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Reports and Reviews

Botany at Eastern Illinois University

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ABSTRACT

Eastern Illinois University was established in 1899, and from its beginning the importance of the botanical sciences was recognized. Two terms of botany were required for the four year program. Dr. Otis W. Caldwell, a botanist, was one of the original faculty members. He taught all of the biology courses and initiated the acquisition of a greenhouse. Caldwell was the first in a series of talented and dedicated botany professors including Edgar N. Transeau, Ernest L. Stover, Hiram F. Thut and John E. Ebinger. These and many other professors incorporated a field component into almost all classes. This dedication to the study of plants in their natural habitat led to one of the finest programs in the nation for training field botanists. By 1923, a formal Botany Department was established and in the late 1960's EIU began awarding a M.S. in Botany. In the 60's, the department greatly expanded with 15 faculty hires and over 40 different undergraduate and graduate courses were offered with 95% having a lab component. The excellence of the program was recognized in Illinois where organizations such as the Illinois Department of Natural Resources and the Illinois Natural History Survey relied on graduates from the EIU Botany Department for their field botanists. In 1992, the American Phytopathological Society recognized the department for its contribution to plant pathology. Between 1913 and 1993, six hundred and nine students graduated with degrees in Botany, and 121 continued to receive their doctorates in botanical fields. Although numbers of botany majors rose during early to mid 1990's, an administrative decision was made in 1998 to combine the Botany Department with the Zoology Department into a Biological Sciences Department. Since the merger, the B.S. in Botany was eliminated. Unfortunately, the elimination of this Botany Department is another example of past national trends to eliminate Botany Departments even with exceptional reputations.

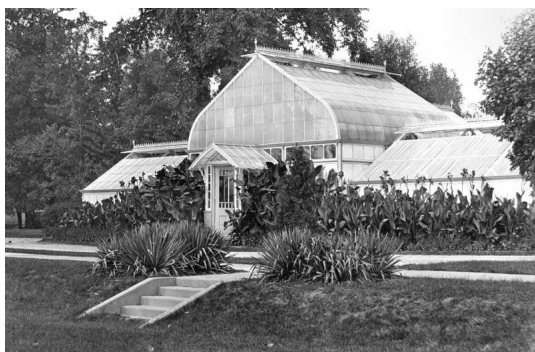
EARLY YEARS

In the past two decades, a trend has occurred for many colleges and universities to allow their plant biology programs to be replaced with a pre-medical or cellular and molecular biology curriculum (Salopek, 1996). Occasionally, independent departments focusing separately on botany and zoology are merged, thus squeezing botany classes

into the general biology degree where often they lose their individual niche. According to the Chicago Tribune, a misguided emphasis is placed on "big science," keeping researchers in the lab and students in the classroom instead of exploring the outdoors and discovering what field botany offers (Salopek, 1996). Eastern Illinois University dissolved its nationally recognized Botany Department in 1998. The program had a very strong organismal focus. With more and more botany programs disappearing or condensing, we were inspired by the Historical Section at the 2007 Botanical Society of America meeting to report on the history of the once renowned Botany Department at Eastern Illinois University.

Eastern Illinois Normal School was established in September of 1899. The City of Charleston had donated "Bishop's Woods," a 40-acre tract, to the cause of the Normal School. This area was partially covered by a grove of trees. The north half of this tract of land, from pictures, was quite well wooded, but the south half was cleared, presumably for farming purposes. In this grove was where the one building (Old Main) for the Normal School was built, along with its power house some 150 feet directly south. The two were connected by a heating tunnel. As a training school for teachers, it offered one, two, three, and four year teaching diplomas. Botany classes were one of the first required course offerings, and interestingly enough, zoology was an elective. During the tenure of Eastern's first president, Mr. Livingston C. Lord, a Biological Sciences Department was established. The Botany and Zoology Departments became separate entities in the early 1920's. Of the eighteen original faculty members initially hired by President Lord, Dr. Otis W. Caldwell, a botanist, was the only faculty member to hold a doctorate degree (Coutant and Crofutt, 1996; Thut, 1967). Caldwell taught all of the biology classes along with coaching the football team for three years. He was the entire department. He offered General Botany, (Plant) Ecology, (Animal) Physiology, and Zoology. General Botany was a two quarter course, and the course was described in the university's catalog as follows: "In this course, a general survey of the plant kingdom will be made, beginning with the lowest plants and considering representative forms through all the great groups. An attempt will be made to show some of the relationships existing between the various groups. Throughout this course, the points of view will be those of morphology and physiology, while sufficient attention will be given to taxonomy to give acquaintance with quite a number of plants, which may be looked upon as representatives of the entire plant kingdom". Ecology was taught for one quarter in the spring. The course catalog described Ecology as a field of botany that "has to do with the

relationships existing between plants and their environment, and with the effects which have been and are being produced upon plants through these relations. While the physiology of plants concerns itself with the inner life processes, ecology has to do with the external life relations." Moreover, the catalog stated that "the department is well equipped with laboratory space and appliances; twenty-five good microscopes." Large oak museum cases housing specimens, sturdy oak tables and stools also furnished the laboratory, along with excellent charts and prepared slides to enhance teaching (Thut, 1967). At that time all classes were taught in Old Main, the only building on campus.



Build in 1903 the greenhouse was the second building on campus.

As part of Caldwell's vision for reshaping the campus for better teaching, he initiated the acquisition of a greenhouse, which was completed in 1903, being the second building on campus. The greenhouse plants were used for fresh material in classes and to propagate plants to beautify the grounds. Caldwell also helped to plan the school garden, where each class in the training school (which prepared elementary and secondary teachers for Illinois schools) had a plot. He also assisted in selecting the school's first gardener, Mr. Walter Nehrling from the Missouri Botanical Garden. Caldwell also wrote several books, including one on plant morphology. Caldwell taught at Eastern until 1907, when he accepted a position at the University of Chicago as a Professor of Botany (Connelly, 1969; Thut, 1967). After retiring in 1935, Caldwell became the General Secretary of the American Association for the Advancement of Science (Thut, 1967).

Dr. Edgar N. Transeau came to Eastern in the Fall of 1907 after the departure of Caldwell. He obtained his Ph.D. in Botany from the University of Michigan. Transeau was a very dynamic character and entered his work with enthusiasm, remembers fellow professor Dr. Hiram Thut (1967). While at Eastern, Transeau published on a wide variety of topics in

many different journals, including *School Science and Mathematics*, *Botanical Gazette*, *Illinois Arbor and Bird Day Annual*, *American Journal of Science*, *Ohio Journal Science*, and *American Journal of Botany* (Thut, 1967). A total of 21 papers were published by Transeau while he was at Eastern. Transeau will be remembered as a very inspiring teacher, resulting in a number of students under his direction continuing in the field of botanical study. Three of Transeau's Eastern students who contributed greatly in botanical areas were Ferdinand Steinmetz, Lewis Tiffany and Homer Sampson. Steinmetz, after graduating from Eastern, earned a doctorate at Minnesota, and eventually was the chairperson of the Botany Department at the University of Maine for several years. Tiffany followed Transeau to The Ohio State University, where he earned a Ph.D. Tiffany wrote several books and became a prominent phycologist. Sampson also continued studying at The Ohio State University with Transeau. According to Thut (1967) both Tiffany and Sampson became professors at The Ohio State University.



Edgar N. Transeau came to Eastern replacing Caldwell and offered Botany 1 & 2, Advanced Morphology of Algae and Fungi, Ecological Anatomy, Local Flora, General Principles of Evolution, the Green Algae, and Agriculture

During Transeau's time, because of the great variety in background experience of entering students, Botany I and II became required courses for all four year students who had only a grammar school education (Thut, 1967). Other botany courses offered at this time, included Advanced Morphology of the Algae and Fungi, Ecological Anatomy, Local

Flora, General Principles of Evolution, The Green Algae, and courses in agriculture.

Transeau left Eastern in 1915 for a position as a Professor of Plant Physiology at The Ohio State University, where he soon became chairman of the department, which a few years later became one of the largest in the country (Thut, 1967). While at Ohio, Transeau wrote a botany textbook, *General Botany*, with two of his former students from Eastern, Homer C. Sampson and Lewis H. Tiffany. For a number of years, this botany textbook was the accepted text in colleges across the country, including Eastern (Connelly, 1969). In 1940, Transeau became the President of the Botanical Society of America (Botanical Society of America, 2008). In 1956, Transeau received a Botanical Society of America Merit Award "For his lifetime of support and encouragement of botanical science in its broadest sense, both its educational and scientific aspects. He has made substantial contributions to plant ecology, algology, and to botanical education at all levels, from high school to graduate school" (Botanical Society of America, 2008).

In 1915, after Transeau's departure, Dr. Arthur G. Vestal began at Eastern as an instructor of Biology. He held a Ph.D. in Botany from the University of Chicago. During his tenure at Eastern from 1915-1920, his interests were in plant geography and plant ecology. While at Eastern, he published three articles in *Transactions of the Illinois State Academy of Science*. After leaving Eastern, he taught at Stanford University and the University of Illinois in their Botany Departments. The elementary Botany courses offered by Vestal were Morphology of Lower Plants, Morphology of Seed Plants, and Processes and Adjustments of Plants. The advanced courses were Plant Ecology, Local Flora, Economic Botany, and Forest Botany. In 1920 Eastern Illinois Normal School became Eastern Illinois State Teachers College with B.S. and education degrees (Coutant and Crofutt, 1996; Thut, 1967).

Earl H. Hall was a botanist who was employed at Eastern from 1920-1923. Little is known about him, except that he served as an advisor for a class for one year, and after leaving Eastern, he taught and became head of the Botany Department at North Carolina State College for Women at Greensboro (Thut, 1967).

FORMATION OF THE BOTANY DEPARTMENT

In 1923, Dr. Ernest L. Stover, a botanist who received his Ph.D. from the University of Chicago, joined Eastern's newly formed Botany Department (Coutant and Crofutt, 1996). Stover believed in acquiring good, fresh material for class and in preserving specimens from his frequent field trips.

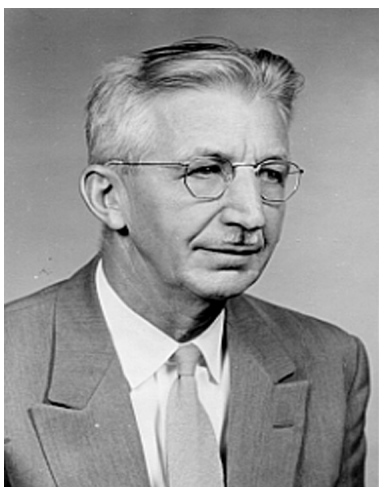


1903 garden Otis W. Caldwell, one of the 18 original faculty helped plan school gardens, where each class in the model training school had a plot.

His collections were added to those of Caldwell, Transeau, and others that were stored in large glass-walled, oak-framed cases in the botany labs. Stover prided himself on making "excellently" prepared microscope slides. The slides that he made and those he had purchased, added to those collected by other professors, made a complete set for general botany and advanced classes (Thut, 1967). Stover had a long and very successful career at Eastern spanning 37 years. He was the first head of the Botany Department starting in 1923 until he retired in 1960 (Life Sciences Pamphlet, 1963). During his time at Eastern, he witnessed the completion of the Science Building in 1940, now known as the Physical Sciences Building. It housed six departments: Botany, Chemistry, Geography, Hygiene, Physics, and Zoology. This building was a step forward from all the science classes being taught in the Livingston T. Lord Administration Building or Old Main, as it is currently called. The herbarium was started in 1899 and specimens that Stover collected date back to 1947 (Ebinger, personal communication). At Stover's retirement in 1960, the herbarium was named in his honor for his efforts in collecting over 2,000 specimens (Coutant and Crofutt, 1996).

Other changes also occurred during Stover's time. In 1947, Eastern Illinois State Teachers College became Eastern Illinois State College. In 1949, Botany Club was established and became a central part of the Botany Department. Sixty years later, the club is still strong with speakers, fundraisers, and field trips, including an annual trip to the Smoky Mountains from the 1950's to 2007. In the 1950's the Cryptogamic Herbarium was created which now includes over 10,000 specimens of fungi and lichens (Eastern Illinois University, 2008). In 1957 Eastern Illinois State College became Eastern Illinois University (Coutant and Crofutt, 1996; Thut, 1967).

While Stover was at Eastern, Ms. Ica Marks (student teacher coordinator) was hired in the 1933, and retired in 1963, after 30 years and was the only woman to retire as an emeritus professor from the Botany Department. She started her service teaching general science at the lab school. Drs. Hiram Thut and Kenneth Damann joined the Botany faculty in 1932 and 1947, respectively. Thut, an active member of the Botanical Society of America, taught for 37 years and was the second chair of the Botany Department from 1960-1963. Towards the end of Thut's career, the Life Science Building was completed in 1963, with the Life Science Annex being completed one year later. Botany and Zoology Departments moved into this building in 1963 (Coutant and Crofutt, 1996). The new building included an herbarium to facilitate the systematic study of plants (Life Sciences Pamphlet, 1963). "The new building was more spacious, but they could not seem to control the temperature," recalls Dr. Wesley Whiteside (personal communication), a mycologist hired in 1960. Thut, who was head of the Botany Department at the time when bids were being made for the Life Science Building, had requested \$100,000 for a new greenhouse. Eastern President Quincy Doudna agreed that it was a reasonable request but did not know from where the money would come. When an alternate bid for the greenhouse and Life Science Building was made, President Doudna asked Thut how soon he could have plans for a new greenhouse prepared. It was 4 p.m. when the two spoke, and the plans were in the President's office by 8 a.m. the next morning. The greenhouse was constructed in 1964 directly adjacent to the Life Science Building. The new greenhouse essentially mirrored the same



Hiram F. Thut became the second chair of the Botany Department from 1960-1963. Land on campus was given to the Botany Department for an arboretum. Nearly all of the 1,000 trees and 100 shrubs were planted by Thut of with his supervision

plans that Thut provided, but the size of the rooms shrank considerably. In 1969, the greenhouse was named the H.F. Thut Greenhouse, in honor of Thut, who was known for collecting and using fresh materials in teaching (Connelly, 1969; Coutant and Crofutt, 1996). The greenhouse mainly was used to propagate flowers to beautify the campus grounds, but the Botany Department was allowed access to it for fresh material in classes. In 1982, the greenhouse officially became a Botany Department facility, and still is used to provide plant materials for classes.

With the new building came the Division of Life Sciences (Life Science Pamphlet, 1963). Dr. Walter M. Scruggs was the head of the division (Botany and Zoology Departments) for the first 4 years, and Dr. Leonard Durham was in charge of the Division for the next 15 years while it lasted until 1982. The administrative position existed as part of a plan to handle the continuing growth of the university. People were afraid that the Division was one step closer to combining the two departments. However, at its end in 1982, the departments still were separate (Durham, 1995). The Division staff contained 24 faculty with Doctorates from leading universities throughout the United States. Faculty were qualified to teach and do research in biology, botany and zoology and also in bacteriology or microbiology, entomology, fisheries, mycology, ornithology, parasitology, and anatomy, cytology, ecology, embryology, histology, genetics, physiology, and taxonomy (Life Science Pamphlet, 1963). The Botany Department had 16 faculty (Crofutt, personal communication).

Eastern's campus grounds and surrounding areas were full of plant species to spark young botanists' interests. An arboretum was established on campus in 1958 with land given to the Botany Department to start it. Nearly all of the 1,000 trees and 100 shrubs were planted by Thut or with his supervision. Having a small campus lake and being in close proximity to the Embarras River, also gave students an excellent opportunity to explore aquatic plants. In the 1950's Eastern acquired its first land gift, a 10 acre woodlot now called Burgner Acres. In 1969, Baber Woods, a 50 acre old growth upland forest was donated to the Nature Conservancy, and in 1983, Rocky Branch, a 150 acre natural area with unique sandstone outcrops was dedicated as an Illinois Nature Preserve. Both Baber Woods and Rocky Branch were used and managed by the Botany Department. All three of these natural areas are still managed by Eastern (Blackmore and Ebinger, 1967), and used by faculty and students for research projects.

Thut was known for using local material exclusively. Thut's habit of using fresh material was the

backbone of Eastern's strong field botany courses, recalled Dr. John Ebinger (personal communication), a plant taxonomist who was hired in 1963. "Too many instructors today teach from books, charts, and prepared slides, and students have no acquaintance with their environments." Thut also believed that "the use of fresh material no doubt accounts for so many of our students going into graduate work. They simply fell in love with the plants". Numerous graduates have received their Master's and Doctorate degrees - a very high proportion in terms of actual majors (Connelly, 1969). Mr. Laurence Crofutt, a microbiologist who joined the department in 1967, recalls that Thut had a boat and he would come to the building on Saturdays, asking students if they would like to go and look at the lotus (personal communication). Thut was a firm believer in getting into the field and getting your hands dirty.

EXPANSION BEGINS IN 1960'S

In 1963, the Botany Department had seven full-time professors. In the new building, Eastern's Botany Department continued to make improvements on its well-developed field botany program. With the additions of Dr. Wesley Whiteside (1960-1987), Dr. Derrell B. White (1962-1964), Dr. Barbara Blackmore (1963-1965), Dr. John Ebinger (1963-1995), and Mr. Oren Lackey (1963-1980), the department was growing. During 1963-1966, Dr. Kenneth Damann was chair of the department. He taught at Eastern for 19 years. A sampling of courses being offered in the 1960's were General Botany, Plant Physiology, Anatomy, Morphology, Plant Taxonomy, Plant Ecology, Economic Botany, Experimental Plant Physiology, Systematic Botany, Genetics, and Microtechnique. At this time, the Life Sciences Division offered a Bachelor of Science in Education, Bachelor of Arts, Bachelor of Science and a Master of Science in Education, all with an area of concentration in Botany (Life Sciences Pamphlet, 1963).

Dr. Whiteside, who is an emeritus professor, deserves special recognition for his contributions. Whiteside taught a variety of fungi and lichen classes and established a 5 acre botanical garden a few miles east of campus. His garden is a botanical "gem" and an exceptional resource not only for Eastern, but the entire state. The garden includes many native plants, but also many horticultural species. Many rare and unusual plants such as carnivorous plants (*Nepenthus*), hart's tongue fern (*Asplenium*), blue lily of the Nile (*Agapanthus*), false camellia (*Stewartia*), Mexican white pine (*Pinus*), Ben Franklin tree (*Franklinia*), Japanese Jack-in-the-pulpit (*Arisaema*), Mormon tea (*Ephedra*), beaver-tail cactus (*Opuntia*), yellow lady's slipper orchids (*Cypripedium*), Himalayan pine (*Pinus*)

and yellow foxglove (*Digitalis*) to mention just a few. The garden has a large collection of hostas, many unusual types of magnolias, and a huge collection of daylilies, which Whiteside breeds to create new selections especially ones that are later to bloom. Whiteside allows faculty, students, and community members to use the gardens for research projects, teaching purposes and sheer enjoyment.

During the early 1960's, if a student wished to pursue a teaching degree, the Bachelor of Science in Education with a major in Botany or Zoology prepared them to become a teacher in biological science. If Botany was chosen as the major, then they had to minor in Zoology and vice versa. They also were required to take a year of chemistry, a certain number of other biology classes, and a liberal number of general education classes to ensure that they had the best possible academic training (Life Sciences Pamphlet, 1963). Mr. Oren Lackey was hired into the Botany Education program. He was an experienced high school teacher and



Typical EIU botany classroom in the 1960's

was hired to teach the methods course and to supervise student teachers (Crofutt, personal communication). Crofutt remembers him as doing a very fine job.

The botany program continued to grow. In the late 1960's, authorization came for a Master of Science degree in Botany. In the 1970's, 21 botany classes were offered, including Mycology and Lichens (Eastern Illinois University, 1970-1971). In the 1979-1980 course catalog, specialized Botany courses were offered, including Outdoor Home Horticulture, Indoor Home Horticulture, Ethnobotany, Taxonomy of Aquatic Macrophytes, and Plant Geography (Eastern Illinois University, 1979-1980). Also in 1979-80, 13 graduate courses were offered. In 1985, 35 undergraduate classes and 13 graduate classes were offered in botany. Enrollment in the botany program was very substantial. Before the merger of the Botany Department with the Zoology Department in 1998, numerous specialized upper division classes in botany were offered.

Several new people were hired in the 1960's. Dr. Terry Weidner came to the department in 1964 with an expertise in plant physiology. John Husa came to Eastern in 1966 and was department chair from 1966 to 1968, leaving the department in 1970. In 1965, Dr. Charles Arzeni, a bryologist, and Dr. Richard Smith, a phycologist, joined the department. Arzeni is remembered most for his bryology collecting trips and the Tropical Botany course he taught. The Tropical Botany course included five weeks of study and collection at the Technical Institute in Monterrey, Mexico. This course was one of the first study abroad Botany classes offered. Arzeni also led student groups to locales such as the Amazon and the Yucatan Peninsula. As a result of the many trips, Arzeni had many interesting and exciting tales. After experiencing a volcanic eruption in Guatemala, Arzeni remarked, "Hearing that terrible sound, feeling the tremble and excitement of the volcano erupting - that raw power - I could understand why primitive man was in awe of volcanic eruptions." After all his dealings and traveling experiences, Arzeni concluded, "You just can't get a full education staying in Coles County" (The Warbler, 1973). Also hired in 1965 was Richard Smith (1965-1988), a phycologist, followed by Grant Gray (1966-1990), a plant pathologist. Mr. Lawrence Crofutt, was hired in 1967 and taught bacteriology until his retirement in 1993. The department will long be in debt to Crofutt for the years he spent as the faculty advisor for the Botany Club and for his sole coordination of the annual Smoky Mountains spring trip (Coutant and Crofutt, 1996). Because of Crofutt's dedication to the field botany program, he was always organizing either day or week long field trips. Crofutt also kept a database for botany alumni contacts and helped write "The Leaf" (Botany Department Newsletter). In 1968, David Murphy (student teacher coordinator until retirement in 1990), Dr. Steven Becker (plant anatomist and later greenhouse supervisor until retirement in 1999) and Dr. William Scott (aquatic mycologist) joined the department. Dr. Zeno Bailey (plant genetics, 1969-1987), Dr. John Speer (morphologist/cytologist, 1969-1994) and Dr. William Weiler (bacteriologist, 1969-1996) joined the department in 1969. Weiler was very instrumental in the building of the Environmental Biology program. From 1968-1976 William M. Scott was the chair. Weidner was chair of the Botany Department from 1976-1992, when he entered higher administration, where he was in the Provost office during the merger years.

Two more faculty were hired in the early 1970's, and then a gap in hiring occurred until the late 1980's. In 1970, Dr. Roger Darding, a plant physiologist, joined the department (retired 1998). Plantecologist, Dr. Douglas Zimmerman, joined the department in 1972 (retired 1997). He routinely took his plant ecology classes to Florida and Texas. Other faculty

hired in the late eighties early nineties include Drs. Mark Boudreau (plant pathology), Janice Coons (Horticulture and plant physiology), Steve Daniel (microbiologist), Elizabeth Harris, (plant anatomy/morphology), James McGaughey (teacher certification), Andrew Methven (mycologist), Henry Owen (plant genetics), Charles Pederson, (phycologist), Eileen Sutker (plant pathologist), and Gordon Tucker (plant systematics). Dr. William A. Weiler was department chair from 1992-1993.

In 1971, the Life Sciences Division added its newest major, Environmental Biology. In its inaugural year, the program only had five students. In fall 1975, a mere four years later, enrollment jumped to 154 students. Durham noted that "We are probably one of the most successful programs in placing our graduates." At the time, Eastern was the only school in Illinois with the Environmental Biology program (The Warbler, 1976). This major was unique because it was joint between the two departments in the Life Sciences Division. Environmental Biology students were required to take both botany and zoology classes. This major became a very large program, and kept the lab classes full.

In referring to the Botany Department, Thut says "The older Botany Department was firm in the conviction that field trips for the purpose of looking at flora and gathering materials for class were an indispensable part of nearly every botany course" (Connelly, 1969). Because of Thut's strong drive to make field botanists, 95% of the classes still had a lab component in 1985 (Questions, 1997). Ebinger always brought fresh material to class to use for keying plants. Field trips were taken often in Plant Ecology and Taxonomy, remembers Ebinger. Many students enjoyed the field trips and were hired to work in field botanist positions. In the mid-1970's, the Illinois Department of Natural Resources performed a natural areas inventory and discovered that almost one-third of their field workers were field botanists from Eastern who had trained with Ebinger.

In 1974, Ebinger was the first Eastern faculty member to be elected a Fellow of the Illinois State Academy of Science. He was one of two scientists to receive the honor that year, and was also the keynote speaker at the meeting headlined "Why Save Plants?" (Daily Eastern News, 1974) He has been an active member of the Academy since he came to Eastern in 1963. In 1995 when Ebinger retired, the Herbarium was renamed the Stover-Ebinger Herbarium. At that time the herbarium had 51,000 specimens, 20,000 of which Ebinger had collected. Now it has 73,000 specimens (Tucker, personal communication). Since Ebinger's retirement, he continues extensive research and publishing on the flora of Illinois. He has expertise with the

acacias, and is working on this group for the Flora of North America sponsored by the Missouri Botanical Garden.

Ebinger felt that one thing setting EIU's botany program apart from others was the numerous excursions. These excursions could be a brief trip during class, a weekend trip during the semester or a month-long trip in the summer. Such excursions might take students as near as a local state park south of Charleston or as far as Big Bend National Park in Texas. Ebinger recalls that students would flock to these trips for the chance to venture out with faculty members to learn and collect specimens. On most trips, early in the history of the department, faculty would bring their spouses and children along on the weekend or summer trips. The families would stay together and the students would stay in dormitories. The meals would be cooked together and plenty of good food was always available to eat. It seemed as though every spring break and summer, Ebinger and Zimmerman were taking students on field trips. For many years, Ebinger and Dr. Vincent Gutowski of the Geology/Geography Department at Eastern, led students on summer trips to locations such as New York state or Colorado to study plants and geography.

Much collaboration occurred between the Botany and Zoology Departments. In the late 1970s, Richard Andrews, a wildlife biologist in the Zoology Department, designed a course for the Life Sciences Division in environmental assessment that was taught by Andrews and Ebinger. These environmental assessments were performed for private companies to evaluate the environment. The class taught the methods of writing environmental impact statements for such purposes as power plants and road right-of-ways. All the reports from these courses were bound into a book (Ebinger, personal communication). Another field oriented experience that was offered to students was the chance to do paid research in an area of environmental concern. Interested students could go to Florida to work with the red woodpecker or to Horseshoe Lake in southern Illinois or to Chain-O-Lakes in northern Illinois, among other places (Ebinger personal communication).

REPUTATION IN THE 1990's

In 1992, a special celebration dinner was hosted by the Plant Pathology Department of the University of Illinois at Urbana-Champaign for the American Phytopathological Society North Central Division meeting. At that time, an engraved plaque was presented as a tribute to the numerous botany alumni from Eastern who had successfully completed doctoral programs in plant pathology at a number of major universities. The plaque read

"With sincere appreciation, the University of Illinois Plant Pathology Department and the American Phytopathological Society recognize the Department of Botany of Eastern Illinois University for their contribution to the science of plant pathology." When asked about the success of Eastern's Botany Department, William Weiler, Acting Chair, replied, "The Botany Department at Eastern Illinois University has always prided itself in the production of fundamentally good organismal and population botanists. Our graduates are well-prepared, in the more traditional aspects of Botany," (Phytopathology News, 1992). From the time Eastern started conferring B.S. degrees until 1993, 609 students graduated with a B.S. degree in Botany, and of those, 121 continued to receive their doctorates, most in botanical fields, but a few were in areas of medicine, chiropractic, dentistry or in one case jurisprudence (Croft, personal communication).

As far as quantitative performance indicators in the mid-1990's, Eastern's Botany program was doing quite well. In comparing majors with Botany programs in Illinois from 1994 to 1996, Eastern's numbers rose while other programs in Illinois fell in the number of students in their programs. In 1995, Dr. Peter Davies (Chairman for the section of Plant Biology at Cornell University) conducted a survey of nearly forty research institutions and around thirty non-Ph.D. schools. It showed that Eastern offered 27 plant courses with a faculty of 16. Of the 45 schools responding to the survey nationwide, with both Botany and Biology Departments and Ph.D and Non-Ph.D programs, Eastern offered the greatest number of plant courses (Questions, 1997). From 1991 to 1995, Eastern had the highest number of Botany graduates when compared to other Illinois programs. An external review was conducted by the Council on Undergraduate Research (CUR) of the Departments of Botany and Zoology, including all of their interdisciplinary programs during fall 1996. Comments from the review were highly favorable towards Eastern's Botany Department. "Another advantage to separate Botany and Zoology Departments is that this structure sets Eastern apart from most other Primarily Undergraduate Institutions (PUIs), thus providing a foundation upon which the department's unique strengths may be enhanced" (CUR Review, 1996).

In 1992, a student satisfaction survey was sent to Botany majors from the preceding 20 year period. The results from this survey speak highly of the department: 91% rated their overall educational experience better than average, 94% felt that the Botany faculty interacted with students, and 92% felt that the botany faculty were very accessible. When asked what satisfied them most about the botany program, 64% responded that it was the

positive, encouraging, professional attitudes of faculty. This survey also showed that 63% of Botany graduates entered graduate school, 72% of Botany graduates were employed in a botany-related field, and 93% felt that the botany faculty members were effective teachers.

In the early 1990's the M.S. in Botany was combined to form a M.S. in Biological Sciences. In 1995 the EIU administration actively started to discuss merging the Botany Department with the Zoology Department. The majority of the Botany faculty did not support the merger. Past and present faculty, current students and alumni presented a case to retain the separate departments or at least separate degrees even if the two departments were merged. At the idea of the Botany and Zoology Departments at Eastern merging, many people outside of the university wrote letters which demonstrated the uniqueness and national reputation of the botany program.

Following are quotes from a few of those letters:

"[There is a] shortage of applicants with the necessary field training to satisfy the current need. EIU Botany continues to graduate students with well rounded backgrounds, that fit perfectly into agencies like the Indiana Department of Natural Resources.....[T]he unique role filled by the Botany Program.....is another reason why the State of Illinois can be proud of its university system."

John A. Bacone, Director, Division of Nature Preserves, Indiana Dept. of Natural Resources.

"[W]e cannot get along without botanists trained in classical botany...In Illinois, this approach is being emphasized and taught virtually nowhere else than Eastern Illinois University. Without your program, we simply will be unable to accomplish the work we need, and in fact are required, to conduct."

Susan E. Lauzon, Executive Director, Illinois Endangered Species Protection Board

"At EIU, the Botany Program curriculum is quite diverse and its quality exceeds that offered by most universities...[T]he Botany Program there is a rare example of a training program that is both successful and progressive, and prepares its students in multiple ways to meet their future goals."

Terry A. Woodford-Thomas, Assistant Professor of Pathology, School of Medicine, Washington University in St. Louis

Even with strong support for maintaining the Botany Department as a separate entity from the Zoology Department, the two departments were merged in 1998. Janice Coons was the chair of the Department (1993-1998) until the merger in 1998. She was the only female chair during the existence of the Botany

Department. She was a valiant leader and her efforts, along with the efforts of many others, helped to postpone the merger until 1998.

The degrees offered by the current Biological Sciences Department are a B.S. in Biological Sciences, a B.S. in Science with teacher certification (Biological Sciences specialization), and an M.S. in Biological Sciences. At the time of the merger, the Botany Department had 15 tenure-line faculty. Unfortunately, the elimination of Eastern's Botany Department is an example of a past national trend to eliminate Botany Departments even with exceptional reputations.

BOTANY AWARDS

The Botany Department received great support from Botany alumni. Many Botany alumni donated money to the program for equipment, and many of the Botany scholarships were alumni funded. Every spring since 1973, a banquet has been held at Eastern to celebrate academics in biological sciences and to award scholarships. The Ernest L. Stover Scholarship is in memory of the first Botany Department Chair, and is awarded to outstanding juniors and seniors in Botany based on academic achievement, a demonstrated interest in Botany, service, and promise as a future researcher or teacher. The H. F. Thut Award is in memory of former Botany professor Hiram Frederick Thut, and is presented to promising sophomores and juniors in Botany based upon scholarship and interest in Botany. The Errett and Mazie Warner Presidential Award in Botany was established by Errett Warner and honors Botany scholars of junior or senior standing. Not only do Botany alumni support student scholarships, but many accounts also are established to support both undergraduate and graduate research projects for students. Money to support students comes from the Richard Smith Incentive Fund and the Lewis Hanford Tiffany and Loel Zehner Tiffany Botany Graduate Research Fund. The Richard Smith Fund was established by alumni in memory of Richard Smith, a Botany Department faculty member who taught phycology and microbiology for many years. The Tiffany Fund was established by the family of Lewis Tiffany, who was one of Transeau's EIU students. The Tiffany Award is for graduate student research in botany. Although the Botany Department is gone, these awards are still presented to Eastern students with botanical interests.

ALUMNI CONTACTS

The Botany Department maintained contact with its alumni and was very proud of them and their accomplishments. Alumni symposia were scheduled periodically to bring alumni back to

campus for socializing and listening to talks by fellow alums. Great “feeds”, like pig roasts, also were held for Eastern botany alum at many of these gatherings (Crofutt, personal communication). Two to three times a year, the Botany Department sent its newsletter, “The Leaf,” to Botany alumni (1975-1997). Several faculty helped with the newsletter over the years, but Larry Crofutt was the constant driving force behind the newsletter. This newsletter was not only helpful for obtaining donations, but also informed the alumni about happenings in the Department as well as around campus. It also included a section for alumni updates, where things such as mailing addresses, marriages, new jobs or new children could be listed. Awards and honors that were presented to students and faculty also were mentioned in this newsletter.

NOTEWORTHY ALUMNI

Many noteworthy Botany alumni (some of the accomplishments of Tiffany and Sampson already noted) graduated from Eastern. A few will be highlighted here. Dr. Allyn Cook, who received his bachelor's degree in Botany in 1947, then received his M.S. and Ph.D. from the University of Wisconsin. He received the Distinguished Alumni Award in 1977 for his work as a professor of plant pathology at the University of Florida, where he researched virus and bacterial diseases and taught classes on diseases of tropical plants (The Leaf, 1977a). Cook is also the author of “*Diseases of Tropical and Subtropical Fruits and Nuts*” (The Leaf, 1977b). Dr. Franklin M. Turrell (B.S. 1929) received his M.S. and Ph.D. degrees from the University of Iowa. As a plant pathologist working at the University of California, Riverside, he published over 165 scientific papers and contributed to many books, including a chapter in Vol. III of *The Citrus Industry* (The Leaf, 1981). Professor Willard F. Yates (B.S. 1958) was the Acting Chair of Butler University's Department of Botany, and is known for having successfully cloned a staminate ginkgo tree. He was able to find the mix of chemicals and hormones necessary for ginkgo tissue to form a callus, which produces embryos and eventually produces the desired tree (The Leaf, 1987). Some noteworthy alumni from the Botany Department that received Ph.D.s include Philip Arnholt (B.S. 1963), a professor and Chair of the Biology Department at Concordia. Lloyd Loftin (B.S. 1950) is retired as President of Casper College. Jim Birchler did important work in maize genetics at the University of Missouri, and Richard Sikora is a professor at the University of Bonn in Germany.

Many alumni used their field botany skills in Illinois. John Bacone (B.S. 1971) and Randy Nyboer (M.S. 1975) were two of five field representatives in 1975 working for the Landscape Architecture Department of the University of Illinois on a statewide inventory

of natural areas (The Leaf, 1975). Bacone was the Director of the Division of Nature Preserves for the Indiana Department of Natural Resources. Nyboer helped to delineate and protect many natural areas. He was Head of the Endangered Species Protection Board and is presently in charge of the field portion for the continuation of the natural areas inventory (Ebinger, personal communication). Rick Phillippe (M.S. 1972) earned his Ph.D. from the University of Tennessee and worked at the Illinois Natural History Survey, where he is the curator of the herbarium. He also publishes extensively on the flora of Illinois (Ebinger, personal communication). Bill McClain (B.S. 1966) is a retired natural heritage biologist for the Illinois Department of Conservation, which is now the Department of Natural Resources. He published over 100 scientific and popular articles (Ebinger, personal communication) including a pamphlet on prairie restoration (The Leaf, 1984). Rick Larimore was a field botanist for the Illinois Natural History Survey. Bob Edgin works for the Illinois Nature Preserves Commission. Linda Kull (M.S. 1976) works for the National Soybean Lab. Larry Coutant (M.S. 1976) was a phycologist for the Illinois Natural History Survey for 10 years and now owns Prairie Heritage Seed Company. Janice Coons (B.S. 1975) was elected as a Fellow of the Illinois State Academy of Science in 2008.

BOTANY CLUB

The Science Club was created on Eastern's campus on January 31, 1931 (The Warbler, 1931). In 1935, the Zoology Seminar was formed as a branch of the Science Club (The Warbler, 1935). The Science Club and Zoology Seminar served Eastern through World War II and held the interests of the science students (Lulich, 1990). From the interest in Science Club, came the Botany Club in 1949.

Botany alums know that a historical account of the Botany Department at EIU would not be complete without talking about Botany Club. The Club started in 1949 and was a central part of the Botany Department. The club is still very active today, and is one of the oldest recognized student organizations on Eastern's campus. The Botany Club at Eastern Illinois University has a prosperous and extensive history. Since its formation, its ultimate purpose was to serve those who share a common interest in the botanical sciences (Lulich, 1990). The Botany Club had no dues, no constitution, and no bylaws when it first started (The Warbler, 1953). It was the sheer interest of students that was the driving force behind organizing a Botany Club (Lulich, 1990). A voluntary contribution was taken at meetings to help cover the cost of refreshments (The Warbler, 1953). In the early days of Botany Club, most student members were majoring in Environmental Biology,

Botany or Zoology. The Botany Club, as it does even today, also welcomed anyone not affiliated with the sciences to attend the meetings and participate. In fact, the Botany Club president from 1973-1974, Bob Gerling, was a history major (Croft, 1967). As an officer of Botany Club, students developed their public speaking, organization and time management skills by running the club, while making new friends in the process. Botany Club officers pursued great careers and exercised leadership qualities within those careers (Lulich, 1990). In large part, the success of the Botany Club is due to Laurence Croft, who was the faculty advisor for the Botany Club for 25 years, from 1968 to 1993. Due to Croft's dedication, many of the traditions that were present during the early years of Botany Club are still in existence. "The goal of the bi-weekly meetings is to have speakers that were technical, but not over the heads of students," remembers Croft. He also recalls that the speakers were all people that Botany Club officers had chosen, and usually they focused on what sorts of job opportunities were available for botanists. Before the presentation, the Botany Club officers and advisors have developed a tradition of taking the speaker to dinner which is a great way for the students to make professional connections and talk in detail about the subject of botany. At the meeting, popcorn and lemonade have been served as the refreshments of choice since at least the 1960's. In 2005, this tradition was expanded with the appointment of an official Baker, as one of the club officers. If students are interested in getting involved in the Club, they can come early to help make lemonade and cook popcorn to put in the Botany Club's heavy crockery ceramic bowls, or stay late to help clean up. Since there are no membership dues and free food is offered, seats fill quickly and more seats often are required.

To build friendships and raise money, the Botany Club has a wide variety of fundraisers. In the past they sold carnations. The Botany Club would buy them at wholesale and deliver them on Valentine's Day. However, they made the bulk of their money selling soft drinks or water. They owned and stocked their own vending machine, which was the only one in the department. The Club once sold a cookbook with botany club members' favorite recipes. Nowadays, the Botany Club sells homemade caramel apples and spring bulbs in the fall, homemade candy bars in the early spring, and native plants in the spring. Another favorite Club activity to raise money is to have a Botany Club T-shirt design contest. Once the design has been chosen, shirts are printed and sold for just slightly over cost.

The Botany Club is a very social group. In the past as well as the present, many picnics and camping

trips are held. Whether it is a fish fry at Fox Ridge State Park or a potluck at the campus pond, a great deal of interaction occurs between students and faculty, and students are always willing to advise newcomers about what professors to take. The camping trips that the Botany Club have taken play a major role in building the field botany program. The Botany Club had an extensive assortment of camping equipment— everything from rain ponchos to wash basins. Whenever other school sponsored groups, including the summer study abroad programs, went on trips, they borrowed the equipment of Botany Club. One camping trip that the Botany Club still maintained through 2007 was an annual trip to the Smoky Mountains after the spring semester. Croft led this trip for 25 years. Every year, he claimed that he would never do it again, but then he would see students that had never seen anything beyond Charleston and he would prepare for the next year. For students who had never camped before, the club had plenty of extra supplies. While nobody knows for sure when the club started going to the Smoky Mountains, Dr. John Speer, a botany professor, spoke of going as a student in 1958 (Croft, personal communication). The Club created a song book for nights at the camp fire.

Today, the Botany Club has a constitution and a large slate of officers ranging from the traditional positions of president, vice-president, secretary and treasurer, to a baker, a public relations person and a trip planner. A few things have changed for the Club as we use plastic bowls instead of the ceramic ones. The work of the students and their advisors has kept the Botany Club active and popular. The current faculty advisors are Nancy Coutant, Janice Coons and Barbara Carlswald.

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