MIDWEST BIOSCENE

ASSOCIATION OF MIDWESTERN COLLEGE BIOLOGY TEACHERS Vol. 1 No. 2 February, 1975

BIOSCENE BULLETIN

Dates Changed for Annual Meeting

October 17 and 18 are the new dates for our 19th Annual Meeting at Terre Haute. The change was deemed advisable to avoid conflict with the tri-state meeting of the Iowa, Minnesota and Wisconsin Academies. Correct your calendars - preliminary plans promise an extremely worthwhile meeting.

BIOSCENE BULLETIN

NABT Regional Meeting

Stephens College, Columbia, MO, will host a meeting for Region IV of the National Association of Biology Teachers on March 15 and 16. Region IV includes North and South Dakota, Minnesota, Iowa, Kansas, Nebraska, and Missouri. For further information contact: Clarence T. Lange, Director, Region IV, NABT, Clayton High School, #1 Mark Twain Circle, Clayton, MO 63105

BIOSCENE BULLETIN

Sandhill Cranes and Biology Teaching

If this combination nudges your noggin save March 21 and 22 for a trip to Kearney State College. See the program included with this issue and read the article on sandhill cranes. This meeting has been arranged for AMCBT members and other college biology teachers by John C.W. Bliese and our other colleagues at KSC. Opportunities such as this are few and far between. Help make this a successful event and widen your own biological horizons.

BIOSCENE BULLETIN

NABT-NASA-ICFAR at IUPUI

The Search for Extraterrestrial Life - if your days have been humdrum and you are searching for some new outlooks, consider what three days of presentations and discussion on this topic could do for you. Those of you who have attended Biological Realities and Their Social Significance in past years already know the excellence of these programs. May 12-14 has been set for this seminar at Indianapolis. The Indianapolis Center for Advanced Research is cooperating with the NABT and NASA for this seminar. Teachers of science at all levels are invited and may bring students. Complete details will be available in a forthcoming issue of NABT News and Views. Details and application forms are also available from Dr. Wendell F. McBurney, Assistant Dean, Office of Sponsored Programs, Indiana University - Purdue University at Indianapolis, 355 North Lansing Street, Indianapolis, IN 46202

COMMITTEE COMMUNIQUES

NEEDED: AN INVITATION

AMCBT is a unique organization among science groups. Our primary emphasis is the teaching of biology in post-high school institutions. While expousing our primary emphasis, our members are as active in research and service to the profession as are members of other groups. Compared to other science organizations, our group is small - which gives us the advantages of small groups interaction sessions at our annual meetings and the opportunity to participate actively in the programs and policy decisions.

Our organization should be representative of all the college biology teachers in the Midwest. Please offer a friend in a neighboring two-year or four-year school an invitation to join with us in our attempts to up-grade our curricula and instruction. Send him or her a personal letter of invitation with a Xeroxed copy of Midwest Bioscene, including the membership blank. We need the combined wisdom of all of our colleagues in these trying but challenging times. The input for all of us would be so much more complete and effective if we had at least one representative from each two-year and four-year institution.

Our Fall meetings are excellent times for the sharing of ideas, programs and problems. Let's spend a few minutes this Spring - NOW - to share with at least one friend our enthusiasm in AMCBT through an invitation to membership.

Bob Vanden Branden, Chairman
Membership Development Committee

PROGRAM PRELIMINARIES

As part of the program for the 1975 meeting at Terre Haute, a series of discussions on new developments and recurrent problems in biology teaching is planned. The series includes:

1) Physical science and mathematics for biology majors
2) Continuing education programs
3) Minicourses or modular programs
4) One-semester introductory course content
5) Methods courses
6) Differing background levels among students in introductory programs
7) General education courses (Other than introductory)

Any AMCBT member interested in serving as discussion group leader, as a contributor or in some other program capacity should contact me immediately. Suggestions for other possible discussions or inquiries are also welcome. The vitality of any organization reflects the degree of member participation. Here's an opportunity.

Joseph E. Kapler, Program Chairman, AMCBT
Loras College, Dubuque, IA 52001

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SANDHILL CRANES

John C.W. Bliese
Kearney State College, Kearney, NB 68847

One of the most spectacular ornithological phenomena of North America is that seen each spring in the Platte River Valley of central Nebraska. Something like 250,000 to 300,000 Sandhill Cranes (Grus canadensis) stop here during March and early April to feed and rest before continuing their migration to the northern states, Canada, and even Siberia. Standing three feet or more in height, and with a wing spread of eighty inches, these birds attract the attention of everyone, even the casual tourist on Interstate 80.

The cranes congregate by day in the local fields, within a few miles of the Platte River, in flocks that vary from 2, 3, 5, 10, even to 5000 or more birds in number. Here they feed on almost anything edible such as waste corn, tender vegetation, worms, mice, frogs, and the like. Towards night they gather by the thousands on fields, which authorities have called "secondary roosts", located rather close to the river. When darkness falls the birds then fly to the river to spend the night standing in shallow water on submerged sandbars, the so-called "primary roosts", some distance from the banks of the stream.

Autumn does not give a repeat of the spring concentrations in Nebraska. Although some of the cranes stop here on their way south, most apparently fly over the state to land in Kansas, or else go around by way of Colorado. They winter in southern states and in Mexico.

A behaviorism that fascinates everyone is the "dance" performed by the birds. This includes bowing to each other, jumping into the air and sometimes even over each other, picking up sticks or corn stalks and tossing them into the air. While this performance may have mating significance, many observations in the Platte Valley indicate it occurs under conditions of excitement. Should a flock be reasonably close to the road as you approach in your car, for instance, you will stimulate some, if not all birds, to dance by merely slowing your car and coming to a stop directly opposite them. They might respond by flying away, of course, but just as often they'll dance for you, and be working their way farther away from you as they do so. Sometimes only a few birds in the flock will dance, but at other times the commotion will include the entire flock.

The U.S. Fish and Wildlife Service is proposing a refuge for the cranes along the Platte River from near Grand Island to near Wood River, Nebraska, definitely a favored roosting area for the birds. This is, unfortunately, also a good agricultural area, and the proposal is meeting with considerable opposition. The National Audubon Society has succeeded in establishing a small refuge just a short distance south and west of Gibbon, Nebraska. It involves about two miles of river bed and limited areas of river bank. It is the site of one of the largest night roosts in the area.

From the standpoint of the conservation of these birds, the Achilles' heel would seem to be their night roosting on submerged sandbars in the middle of the river. As man's activities gradually alter the ecology of the Platte Valley, less and less such locations remain. The depth of the river changes, vegetation takes over any bar that is even temporarily dry, and other factors affecting the birds vary.

A computerized study at Yale University has recently given the doleful suggestion that these birds could become extinct in about twenty years.

EDUCATIONAL OPPORTUNITIES AT SHEDD AQUARIUM

Education Department Staff
John G. Shedd Aquarium, Chicago, IL 60605

The Shedd Aquarium, one of Chicago's many cultural and educational institutions, has a wide variety of resources available to the surrounding college communities. Special education programs focus on three main themes of aquatic science: (1) the diversity and ecology of fishes; (2) the ecology of marine organisms and their relationships with man; and (3) man's impact on a locally important ecosystem - Lake Michigan. These concepts are presented in a variety of formats designed to make the information available to as many different age and interest groups as possible and to encourage people to involve themselves with the subject matter through the use of living specimens aided by slides, films, graphics, and discussion. Programs, classes and lectures are given by the three full-time members of the Education Department staff, often assisted by college students who receive credit from their home schools for doing volunteer work at the Aquarium. A total of twenty students from local and distant colleges have participated in work/study programs over the past three years.

Special topics are available on request, with the recommendation that these be geared to use of the exhibit collection as well. This collection contains a wide variety of Caribbean reef organisms (including the 90,000 gallon Coral Reef Community tank) and offers a good selection of Pacific, temperate and fresh water animals as well. The gallery which houses the fish of Lake Michigan is under renovation and is scheduled for reopening in the latter part of 1975. This public collection is supplemented by preserved specimens and selected organisms in small holding tanks in the classroom.

At the present time, classroom facilities include an auditorium with full audio-visual equipment, and one small well-stocked wet lab. Under construction are two large labs, two classrooms, lunchroom, library and seminar room. Try us next school year for these. We do have a professional library now (tucked into a number of offices) which is available for use by appointment. The library contains materials on careers in the aquatic sciences, strong holdings in fishes, marine biology, and limnology and various journals.

A number of local colleges and universities have made use of the Aquarium's collecting vessel, the R/V Coral Reef, to do field work in the Florida Keys. This specially outfitted 75 foot boat can comfortably accommodate 10 students, two instructors and two crew members. The areas usually investigated include rocky shores, sandy shores, mangroves, various reefs and turtle grass communities. Some schools have included the trip as a part of an existing ecology class; others have built a special interim class around the trip. However it's used, the trip allows Midwestern college students to explore marine environments in a disciplined situation, guided by people familiar with the areas to be studied.

The Aquarium staff and facilities are also being utilized as a part of a Master's degree program in Aquarium Management offered by Northern Illinois University. So far, research in the Aquarium has been sporadic, usually run entirely by the school and/or students involved, with auxillary input from the staff here. When the Science Center is completed, more attention will be focussed on this area.

So whatever your needs, biology instructors, keep us in mind. We can offer you live animals and habitat settings; a trained staff for lectures or help in planning a self-guided tour; a movie library, a reference library and laboratory facilities; a work/study program and future research areas; and finally, a unique field experience in a tropical, marine ecosystem.

For more information, call or write:

Education Department
John G. Shedd Aquarium
1200 South Lake Shore Drive
Chicago, IL 60605

Ph: 312/939-2426

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RECENT ADVANCES IN GENETICS AND THE GENERAL BIOLOGY CLASS

Jack Bennett, Associate Professor of Biology
Northern Illinois University, DeKalb, IL 60115

The most exciting thing we can say is that the most basic questions of gene action have been answered - and the answer is almost overwhelming. Not only can we describe the mechanism of the action of several classes of genes on a molecular basis, but it turns out to be done by the same rules and with the same codes in all living organisms yet investigated. The transcription from DNA code to RNA code and the subsequent translation to amino acid code for protein systhesis is now well covered in most elementary texts. The biochemical details have been worked out in great depth in the bacterium E. coli and the work is being extened to other organisms including eukaryotes.

However all of this understanding of gene action still leaves us with the question of how gene action is regulated or controlled. In fact it turns out that we must recognize new classes of genes, those concerned with regulation of gene activity, or suppression of other genes. The genes for lactose utilization in E. coli, "the lac operon", provided a model system for the regulation of gene activity. It is the system usually pictured in elementary texts. It shows three kinds of genes: a regulator gene that directs production of a regulating molecule; several structural genes that direct production of enzyme molecules; and another kind of regulator gene (the operator) that interacts with the regulator molecules from the first kind of regulator gene. Now it has become clear that there are other systems of genes in bacteria with even more complexity in their control systems. The regulating systems of eukaryote cells appear to be a thousand fold more complex, at least in terms of amount of material (DNA, RNA and protein) involved.

Thus we are in the position of understanding simple, prokaryote, cells reasonably well, but only just becoming able to ask meaningful questions about regulation of genes in the nucleated, eukaryote, forms.

The general biology student should understand that the chemical basis of the life of simple cells is within the grasp of anyone who wishes to learn it. Thorough understanding of the cells of higher organisms, such as ourselves, or radishes, will continue to provide fascinating challenges for generations of workers. There is no visible justification for any lingering appeals to "vital forces", etc., in understanding cellular operations.

Recombination of genes, the heart of classical genetics, is understood in outline, and some detail, in prokaryote cells. In eukaryote cells independent assortment (recombination of genes located on non-homologous chromosomes) is well understood at the level of meiotic activity. The great gap lies in our continued failure to work out a detailed model of the structure of chromosomes at the molecular level. They have in the past been too complex to be amenable to electron microscopy. Now the high voltage electron microscope and the scanning electron microscope give promise

of overcoming the difficulties. Perhaps then it will be possible to understand chromosome structure and to ask appropriate questions about the mechanism of crossing over.

The recent discovery that eukaryote chromosomes can be differentiated chemically along their length (metaphase) with resulting staining of "bands" has brought the prospect of being able to study vertebrate chromosomes in a kind of detail that could eventually approach that available in the fruit fly. This seems unlikely to contribute much directly to our concept of chromosome structure in general, but it is a crucial break in understanding general chromosomal organization in man and other vertebrates.

The general biology student should understand that recombination is the principal basis of our individuality, and that genetically based individual differences are the basis of natural selection and evolution.

Population genetics has explored the relative importance of selection and random processes (also known as sampling error or small number effects) with much attention to the possibilities of evolutionary change that does not appear to be adaptive. The issues are largely theoretical, of great enjoyment to the population geneticist, but of little real concern to our picture of the evolutionary process as a whole. It is clear that selection and random processes both play important roles in evolution.

The genetic bases of behavior have gradually become amenable to study in man and animals. The level of understanding yet attained is very low, the promise for understanding human differences in learning and skills of all kinds are great. The general biology student needs to realize that genes provide the foundation for behavior, and that the environment and experience may build in various ways on this foundation, but are circumscribed by it.

If the purpose of a general biology course is, at least in part, to help the future citizen to understand the living world and his part in it, then these points seem particularly germane. If the purpose of the course is to satisfy a philosophical "need to know" then they are fascinating. To me they make the general biology class more satisfying to teach.

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A TECHNIQUE FOR TISSUE CULTURE IN GENERAL BIOLOGY

Cameron L. Christensen
Iowa Central Community College, Webster City, IA 50595

The topic of tissue culture now comes up in our general biology course several times. It is discussed in relationship to diseases such as polio, the laboratory growth of virus and in tissue transplants. The technical nature of most tissue culture procedures has made it impractical to use them as a laboratory experience in a beginning course up to now. The development of the hanging drop method of slide tissue culture make it realistic to use for introductory purposes.

The hanging drop culture of bacteria has been a standard procedure for a long time. To use this same method in general biology courses you must obtain the deepest, most durable glass depression slides you can find. We have never found a really good method of sterilizing plastic deep-well slides. The best way to sterilize slides is to wrap them in paper toweling and put them through an autoclave or pressure cooker

at 15 pounds of pressure for 20 minutes. Often we simply flame the slide but this is not advisable for student use. The cover slips must also be sterilized before use.

Using an old hypodermic syringe (10 ml) filled with vaseline, ring the edge of the slide well. Next, place a drop of sterile culture fluid on the center of the cover slip. Rapidly inocculate the culture fluid with a fragment of living tissue. Invert the cover slip and center it on the ring of vaseline. Press down slightly to seal the cover slip to the depression slide.

Sterile saline solutions, lymph, serum, blood or plasma can be used to culture animal cells. Plasma and nutrient broth have given us good results. Nutrient broth can be obtained from most biological supply houses or made up from the following formula: peptone - 5 g: beef extract - 3 g, in 1 liter of water. It must be sterilized in a pressure cooker for 15 minutes at 15 pounds of pressure. All culture media must be sterile and is best dispensed by drawing the material up into a sterilized syringe and then making many drops at one time.

Plant fluids and juices of many kinds can be used to culture plant tissues. The problem is obtaining raw juices that are sterile. Cooked plant media does not seem to work as well but can be used without too much trouble. Our answer has been to use coconut milk. It is easy to obtain and grows a wide spectrum of plant tissues. The method is as follows:

1. Obtain a coconut from your local market.
2. Wipe one of the three "eyes" with 70% alcohol.
3. Using a sterile syringe with a heavy duty needle jab it through the eye.
4. Draw coconut milk into the syringe and proceed to deposit drops of the fluid on cover slips.

The transfer of media and tissue should be done in as draft-free as area as possible to avoid contamination. Should you have forced air heat or ventilation in your laboratory a simple structure can be constructed to cut down air movement. We simply cut the top and one side from a pasteboard carton about the size to fit on a desk top and had the student work in it.

The smaller the bits of living tissue used the more exposed surface area is present and the better the chances of success. The living tissue can be aseptically macerated by running it in and out of a sterile syringe several times. Deposit only a few of these cells in each drop of culture medium.

Many problems can be avoided if the size of the drop is kept small. A small drop of culture medium is less likely to move on the cover slip or fall off during the inversion process. It also has less chance of becoming contaminated.

The cultures will have to be incubated from several days to a week at a temperature similar to their natural environment. Animal tissues should be placed in an incubator at a temperature close to that of the body temperature of species used. Being off one or two degrees does not seem to have as much effect as allowing rapid fluxuations in temperature. Plant tissue will grow at room temperature but does best when placed in an incubator where a constant temperature can be maintained. Plant cells tend to develop more slowly then animal cells. Students should check the progress daily as the amount of nutrient is very limited.

Microscopic observation should be done on low power with reduced light near the edge of the drop. Move the slide about until tissue cells are observed, then increase the light and focus down slightly. If good technique has been used thus far, it should be possible to switch to high power (43x) for tissue observation if the drop is not too thick.

YOU CAN LEAD THE KIDS TO CAMPUS...AND MAYBE MAKE THEM THINK

Janice K. White, Instructor of Biology
Manchester College, North Manchester, IN 46962

Have you wished you could find a way to: a) encourage high school students who have shown an interest in science; b) expose potential students to the atmosphere of your campus and your department; and c) establish more direct contact with area high school teachers?

These were the objectives of the Manchester College science division in designing a series of annual, one-day workshops that bring high school students and their teachers to campus. Each division member who chose to be involved planned a two-hour hands-on experience in his or her area of expertise. Originally all topics were organized with an environmental emphasis. Recently, however, other areas of science and science-related activities have been included.

Letters listing the topics were sent to area science teachers inviting them to bring interested students. Pre-registration by mail included an indication of topic preference. Participants were assigned to a morning and an afternoon session in accordance with their stated preferences. Since one of the objectives was to facilitate interaction of college faculty and the students and teachers attending, sessions were restricted to ten participants and total attendance to one hundred.

Success of the workshop seems to be partly dependent on maintaining the small group emphasis and on making participation by faculty on a voluntary basis. This type of experience affords the high school student a different view of college life from the one usually obtained by visiting a campus. Most college tours are passive experiences, what students see are the facilities where science might be done or where someone else is doing science and can be watched. In our workshops they become part of the classroom setting. They experience college. Participants leave with first-person knowledge of the student-professor interaction small colleges claim to be their hallmark.

Response in terms of number of registrants as well as enthusiasm following the workshops has convinced the faculty that the project should be continued. A second workshop for this academic year is now being planned for the spring term. Additional information about topics and mechanisms of implementation are available from the author.

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The fairest thing we can experience is the mysterious. It is the fundamental emotion which stands at the cradle of true science. He who knows it not, and can no longer wonder, no longer feel amazement, is as good as dead. We all had this priceless talent when we were young. But as time goes by, many of us lose it. The true scientist never loses the faculty of amazement. It is the essence of his being.

Dr. Hans Selye

HAVE YOU HEARD ABOUT

HCC ENERGY CONFERENCE Highland Community College, Freeport, IL is presenting an energy conference on April 18, 1975. The meetings will be free and open to the public. AMCBT members and their students are invited.

9:00 - 9:45 a.m.	Topic: Energy Resource Availability Speakers: Ramesh Malhotra, Illinois State Geological Survey M.E. Hopkins, Illinois State Geological Survey
9:50 - 10:35 a.m.	Topic: Coal Gasification: A Close Look Speaker: Sidney Marder, Director of Energy Development for the State of Illinois
10:35 - 10:50 a.m.	Coffee Break
10:50 - 11:35 a.m.	Topic: "Choosing the Sources Environmentally Acceptable" Speaker: - - -
11:40 - 12:30	Topic: Energy Options - An Overview Speaker: S. David Freeman, Director, Energy Policy Project, Ford Foundation
12:30 - 1:30 p.m.	Lunch Break
1:30 - 3:00 p.m.	Panel Discussion Speakers interviewed by: Richard Newsome, Biologist, Beloit College Don Hann, Rock Valley Metropolitan Council Mark McLeRoy, Mayor of Freeport, Illinois David Spencer, Highland Community College

Additional information is available from Keith Blackmore, Biology Department, Highland Community College, Freeport, IL 61032.

YOSEMITE INSTITUTE Yosemite Institute, Yosemite National Park is planning its summer environmental education programs. They will plan week long programs for a minimum of twelve participants at an all inclusive cost of $98 per participant. An optional three credits is available through the University of California. If you would be interested in organizing such a group or knowing more about the program contact Donald Rees, Executive Director, Yosemite Institute, Yosemite National Park, Yosemite, California 95389.

MARINE AQUARIA ASSISTANCE This is one item that your editor discovered in his own backyard. At the recent Steering Committee Meeting problems of maintaining marine aquaria in the department came under discussion. Two days later, through a note in the American Biology Teacher, your editor discovered that Marine Hobbyist News was published here in Normal. This monthly newspaper covers many questions concerning availability of specimens, maintenance of physical balance, equipment, as well as other items. The subscription for this publication is $4 a year. Available from the same source, Feb. 1, 1975, is The Marine Primer, authored by Roger Klocek, Assistant Curator of Fishes at Shedd Aquarium. This book is available for $2.00 and concisely covers all topics needed in setting up and maintaining salt water tanks. Address: Marine Hobbyist News, 205 Orr Drive, Normal, IL 61761.

MIDWEST BIOSCENE - VIABLE?

Recent years have given rise to doubts as to whether the bioscene in our Midwest - or any bioscene - can long survive. Only positive action can rescue species, communities and whole ecosystems from the adverse effects of overpopulation and pollution.

Positive action is also needed if MIDWEST BIOSCENE is to survive. The publication was conceived by your Steering Committee as a more viable instrument than AMCBT News or the Proceedings. Only you can determine how useful, how viable, it will be. Positive action on the part of the membership is essential. Most obvious is the need for continuing input of articles, notes, requests and letters. There is also a need for additional referees to review manuscripts. AMCBT can respond to your interests and ideas only if you respond to the needs of the organization. The needs for MIDWEST BIOSCENE are outlined below. Select one or more that you can help fill and write the editor in accord with the following publication schedule.

Publication Month	Deadline
May	April 10
September	July 10
November	Oct. 10
February	Jan. 10

(Articles may be submitted at any time and will be published following review and acceptance.)

Articles - 1) Review of your speciality as an aid to the college biology teacher with major interests in other areas.
2) New programs
3) Laboratories that work
4) Teaching techniques applicable to college biology
5) Anything which you believe would be of interest to the membership

Notes - Questions, answers, activities, things to share, other meetings and programs of interest, etc.

Letters - 1) Your response to anything published.
2) Your suggestions for improvement of AMCBT and its activities.

Referees - Volunteers from various fields of specialization to review manuscripts. Referees will work anonymously and all identifying material will be deleted from manuscripts before they are sent to referees.

The response for material for this second issue has been excellent. Only you can assure a continuation.

WE'LL SHARE

Correspondence concerning these items should be addressed to the individual

HAROLD A. MOORE, ILLINOIS STATE UNIVERSITY, NORMAL, IL, HAS JUST RETURNED FROM A FIRST SEMESTER SABBATICAL. HE VISITED BOTANIC GARDENS, ZOOS, ARBORETA, NATIONAL FORESTS, AND STATE PARKS IN SOUTHERN CALIFORNIA. HE WOULD BE GLAD TO SHARE THE NAMES OF CONTACTS AND PROCEDURES FOR UTILIZING SUCH FACILITIES WITH MEMBERS WHO COMTEMPLATE SIMILAR ACTIVITY.

WHO KNOWS?

Correspondence concerning these items should be addressed to the individual

RUSSEL WAGNER, University of Wisconsin - Platteville, Platteville, WS, writes: I am teaching for the first time an ecology course for non-majors that is environmentally oriented. I am looking for laboratory exercises that do not duplicate work done in an associated "environmental measurements" course in chemistry. My plans currently include such items as: introduction to methods for sampling plant and animal communities and the physical environment· the role of bacteria in the environment; how various industries tackle their environmental problems - a power plant, a packing plant, a heavy industry, our university farm; the value of an arboretum such as at Madison and of a relict community such as a prairie or small pine stand; the significance of how complex a community is in numbers of species - very superficially. Any suggestions from readers of MIDWEST BIOSCENE will be most appreciated. In its present state the course outline is readily subject to change.

RUSSEL WAGNER, University of Wisconsin - Platteville, Platteville, WS, reports: After several disappointing years in the quality of work exhibited, the combined departments of biology, chemistry, physics, and math have dropped our sponsorship of this area's science fair. Our fellow mathematicians are now sponsoring a math contest among area high schools. For several years our engineers have held a bridge building contest. Our chemists and physicists are quartered with the engineers and have also been involved in this bridgework. We in biology are looking for some constructive activity of a service nature to replace the science fair. Here, again, readers of MIDWEST BIOSCENE might be of help. We would appreciate it.

POSITIONS

Reply to the position number in care of AMCBT Central Office. Service is free to members. Others may use the service for a fee of $1.00 per line of copy for each issue.

OPEN

7501 SEVERAL POSITIONS To write program descriptions, laboratory exercises, review articles, and items of general interest to college biology teachers. Salary: Open. Commensurate with degree of personal satisfaction for service rendered to the profession. Send example of writing, suitable for publication in MIDWEST BIOSCENE, to AMCBT Central Office.

WANTED

7502 GENERAL BIOLOGIST Master's degree, 6 yrs. teaching experience, sec., coll., and continuing ed. Interested in: biology for the non-major, interdisciplinary science, methods, anatomy and physiology. Presently on temp. appt.

7503 BOTANIST MA in plant taxonomy, female. 5 yrs. college teaching experience. General biology, botany, hygiene, microbiology lab. 2 yrs. histology lab work. Special interest - local flora. Presently on temp. appt.

7504 SUMMER 1975 Teaching or research. General Biologist, Physiologist, Ph.D. Avail. May 31 - Sept. 1.

ASSOCIATION NEWS

19th ANNUAL MEETING

INDIANA STATE UNIVERSITY

TERRE HAUTE, INDIANA

OCTOBER 17 & 18, 1975

RETURN TO DRAKE IN 1976. The 20th Annual meeting of AMCBT will see us return to the birthplace of the organization on Oct. 1 & 2, 1976. The organization grew out of a meeting called together at Drake in 1957. Discussion groups at the first meeting were concerned with: 1) the nature of the first course; 2) the topics included in a modern course in biology; 3) the relative values of separate vs. combined courses, e.g., anatomy and embryology; 4) the constituents of a biology core curriculum; 5) readings and honors programs; 6) biology courses for nursing; 7) evaluation, and 8) research and teaching. Officers of the Steering Committee were chosen and this group later met in Indianapolis. The Indianapolis meeting resulted in the preparation of the Constitution and planning for the second meeting which was held in 1958 at Western Illinois University. Planning for the 20th meeting will be under the direction of the President-elect Russel Wagner, and Program Chairman Phyllis Kingsbury. Joint planning between Drake University and AMCBT will be facilitated since Phyllis is a member of the Drake faculty.

NEW SUSTAINING MEMBER E & L Instrument Company of Carlinville, IL has recently become a sustaining member of AMCBT. The company offers an "on-the-spot" repair service for microscopes, balances and other instruments. Their "on-the-spot" service is provided through the means of a completely equipped mobile van. By coming to the institution they obviate the need for packing instruments for shipment and taking them out of service for extended periods of time. Tentatively, their mobile repair unit will be open for inspection at our Terre Haute meeting.

----------Detach Here----------

Application for Membership
ASSOCIATION OF MIDWESTERN COLLEGE BIOLOGY TEACHERS

// Regular Member ($6.00) // Retired Member ($3.00) // New // Renewal
Dues payable July 1 or at Annual Meeting

Name_____ Date_____

Title_____ Department_____

Institution_____

City_____ State_____ Zip_____

Address preferred for mailing

City_____ State_____ Zip_____

Return to:
AMCBT Central Office
c/o John R. Carlock
Illinois State Univ.
Normal, IL 61761

(New memberships submitted now will extend to June 30, 1976)

Tentative Program
KEARNEY STATE COLLEGE INVITATIONAL - An AMCBT Adjunct Activity
Kearney State College, Kearney, NB 68847
March 21 & 22, 1975

Friday, March 21

4:00--5:45 pm	Registration - Bruner Hall of Science	
6:00	Field trip(s) - Evening roosting flights of Sandhill Cranes	
8:00	Eats (Probably a la carte)	
9:00--10:30	Coffee hour - Bruner Hall of Science	
	Film - National Audubon Society	

Saturday, March 22

8:30 am	Registration - Bruner Hall of Science	
9:00	Welcome	Dean Ole Kolstad
9:05	What AMCBT Is All About	AMCBT Officers
9:20--10:00	Concurrent activities	
	A. Audio-tutorial Teaching and Related Problems	Clayton True
	B. Indoor Gardening - A Minicourse	Harvey Cole
	C. Sandhill Cranes - Slide Presentation	John Bliese
10:00--10:20	Coffee break	
10:20--11:00	Concurrent activities	
	A. Careers in biology - A Minicourse	John Hartman
	B. Environmental Appreciation - Multimedia	J. White & J. Carlock
	C. Sandhill Cranes - Slide Presentation	John Bliese
11:10--12:00	Concurrent activities	
	A. Tour of the campus	
	B. Tour of Bruner Hall of Science	
	C. The KSC Interdisciplinary Environmental Sciences minor	Harold Nagle
	D. Environmental Appreciation - Multimedia	J. White & J. Carlock
12:15 pm	Luncheon (Probably in our college dining hall)	
1:30	Field trip(s) - Sandhill Cranes and other waterfowl (most probably also Bald Eagles)	
????	Dinner (Probably on your own)	
6:00	Field trip(s) - Evening roosting flights of Sandhill Cranes	

If you plan to attend please send the information on the back by March 7 to John C. W. Bliese, Kearney State College, Kearney, NB 68847. A formal pre-registration is not necessary but advance information will aid in arranging for college dining facilities and dorm rooms. Everyone returning the form will receive more detailed information shortly after March 7.

Be sure to bring your cameras, binoculars, spotting scopes. Telephote lenses for cameras are almost a must if you want close-ups.

Teachers are welcome to bring students.

Name_____

Address_____

Who will accompany you?_____

Would you be interested in staying in a dorm room (with another person of the same gender) at $5.00 per person per night?_____ One night ( ) Two nights ( )

1975 DIRECTORY

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1976 Program	Kingsbury	Constitution and By-laws	Christensen
Budget	Wagner	Honorary Membership	Ostdiek
Nominations	Hansen	Membership Development	VandenBranden
Resolutions	White	NABT Representative	Carlock

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(as of January 1, 1975)

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