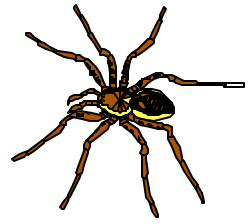


Cobwebs



Spring 2000 - Volume 4

A Newsletter for Alumni in Biology, Natural Resources Management, Environmental Science,
Planning and Resource Management and Group Science

M.S. Degree in Biology

Karel Rogers, Biology Dept. Chair

The Biology Department is excited to announce that all the signs are favorable for a new Master's of Science in Biology degree program. The formal process for approval is progressing well and we anticipate our first group of graduate students will start Fall, 2001. In the meantime, we'd like to share a sense of the program with you and to ask you to complete and return the attached questionnaire. Your input is critical as we develop a final degree plan.

We are starting a program that has maximum versatility while maintaining high academic standards. The program will be applied in the sense that the application of a Master of Science degree in Biology is training in the skills necessary to do original work related to biology. The original work, a project or a thesis, could focus on environment, resource management, botany, zoology, ecology, genetics, or cellular and molecular biology. We will build on the student's undergraduate background and tailor coursework to meet the student's academic and career goals.

We are excited about this new step in the development of the Biology Department and about the opportunity it offers people in the West Michigan region.

The custom-made aspect of the proposed Master of Science degree might include coursework outside of the Biology Department but related to the project/research interests of the student. For example, coursework in computer science, microbiology, and environment might be combined to support applied work in environmental health. In another example, coursework in hospitality and tourism management, geography, and ecology might be combined to support an applied project in ecotourism. As a last example, a student might combine coursework in botany, cellular

and molecular biology, and bioinformatics in a project to develop new strains of nursery plants.



Core coursework required of all students will entail research methodology and the skills required to communicate results. Content of coursework will be chosen by the student's committee, which will include a mentor who will guide the individual's research or project. Our goal is to provide flexibility in the

content studied by the student while maintaining academic standards expected at the master's level. This will not be an easy line to walk, but we expect to limit the number of graduate students and to invest considerable effort in each student. We intend to meet the needs of teachers who wish to earn a science-based master's degree, students who wish to earn a terminal master's degree and plan to enter regional industry or government employment, and of students who intend to pursue a doctoral degree at another institution.

We are excited about this new step in the development of the Biology Department and about the opportunity it offers people in the West Michigan region. There are now 23 full-time professors in the department who are actively involved in teaching and scholarly activity. This impressive group of scientists is investigating everything from the bioenergetics of insect herbivory to chemical control of plant embryogenesis in space to the transfer of GIS technology to third world countries. Some are developing new teaching strategies in science and others are investigating the effect of climate on forest growth. We hope you will take a minute to fill out the attached mini-questionnaire. We value your input and look forward to your comments!



P.S. For anyone who is wondering, Chicken is doing just fine. She supplies the household with eggs and her one problem is her failed attempts to develop a "peck order" with the dog. It seems the dog just doesn't understand correct behavior.

\$\$\$ and Biology Club News

Travis Devlin, President, \$\$\$/Biology Club



The Biology Club has been working hard this year to provide a number of educational and fun activities to promote interest in biology at Grand Valley. In addition to the weekly meetings, last fall's activities included a ravine clean-up, Halloween bonfire and hayride, a behind-the-scenes trip to John Ball Zoo, and a graduate speaker from Wayne State University. Many members also volunteered their time to help Blandford Nature Center during their Fall Harvest Festival in October and to provide baked goods for a fund-raising bake sale during the GVSU Renaissance Festival. We are also looking forward to another great semester this spring with many planned speakers and events including our annual trip to Chicago. The officers have been working on revising the organization's constitution and submitting a budget for funding from the Student Life Office and have greatly appreciated the involvement of members, as well as the biology faculty and staff. We feel very fortunate to have the active support and involvement of the Biology Department and look forward to the remainder of the semester, as well as next year.

Soil and Water Conservation Society News

Shelley Brege, Secretary

The GVSU Student Chapter of the Soil and Water Conservation Society was very active during the last year working on a variety of environmental projects. This year's officers include Rebecca Gannon (President), Mitch Koetje (Vice President), Mike Van Ooteghem (Treasurer), and Gains Spohn (Public Relations Officer). Nancy Morse served as Secretary during Fall, 1999, and Shelley Brege is serving as Secretary during the Winter, 2000 semester. Spring, 1999 activities included a game of capture the flag with the Biology Club (we won!) and attendance at the USFS forest fire training class in Baldwin in March. We also completed highway cleanups along M-45 and streambank stabilization projects on the Pigeon River during both the Spring and Fall of 1999.

The SWCS Chapter accompanied Mark Luttenton's limnology class on a memorable field trip to the University of Michigan Biological Station in October, and also attended the Michigan Chapter of SWCS Annual Meeting in Lansing in December. Scott

Abella, GVSU SWCS member, was announced as the recipient of the Michigan Chapter of SWCS Scholarship at this meeting. Scott also received a \$1000 scholarship from the West Michigan Chapter of the Air & Waste Management Association. While in Lansing, we also took the opportunity to tour the Tollgate Wetlands project, a very forward-thinking stormwater retention and treatment facility. Upcoming events include two guest speakers scheduled in February (John Freeland, with Northern Ecological Services, Inc., and Dwane Coffey, with the NRCS). Activities planned for later in the spring include a trip to Kalamazoo to attend a workshop on watershed management planning, as well as the traditional highway cleanup and streambank stabilization projects. We also have been challenged to another game of capture-the-flag by the Biology Club!

Grand Valley Vet Club

Cynthia DeYoung, President

As one of the newest organizations on campus, the Grand Valley Vet Club has had to do quite a bit of work to get things started. In August of 1999, a group of four students gathered in the foyer of Padnos Hall of Science in an attempt to organize the first veterinary-related association at Grand Valley State University. Within the course of three months we had selected an advisor, appointed officers, written our constitution, and established ourselves as a recognized campus organization.

When we reached this point at the close of last semester, we were very optimistic about the things we could accomplish in the upcoming year. So far, everything has gone as planned. We have organized a visit by the Director of the Veterinary School Board of Admissions and have scheduled numerous appearances by local veterinarians. We planned a spring trip to Michigan State University's annual Vet-A-Visit program and we also organized fund raisers and volunteer hours at the Grand Rapids Humane Society. In addition to our activities, we hold bi-monthly meetings to discuss a variety of topics, including course work, informational sessions on veterinary schools in the United States, requirements for various veterinary programs, and opportunities for jobs and volunteer work in the local area that are related to the veterinary field.

In addition to the work of the four officers (Cynthia DeYoung, Nicole Schwarb, Julie Usher, and Bobbi Conner), our advisor, Terry Trier, has put forth an enormous effort in supporting our club and its interest

at Grand Valley. Thanks to the work of many professors and inquiring students, a greater awareness of interest in this field has sparked the incorporation of a pre-vet emphasis into the Biology program. We know that with the growing interest and the incorporation of this emphasis into our Biology program, we will likely see an increase in the number of students that attend our school for undergraduate pre-veterinary work. We can only hope that the Grand Valley Vet Club will also continue to grow in order to assist these incoming students in finding answers to the many questions that were not able to be answered for us when we started.

Student Scholarship Day

Once again the biology department was well represented at the annual GVSU Student Scholarship Day, which was held April 14, 1999. Student's presented their results from field and laboratory experiments as well as other scholarly activities that spanned such diverse topics as the effects of climate change (increased carbon dioxide) on insect growth, wood duck nesting habits, to embryological development of carrots. It was evident from the quality of the students' presentations that they had worked very hard along with their advisors. Undergraduate education at GVSU goes well beyond the classroom.



We strongly support undergraduate scholarship. Recently we have established a Biology Endowment to help fund student projects and to buy much needed research equipment. If you are interested in contributing to this fund or learning more about the projects listed below, please contact us.

- Cathy Baisden.** The effects of substratum size on the response of periphyton to disturbance. Sponsor: M. Luttenton
- Laurie Cavis.** Genetically engineered food - truly food for thought. Sponsor: K. Rogers
- Beth Clawson.** General survey of frog malformation and amphibian decline. Sponsor: C. Griffin
- Beth Clawson and Thomas Enright.** Canopy gap analysis in blowdown areas at Hoffmaster State Park . Sponsor: S. Menon
- Lori Coucke.** The ethics of animal testing. Sponsor: K. Rogers
- David Degenhardt.** Performance of gypsy moth on birch exposed to elevated CO2 under free-air conditions. Sponsor: T. Trier

- Thomas Enright.** Effects of microclimate on the nest box occupancy at Blandford Nature Center. Sponsor: C. Griffin
- Renee Fish.** A tree management plan for western greens golf course, Ottawa Co. Michigan. Sponsor: C Griffin
- Jessica Fried.** Impact of UV-B radiation on high altitude algal flora in Colorado. Sponsor: K. Rogers
- Corey Hill.** Survivability and detection of *Bacteroides vulgatus* in raw sewage by PCR. Sponsor: R. Morgan
- Holly Hereau.** The transmission of microbes and the evolution of social behavior. Sponsor: M. Lombardo
- Cathy Huber.** The ethical implications of the control of human reproduction. Sponsor: K. Rogers
- Matt Kogut.** Organ Transplantation. Sponsor: K. Rogers
- Keri Konarska.** Transferring GIS technologies to developing countries: avoiding the 'rusting tractor syndrome'. Sponsor: S Menon
- Jill Leale.** Estimation of non-point source phosphorous loading of Bostwick Lake. Sponsor: C. Griffin
- Nancy Morse.** What's best for Isle Royale? Sponsor: C. Griffin
- Tamara Mulligan.** Reproduction of nest-site selection, brood predators and parental behavior of largemouth bass following habitat manipulations. Sponsor: J. Hunt
- Teague O'Mara.** HIV research and ethical dilemmas. Sponsor: K. Rogers
- Jeff Osterink.** Use of DNA fingerprinting in wildlife management. Sponsor: C. Griffin
- Tim Redder.** Usage patterns of wood duck boxes installed by the US Forest Service. Sponsor: C. Griffin
- Ramona Rogers.** Public perception of reintroduced gray wolves into Yellowstone National Park. Sponsor: C. Griffin
- David Solberg.** Assessment of current management policies and their effect on terrestrial wildlife habitat at the meadows golf course. Sponsor: C. Griffin
- Joshua Stickney.** Detection of bovine-specific and human-specific fecal bacteria by PCR. Sponsor: R. Morgan
- Chris Tubman.** Nest-site fidelity in largemouth bass. Sponsor: J. Hunt
- Carrie Tansy.** The effect of cytokinin on somatic embryo development in carrot. Sponsor: S. Blackman
- Yvan Tran.** The bioethics of stem cells. Sponsor: K. Rogers
- Dean Veltman.** Parental aggression in response to nest intruders: a test with models. Sponsor: J. Hunt
- James Wilkinson.** Direct observations of habitat use by brown trout using snorkeling methods. Sponsor: M. Luttenton
- Chris Wynn and David Loew.** Environmental impact on the GVSU ravine ecosystem. Sponsor: P. Thorpe
- Mellisa VanderVen.** Effectiveness of streambank stablization techniques. Sponsor: C. Griffin

Life in grad school...

David Degenhardt graduated from Grand Valley in December, 1998, with a degree in Biology and an

emphasis in plant biology. Soon after graduation he moved to Columbia, South Carolina to pursue a Master's Degree in Biology with a focus on plant ecology under the direction of David Lincoln at the University of South Carolina. He is currently involved in a multidisciplinary project looking at the effects of elevated CO₂ on ecosystem structure and function. Dave is studying how the chemical constituents of leaf litter change in response to elevated CO₂, and how this affects the rate of decomposition and nitrogen mobilization out of leaf litter.

Dave recently sent us this email: "This past semester, while I was working ever so diligently on my research, I was also teaching an introductory Biology lab, not unlike the lab associated with Biology 112 at GVSU. Throughout the semester it often occurred to me how well I actually retained most of the information I gained, not only from introductory biology, but from all my biology classes throughout my undergraduate career. I want to thank all those in the biology department at GVSU who have had the insight to design the courses, and utilize the valuable resources of knowledge and personality in making classes exciting and interesting. Not only do the courses and the faculty who teach them deserve our praise, but so does the summer undergraduate research program that offers students the opportunity to see how serious research is conducted, and the time and effort that is required at the level of experimental science. Thank you to all the biology faculty that have put up with me for so many years (you know who you are), and have driven me to achieve my best in science. Students at other universities would profit well from the input (and patience) of y'all in the GVSU biology department. If GVSU prepared me well for a higher education, I shudder to think what they can do for a good student. Keep up the outstanding work GVSU biology faculty! Your efforts do not go unappreciated."



New Courses approved during the 1999-2000 academic year:

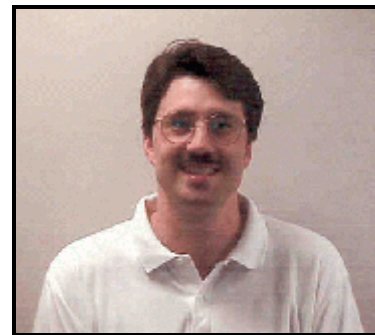
This year was abuzz with the development of many new courses in the Biology and Natural Resource Management Departments. Six courses were approved in Biology and included such diverse topics as the Biological Basis of Society, Biological Diversity of the Americas, Evolution of Social Behavior, Advanced Genetics Laboratory, Plant Biotechnology, and a Nucleic Acids Laboratory. NRM had two new courses approved: Introduction to Natural Resources and Weather and Climate. The introductory course will be a new requirement for incoming NRM students.

New Faces in the Biology Department



Dr. Joe Jacquot

Dr. Jacquot received his B.S. and M.S. from Bowling Green State University, which is near his hometown of Risingsun, Ohio. He received his Ph.D. from Miami University in Oxford, Ohio. Dr. Jacquot's research interests include the population dynamics, spacing behavior and natal dispersal of small mammals. Currently, Dr. Jacquot is working with several students to build a mammal collection for a mammalogy course, which will be taught for the first time next fall semester. Dr. Jacquot also teaches Biology of People, Environmental Science, Climate and Weather, and Animal Behavior. This summer, Dr. Jacquot, along with Drs. Katherine Kantz and Keith Fessel, will be taking students on a field trip to Maine.



Dr. Roderick Morgan

Dr. Roderick Morgan received his B.S. and M.S. from Central Michigan University and a Ph.D. from Virginia Commonwealth University/Medical College of Virginia. At GVSU he teaches Introductory Biology, Human Genetics, Biomedical Bioethics, Cell Biology, and Advanced Genetics. Before entering the tenure-track faculty position, Dr. Morgan was a visiting assistant professor for two years in the Biology Department. Rod came to GVSU from the Department of Microbiology at The Ohio State University where he

– continued on p. 5


was a postdoctoral scientist. At OSU, he studied the genetics of methanogenesis in archaea. His research at GVSU focuses on methodologies that allow the detection of enteric microorganisms in surface water to better assess fecal pollution of Michigan waterways.



Dr. Lowry Stephenson

Dr. Lowry Stephenson comes to the Grand Valley Biology Dept. as a plant molecular biologist after careers in natural resources management and teaching in diverse parts of the world. A native of Pennsylvania, Lowry has a BA from Bowdoin College in Maine and a graduate degree in forestry from Duke University. He worked for three years in international parks management with the Peace Corps in North Borneo, Malaysia, and for many years as a forester with the federal government in Oregon. Between these assignments, he taught in a community college for several years. Not wanting to stagnate, Lowry shifted careers once more and in 1997 earned a Ph.D. in Genetics and Cell Biology at Washington State University. At GVSU, he teaches and does research in the cell and molecular emphasis.

To know where you can find anything, that in short is the largest part of learning.

¾ Anonymous 

Faculty Activities

Carl Bajema has completed a 15 month study of natural and cultural sites in the Greenway corridor adjacent the Grand River in Kent County for the Land Conservancy of West Michigan. The report included a 24 page geographic guide to natural sites (rapids, islands, channels, bayous, sand bars, springs) and historical sites (river channel "training" pilings, steamboat landings, sawmill sites, plaster mines and mills, drains, dumps, etc.) on and adjacent the 38 mile segment of the Grand River in Kent County. The report also includes recommendations for making citizens

more aware of the Grand River as a natural resource and for getting local governments and private citizens more involved in ecological restoration.

Paul Huizenga presented a paper entitled "Stem Cell Research: Some Medical and Ethical Implications" at the National Association of Biology Teachers which met in Ft. Worth ,TX on Oct. 27-30, 1999. On February 10-11, 2000, Paul attended an Institutional Review Board (IRB) meeting on "Confidentiality and Privacy" which was held in Houston , TX.

Joe Jacquot has been working to develop a mammalogy course for the fall of 2000, currently five students are helping to prepare materials for our museum collection. He presented a paper and coauthored two others at the Midwest Regional Animal Behavior Conference at Bowling Green State University last fall and was invited to speak at the Ohio Lepidopterist Society Annual Meeting at Ohio State University this winter. Joe recently published a list of moth species identified from Southwestern Ohio in the Ohio Journal of Science with two friends from Miami University (Keith Summerville and Ryan Stander).

Mike Lombardo published four papers in 1999, three were coauthored with Pat Thorpe, and two were also coauthored by Grand Valley students (Matt Johnson and T. Mills). He has been very successful involving students in research projects concerning tree swallows. In fact, seven undergraduates gave presentations this year under his supervision.

Mark Luttenton has been busy with several projects during the past year. Last summer, Luttenton, along with the help of Don Ackerman, spent most of the summer working on the Rogue River in northern Kent County. The duo surveyed biological communities (insects and fish) and quantified physical characteristics including temperature and flow.

During the summer, he also attended two meetings including the national meeting of Trout Unlimited. Luttenton has been very active in the local chapter for the past year and has been working on several projects with the Trout Unlimited chapter. He also taught a course that has not been offered for several years titled Methods for Aquatic Ecosystems. The fall semester was highlighted by another good group in both the fisheries biology and limnology classes. Limnology has started a new tradition with an annual trip to Douglas Lake, University of Michigan's field station. The trip offers an opportunity to concentrate on chemical and physical changes that occur in northern



Michigan lakes during the fall. The appearance of zebra mussels in the Muskegon River below Croton Dam has caught Luttenton's attention and he hopes to start a large project this summer to assess the impacts of zebra mussels on the ecology of the Muskegon River.

Neil MacDonald served as faculty advisor during the summer of 1999 for a Science and Mathematics Division Summer Undergraduate Research Program study with Mitch Koetje (GVSU NRM student). The study examined the establishment of native warm season grasses on a spotted knapweed (*Centaurea maculosa*) infested site using herbicide and sludge applications.

Karel Rogers went backpacking in Madagascar in preparation for taking students there during summer 2001. She gave a presentation entitled "Data, not dogma, in the teaching of evolution," at the 1999 National Science Teachers Association in Detroit, and will give the same talk at the Michigan Science Teacher Association. Karel recently had a paper accepted for publication in the journal *New Mexico Geology*. This paper was coauthored with scientists from U. Colorado, U. Minnesota, and the USGS in Denver. The title of the paper is "Geologic history, stratigraphy, and paleontology of SAM Cave, north-central New Mexico."

A 'new' addition to the department:



We are pleased to report that Jodee Hunt and Ken Walits are the proud parents of Liam Rhys Hunter Walits who was born November 26, 1999 at 11:42 a.m. He weighed in at 7 lbs 9 oz (3.44 kg for you metric folks) and is

doing well.

Alumni News

Nate Bachelor has been accepted in a Master's program in zoology at North Carolina State. He will be working on exotic fish species in Puerto Rican reservoirs.

Ammie Currie has been admitted to the graduate school at North Carolina State University with full support. Ms. Currie was a student in Bio 380 (soil microbiology) in the fall of 1998. In addition, she has

taken "algology" from Luttenton. Although she was a Biomedical Sciences major, she is entering environmental/soil microbiology as a field of study.

Elaine Nichole Videan, a 1997 graduate of GVSU with a B.S. in Biology, is currently finishing up her Master's degree in Zoology at Miami University. Her research focuses on the behavioral ecology of chimpanzees (*Pan troglodytes*) and bonobos (*Pan paniscus*) as models for the evolution of human behavior. For her Master's, Elaine worked with several populations of captive chimpanzees and bonobos housed at zoos and sanctuaries in Ohio and Texas. Her findings will be presented at a national Anthropological conference this spring in San Antonio, Texas. Elaine plans to study wild chimpanzees for her Ph.D. dissertation research and hopes to begin field research within the next year.

Dean Veltman is working towards his Master's at the University of Illinois. His field of study is fisheries biology.

Doug Wilson is pursuing a Master's in marine biology at the College of Charleston, Charleston, South Carolina.

In the world of intellect, doubtless, the most marked features in the history of the past century have been the extraordinary advances in scientific knowledge and investigation, and in the position held by the men of science with reference to those engaged in other pursuits. I am not now speaking of applied science; of the science, for instance, which, having revolutionized transportation on the earth and the water, is now on the brink of carrying it into the air; of the science that finds its expression in such extraordinary achievements as the telephone and the telegraph; of the sciences which have so accelerated the velocity of movement in social and industrial conditions—for the changes in the mechanical appliances of ordinary life during the last three generations have been greater than in all the preceding generations since history dawned. I speak of the science which has no more direct bearing upon the affairs of our every-day life than literature or music, painting or sculpture, poetry or history. A hundred years ago the ordinary man of cultivation had to know something of these last subjects; but the probabilities were rather against his having any but the most superficial scientific knowledge. At present all this has changed, thanks to the interest taken in scientific discoveries, the large circulation of scientific books, and the rapidity with which ideas originating among students of the most advanced and abstruse sciences become, at least partially, domiciled in the popular mind.

Theodore Roosevelt, delivered at Oxford, June 7, 1910

MASTER OF SCIENCE IN BIOLOGY

Please fill out and return to the address below.

1. If GVSU has a M.S. degree in Biology, would you be interested in applying for admission?

2. What are your career goals?

3. Please make any comments you wish:

Biology Department
Grand Valley State University
Allendale, MI 49401