

School/Institution: \_\_\_\_\_

Position: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_ Zip: \_\_\_\_\_ - \_\_\_\_\_

Phone: Work (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_ Home: (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

FAX: (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_ Internet Address: \_\_\_\_\_@\_\_\_\_\_

Enclosed Dues For KABT **\$15 / Year**  
Life Membership Available For **\$300**

National Association of Biology Teacher Dues: **\$59.00 / Year**

Yearly Due Date is September 1st - Make Check Payable To KABT - Tax ID #: 48-0945206

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