



THE NICHE

Department of Biology Student-Faculty Newsletter



Volume 4, Number 1

College of William and Mary

October 1991

PROFESSORS BLACK, BROOKS, BYRD, AND HALL TO RETIRE

Four professors, twenty percent of the tenure-track faculty in Biology, have accepted the Governor's early retirement plan. Professors Black, Brooks, Byrd, and Hall have all begun their last official year as members of the College faculty.

Chairman of the Department Lawrence Wiseman says "These four faculty members have meant so much to their students and colleagues over the years at William and Mary. It won't be pos-

sible to replace them. We just hope we can find excellent new people who will develop into the wonderful colleagues these biologists have been for all of us."

The Commonwealth has not yet decided how many retirees will be replaced in the state or in which state agencies and divisions replacements will be hired. Although the College won't know until later in October at the earliest how many replacements Biology will get, the Department's active program, strong record, and heavy student enrollments should demand replacement of all four.

Budget Increased, But Still Not Back To Level Of Two Years Ago

Last year was difficult for the Department, the College, and higher education in general. Budgets were not just tight, they were reduced across the country. At William and Mary, 23% was cut from all Arts and Sciences department operating budgets. Biology was forced to cut student hourly assistance, eliminate faculty travel, and cut back on supply and equipment expenditures. Things are a little better this year.

Biology received a 13% increase in its budget (the Arts and Science departmental average increase was 11.5%). Although that is good news, the increase **doesn't even bring us back to the funding level we had several years ago.** Adding even a small inflation factor ensures a considerable struggle to maintain the quality and quantity of what we do.

For alumni, parents, and friends who contribute to the College's Annual Fund, we hope you will designate your gift specifically for the Biology Department. A number of Alumni have been doing this for the past few years and we deeply appreciate their efforts. All such designated money goes into a separate College account distinct from annual operating funds budgeted to the Department. Such designated contributions are truly absolute additions to the Department's operating budget.

Biology Department's Turn At Self-Assessment

A recent trend, almost a fad, in higher education is self-assessment. Everyone seems to be looking at how good a job universities are doing (although just exactly what that job ought to be hasn't yet been settled). The College is entering it's fourth year of formal, state-mandated introspection. This year it's Biology's turn.

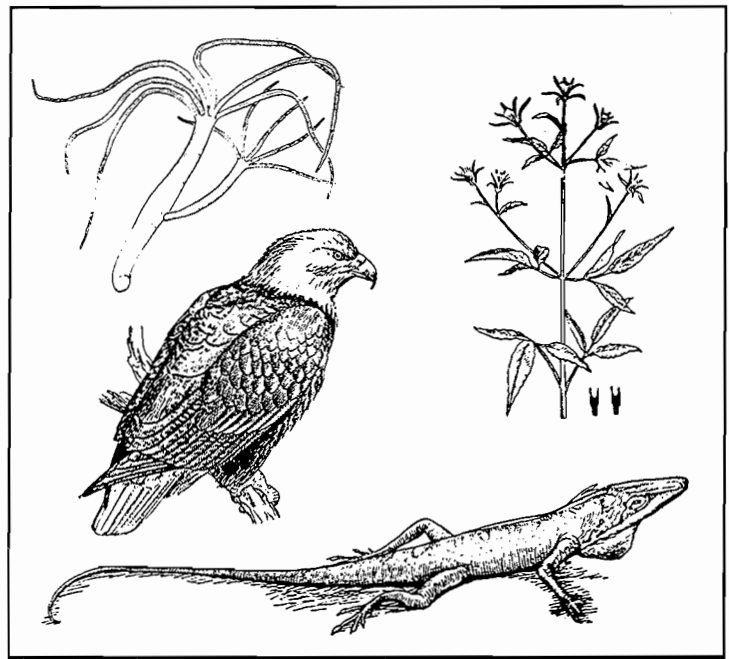
The Department will be going through a process of deliberation and self-evaluation which will include student and alumni questionnaires, outside evaluators, evaluation committees, and so forth.

Dr. Norman Fashing was appointed by the Department Chairman to direct and coordinate the study in cooperation with the College. **Professor Stewart Ware** chairs the college-wide Assessment of the Concentration Committee which gives Biology a direct link to the overall process.

All indications are that the Department, its faculty and students are doing an excellent job (see story below for example). To prove our case, however, will require a number of questionnaires, perhaps even examinations of factual knowledge our senior students have in biology.

As Dr. Fashing and the Department formulate specific assessment plans, we hope alumni and students will help us out. The Department values your opinion.

In subsequent issues of **THE NICHE** we will highlight each of our retiring colleagues, but for now we present brief profiles of them and their time at W&M.
(continued p. 2, FOUR RETIRE)



Guides To Colleges Call Biology "Strong Point" And One Of "The Strongest" At William and Mary

The Biology Department is well regarded by those who evaluate colleges and universities for prospective students. For example, the most recent issue of *Barron's 300 Best Buys in College Education* says of academic programs at William and Mary: "Undergraduates consider biology and business to be the college's strong points, based largely on their excellent faculty and resources."

Similarly, *The Insider's Guide to the Colleges 1991*, compiled and edited by the staff of *The Yale Daily News*, reports that at the College "History, English, biology, and religion are regarded as four of the strongest departments." The value of the William and Mary Biology degree remains high.

FOUR RETIRE (continued from page 1)

Professor Robert E.L. Black came to William and Mary in 1959 from the California Institute of Technology. He received his Ph.D. from the University of Washington and his B.A. from William Jewell College in Missouri. Dr. Black teaches Animal Physiology, Colloquium in Developmental Biology, and directs the Freshman Honors Colloquium. He has also taught Cell Biology, Cell Physiology, and Developmental Biology. While his early research interests were in the area of biochemistry of development in sea urchins, more recently he has been studying cellular aggregation, biosynthesis, heat shock proteins, metabolism, and other aspects of jellyfish development. Dr. Black was Department Chairman in 1987-88.

Professor Garnett R. Brooks --Jack to everyone-- arrived at the College in 1962 from the University of Florida, his doctoral institution. As an undergraduate he was a Richmond spider. Dr. Brooks teaches Vertebrate Biology, Zoology, Herpetology, and Human Biology, and has led several field courses for Biology students in Australia and in the Caribbean. Brooks' research interests include the population ecology and natural history of selected species of amphibians and reptiles. He recently spent a research leave at Flinders University in Australia. Lately he has become an accomplished, award-winning photographer.

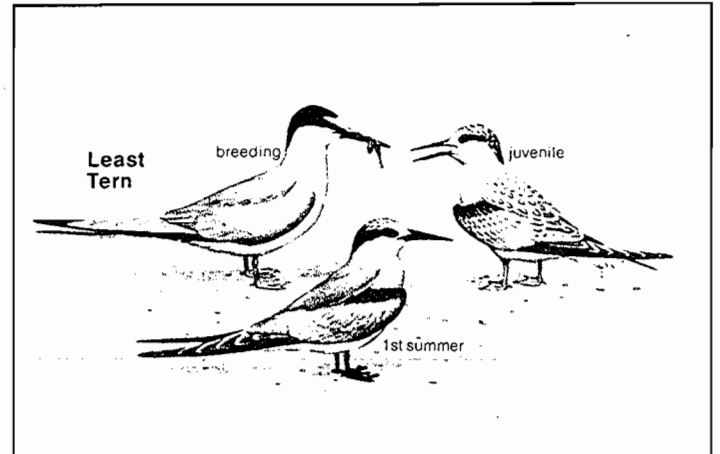
Professor Mitchell A. Byrd joined the Department in 1956 after several years at the Biological Warfare Laboratories in Fort Detrick, Maryland. Dr. Byrd received both his undergraduate and graduate educations at Virginia Tech. He teaches Comparative Anatomy and Ornithology. Early work as a parasitologist led to an interest in ornithology, and Byrd's research now focuses on population ecology of raptors, the ecology of colonial birds, and the biology of endangered species. He is a Leader for the Department of the Interior Bald Eagle Recovery Team and serves on a number of other boards and committees working with endangered species. Among other honors, Mitchell Byrd was presented the Governor's Award as Conservationist of the Year in 1985. Dr. Byrd is the Chancellor Professor of Biology and was Department Chairman from 1962-1976.

Dr. Gustav W. Hall came to William and Mary in 1963. He received his Ph.D. from Indiana University and his undergraduate education at Ohio University. He teaches Anatomy of Land Plants, Biology of Vascular Plants, and Biosystematics. He has taught Botany and Ornithology as well. Dr. Hall has been the long-time adviser to the Biology Club. His research has been on the flora of Virginia, including the morphology, phylogeny, and ecology of vascular plants and bryophytes. Hall has travelled widely within and outside the United States, investigating both plants and animals in thirty-seven countries on five continents, including Mexico, Costa Rica, Colombia, Peru, East Africa, Borneo, Siberia, and most of Europe including Iceland, Lapland, and the Caucasus.

Least Tern Colonies Threatened

by Sally Hunsucker

On a recent Saturday morning, members of the Biology Club and several other interested students went to Grand View Beach, in Hampton, VA., to help **Professor Beck** remove signs posted to protect nesting terns. The study of tern colonies in Virginia, which is funded in part by the Virginia Department of Game and Inland Fisheries (from non-game tax funds), began in 1975. Least terns prefer to nest on stretches of beach and



overwash areas with very little vegetation. They have been nesting on Grand View Beach for over a hundred years. Because the terns are ground nesters, their eggs are in danger of being disturbed or destroyed by people, dogs, and motor vehicles which travel through the colonies. On one island, wild cattle even stepped on the nests; there have also been cases of vandalism, though this has not occurred in recent years. Human disturbance of the colonies prevents adult terns from taking care of the eggs and young.

Beginning in 1982, Prof. Beck has led an effort to implement a management strategy to keep the terns from being disturbed. Signs are posted around the boundaries of the tern habitat before the nesting season. Of the 70-some signs posted earlier this spring by college students and students from the Governor's School Program, only about 16 were recovered. Some of the lighter signs may have washed out in floods and storms, but many of the heavier ones were burned as firewood by people trespassing in the area. It is ironic that people who are attracted to a natural area as a setting for recreational purposes would want to destroy it by leaving behind burned signs, smashed glass bottles, and aluminum cans. According to Prof. Beck, the tern colony did poorly this year, with the major drop in population noticeable immediately following Memorial Day weekend. Over 150 people were counted around the nesting area over a two day period.

This summer **Sandra Hayslette**, who received a Wilson Interdisciplinary Scholarship, worked with Prof. Beck in monitoring the piping plover and tern populations. Although three pairs of piping plover nested in the area, only one pair successfully fledged two young.

More signs will be made to replace those lost this year so that there will be enough to put out next spring. If you are interested in helping, watch for a sign making event in February 1992. By helping to give the least terns and piping plover a protected habitat, we are helping to save the beauty and natural heritage of our area.

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BIOLOGY



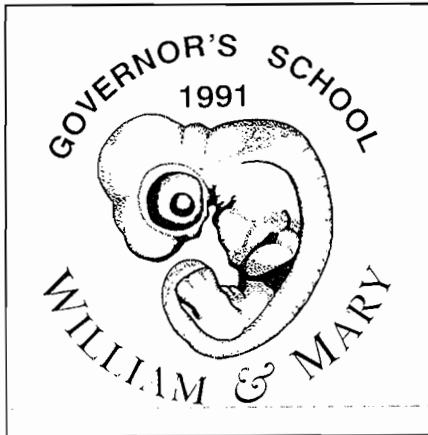
WILLIAM
& MARY

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Natalie Weber, Angie Wonsettler

Department Participated in Governor's School in Science and Technology Again

For the second consecutive summer, William and Mary was selected by the Virginia Department of Education to host the Governor's School in Science and Technology. About 150 of the best high school science students in Virginia (all rising eleventh and twelfth graders) lived on campus for one month to study in one of four programs: Biology, Chemistry, Geology, or Physics.

Thirty-eight students were enrolled in the Biology section, daily lecture/laboratory/discussion sessions led by **Visiting Assistant Professor Sharon Broadwater**, 1991 Biology graduate **Wendy Taylor** (winner of a National Science Foundation predoctoral fellowship and now working toward her Ph.D. at Duke), and **Professor Lawrence Wiseman**. Most of the Department's faculty helped develop and supervise laboratory and field experiences.



Biology Most Popular With Freshmen

Biology is the most popular potential major with this year's new students. Of 1,200 entering freshmen, 219 chose Biology as their most likely concentration.

Another sign of popularity: 600 students are enrolled in Principles of Biology 101, about 70% of whom are freshmen. This is the largest Bio 101 class in at least ten years, and one of the largest at the College.

This Lake Is Still Closed

by Angie Wonsetler

As many of you are already aware, Lake Matoaka has been closed since 1989, except to limited use, due to a supposed outbreak of the bacteria *Areomonas*. Since closure, many teams, including the William and Mary Biology Department and the Virginia Institute of Marine Science, have been performing experiments and studies on many different aspects of the lake and its surroundings. In order to determine if the current levels of *Areomonas* in the lake are a hazard to the public, VIMS bacteriologists, led by **Martha Rhodes**, are presently analyzing bacteria levels of lakes around the state to compare with the levels at Lake Matoaka.

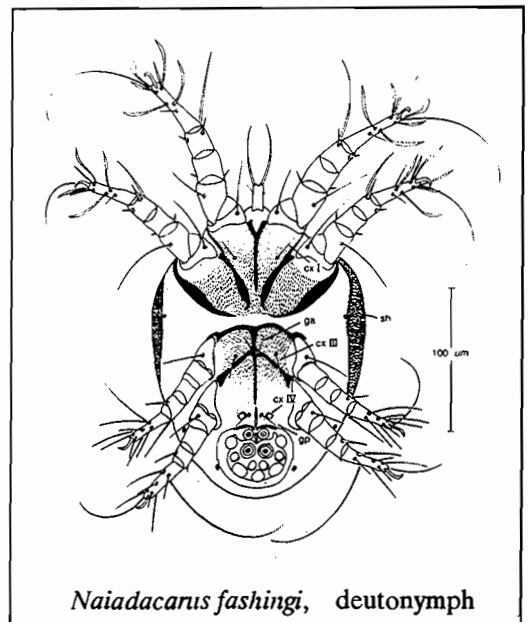
The outcome of this research is not expected to be available until the first of the year. In the William and Mary Biology Department, **Dr. Greg Capelli** and his team have been working on the biology and the chemistry of the lake. As a result of this work, Dr. Capelli is currently preparing a report on his findings. Upcoming work on the lake led by Capelli will focus its efforts on key nutrients, nitrogen and phosphates, of the lake and the biology and chemistry of its surrounding streams. For those who wonder when the lake will reopen, there is no answer; but expect no decision until after the first of the year. Until then, enjoy the beauty of the lake from its banks.

Professor Fashing Honored By Having A New Species Of Mite Named For Him

A new species of mite thought to inhabit wet decaying wood and moist holes in trees has been named after Biology Professor Norman Fashing. This is a fitting tribute for a biologist who has developed a mitey renown in the field of acarology and who has served twice during the past ten years as President of the Acarological Society of America (the professional organization for those who study mites). Having a species named after one is a rare and special honor for a biologist.

Naiadacarus fashingi was described by University of Michigan acarologist Barry M. O'Connor. According to O'Connor, "This species is named for Dr. Norman Fashing, whose excellent studies on the morphology and ecology of *Naiadacarus* have made this genus one of the best known taxa in the Acaridae." (p. 86, *THE GREAT LAKES ENTOMOLOGIST*, Vol. 22, No. 2, 1989) In fact, Fashing was the biologist who first described and named the mite subfamily Naiadacarinae and the new genus *Naiadacarus*. These mites inhabit water-filled treeholes.

The new mite named for Fashing is merely thought to live in moist treeholes because only the travelling deutonymph stage has been found. These tiny (several hundred microns long) eight-legged critters were found hitching rides on eight different species of Syrphid flies in Michigan, New York, and New Jersey. Professor Fashing continues his mite studies, publishing three dozen papers so far on this and other work in several areas of acarology and entomology.



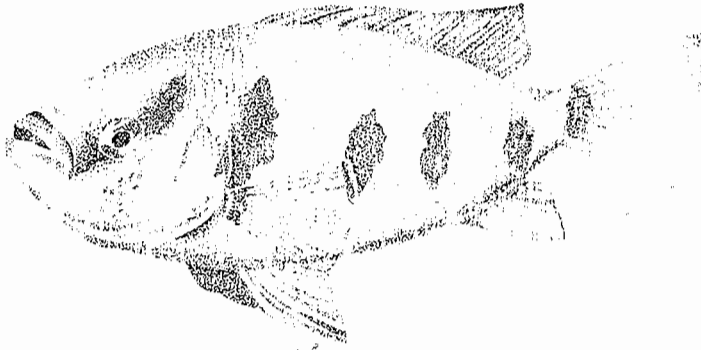
Naiadacarus fashingi, deutonymph

TOP TEN LIST

From the mind and pen of a student in the class,

The Top Ten Worst Things About Genetics:

10. It's got you by the gonads.
9. If you run out of protein, it leaves you stranded.
8. Some theories are a hard cell.
7. Your "genes" might fade.
6. I look too much like my dad.
5. I can't do that nifty tongue-rolling thing.
4. I can't telophase from another one.
3. Waiter, there's a recessive male in my soup.
2. I never metaphase I didn't like.
1. Natural Selection even gets the best of us.



MEETING TIMES FOR CLUBS AND GROUPS

Biology Club tentative schedule:

- Fri 10/11-10/15:* FALL BREAK - camping in Shenandoah
Thurs 10/17-10/20: Colonial Waterbird Society
Tues 10/22: Undergraduate research discussion
Sat 10/26: Bird Seed Sale - 7:30 am
Tues 10/29: Autopsy Film
Sat 11/2: Hack box repair
Tues 11/5: TBA

Biology Club - Tuesdays at 7:30 pm - Millington 117

Bird Club - Wednesdays at 7:30 pm - Millington 117

Campus Conservation Coalition - Thursdays, 7:30 pm, Rm 117

NICHE staff - Fridays, 3-3:30 pm - Biology Conference Room E⁴ (faculty-student informal lunch/discussion group on Ecology, Ethology, Evolution, and Endocrinology) - Wednesdays at noon Biology Conference Room

MCDB (faculty-student informal lunch/discussion group on Molecular, Cellular, and Developmental Biology) - Mondays at noon - Biology Conference Room

Department Seminars - Fridays at 4:00 pm - Millington 117 (usually preceded by a reception at 3:30 in Biology Library)

Let us know of other groups' meeting times.

Letters to THE NICHE

Please address your questions, comments, and suggestions to THE NICHE, Biology Department --or drop them off at our mailbox in Millington Hall.

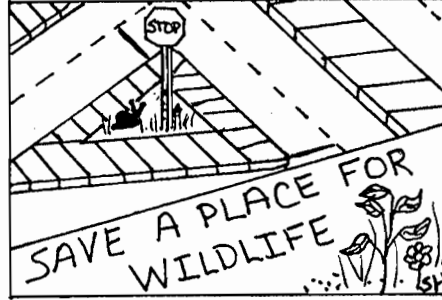
As a biology major, I am required to take four semesters of Chemistry. If I elect to apply eight of my Chemistry credits toward Biology, do I have to transfer credits from my first two semesters, or can I choose the two semesters in which I received the best grades? *This question won't apply starting with those students who declare a Biology concentration this year, because Chemistry hours will no longer count toward the Biology major. This is in keeping with the general practice in other science departments. However, for those already-declared majors it is an important question. First off, only those Chemistry credits a student applies toward the major will figure in the Biology QPA. If a student does not apply Chemistry credits to the Biology major, the Chemistry grades do not figure in the Biology QPA. Of course, the Chemistry credits must come in complete courses (i.e., you cannot count one credit out of a three-credit course for your Biology QPA). Also, the Dean, Registrar, and Department have agreed that you cannot pick your best grades. Up to eight hours can be used, beginning with the most advanced course and working backwards. That is, if you use just one credit it will be the last laboratory, three credits will be the last lecture, four the combination of those two, etc. LW*

Are beginning undergraduates allowed to do research with a professor or do we have to wait until our junior or senior year? *Any student is "allowed" to do research with faculty. First you have to find a faculty member to work with, and, if you want to receive credit (Biology 403, Research in Biology for example), your program must be approved by the Department's Honors and Undergraduate Research Committee. Dr. Black is the Chairman of that committee. If you are interested in doing research you should talk to professors and perhaps see Dr. Black or Dr. Wiseman for information on the process and lists of faculty research interests. Both of them have samples of faculty research papers. Also, you might want to check the display case right next to Millington 117. The center area shows title pages from faculty publications which can give you an idea of the kinds of things faculty and students do. Talking to other students who are working with faculty, or have worked with them, is also a good idea, as is talking with people in the Biology Club. The best advice is to find something and someone you're interested in. LW*

Which professors would be free to do research next semester? *Every professor in the Department has had students do research in his or her laboratory. Sometimes the limiting factor is the number of students presently working with a particular faculty member. If the professor has six or seven students, adding another may not be the best thing for the others because of space and time considerations. But every faculty member will be willing to talk to you about the possibility of doing research and can help you make choices about what you might want to try. LW*

Can I get a job after I'm out of here with a Biology degree? *Yes!! Our students are very successful in the job market. An alumni survey showed that close to 90% of our graduates have jobs related to Biology. This is in addition to the lawyers and other professionals who majored in Biology because they liked it. About 80% of our students go on for advanced studies of one kind or another (50% at the Ph.D., M.D., D.D.S., D.V.M. level). LW*

BIOSPHERE



The Nature of Ansel Adams On View at William & Mary

by Chris Beck

The other day I managed to pry my nose out from between the pages of my Ecology book to go see the Ansel Adams exhibit at the Muscarelle. I thought it would be the liberal arts thing to do, since that is the type of education we are supposed to be getting here at William and Mary.

When I began looking at the photographs, I was in my "art history mode." I noted to myself Ansel Adams's use of composition, texture, and contrast. He took scenes from nature and made them into art forms. It was only after I had almost finished looking at the exhibit that I realized Adams was searching for more than art in nature; he sought an understanding of nature and an understanding of man in nature.

How is Adams different from any biologist? Perhaps just in his approach. Sometimes it seems that as biologists or biology students we get too caught up in the texts, the lectures, the journals, and the lab work to realize why we do what we do. Of course there is always the debate as to which is more important -- organismal or molecular. Again, this is just a matter of approach. No matter how we approach it, I think all of us are seeking in our own way to understand the biotic world, the nature, that surrounds us. Whether we were first inspired by a walk through the woods or a gaze through a microscope, it does not matter; we are trying to understand that which awed us for the first time.

Ansel Adams found through his photography an understanding of nature that we are finding in our labs or in the field. The exhibit inspired me once again to understand the nature that surrounds me, to sit down again with my Ecology book and plug through the reading, to do the labs, and to study for the tests. I would urge everyone as biologists and biology students to go see the exhibit -- to see if Ansel Adams has captured on film that which has inspired you to search for an understanding of the world that surrounds you.

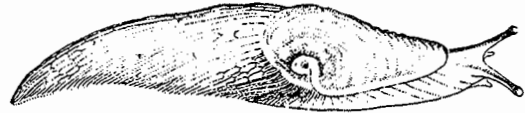
William and Mary Tulips For Sale

A yellow and pink tulip has been developed to commemorate the 300th anniversary of William and Mary as rulers of England - just in time for our 300th anniversary, too! If you are interested in purchasing William and Mary tulip bulbs or other bulbs on sale through the Biology Department, contact **Dr. Mathes** in Millington 214 before Oct. 31st. The profits from the bulb sale benefit scholarship endowments and provide funds for the academic program associated with the Millington Hall greenhouse. Remember - flower bulbs make excellent gifts!

Bio Club Members Attend First International Rain Forest Conference

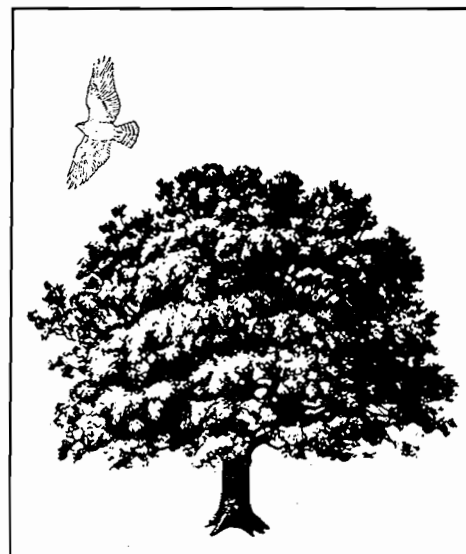
From September 27 - 29, Clayton-Grimes Biology Club president **Chris Beck**, Bioclub member **Michael Stebar**, and Campus Conservation Coalition member **Sehang Suy** attended the First International Rainforest

Conference at Princeton University. The conference was a gathering of hundreds of students from across the United States and Canada. The students learned about the issues surrounding deforestation in tropical rainforests and how this trend can be curbed. Keynote speakers included Osmario Amancio Rodrigues, representative of the National Rubber Tapper Council of Brazil, Gordon Cragg, director of natural products for the National Cancer Institute, and Thomas Lovejoy, the assistant secretary of external affairs for the Smithsonian Institution and an environmental advisor to President Bush.



YES, Millington Hall recycles!

With the help of **Mrs. Thomas**, the Biology Club, and the William & Mary Recycling Organization, Millington is able to house a full-service recycling center at the bottom of the main stairwell (near the elevator). In addition, bins for aluminum



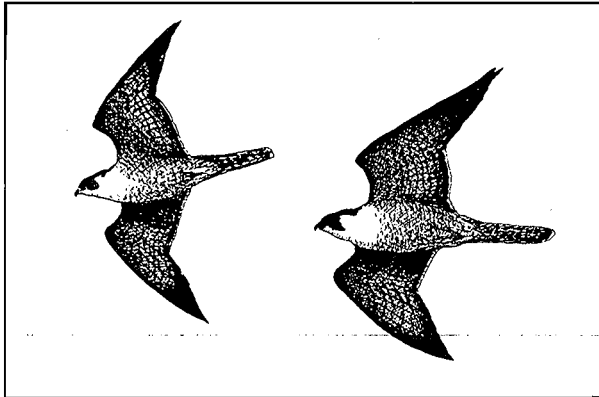
cans are located on each floor in the main stairwell, and in Millington 150. We recycle aluminum cans, aluminum foil, newspapers, glass, plastics number 1 & 2, paper, and cardboard. Sorry, Williamsburg recycling center does not accept plastic bags and telephone books. All we ask is that items be clean and sorted into the appropriate bins!



A Hacker's Summer

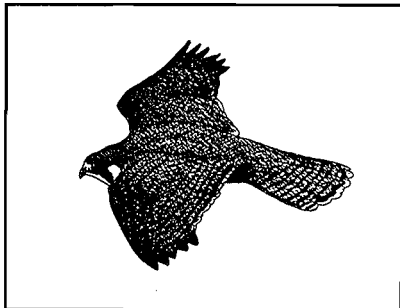
by Amanda Allen

In his book *The Peregrine*, J.D. Baker speaks of the peregrine falcon as "that crossbow flinging through the sky." Having spent more than three months last summer and another two months the previous summer watching the antics of immature falcons I heartily agree with his description of these winged comets. Infamous for their breathtaking speeds of 100 plus m.p.h., the peregrine falcon has been admired since medieval times for its beauty and flying prowess. While the peregrine's scythe shaped wings and facial moustache make it quite distinctive, "birders" and others have had little opportunity to see them in the wild. Peregrines are yet another of the species almost extirpated due to human activity, and have been added to the endangered species list.



Nest surveys held in the 60's revealed that all of the 300 plus nesting pairs east of the Mississippi were inactive. Analysis of egg shells demonstrated tremendous levels of toxins, especially DDT, which, because the falcons reside at the top of the food chain, quickly accumulated and resulted in egg shell thinning and chick mortality. Fortunately, reintroduction efforts could be taken, which is not usually the case in wildlife conservation efforts. In the early 70's Tom Cade, working out of Cornell

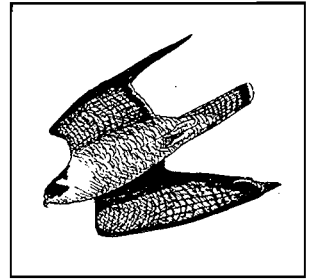
University, began a captive breeding program and founded the non-profit Peregrine Fund, Inc. provide birds to states across the country for reintroduction into the wild through a process called hacking.



Hacking involves taking the birds at about 28 days of age and placing them in a wooden hack box until they are capable of flying. At this point they are released (the process is much more intricate than it appears) and, though first flights are a bit wobbly, within a week the falcons are zipping about chasing both one another and unwary ravens and butterflies. While flying is quickly mastered, the youngsters are unable to hunt for themselves and must be fed by attendants until they disperse from the site.

Under the direction of Dr. Mitchell Byrd of the Biology Department, Virginia first began a hacking program on the barrier islands. More than 110 falcons have been released since 1978. The program then shifted to the mountains where the falcons historically nested on rocky cliffs. This year, 23 immature falcons were successfully released at sites funded by the George Washington National Forest/Department of Forestry and Shenandoah National Park, both in coordination with the Virginia Department of Game and Inland Fisheries. The sur-

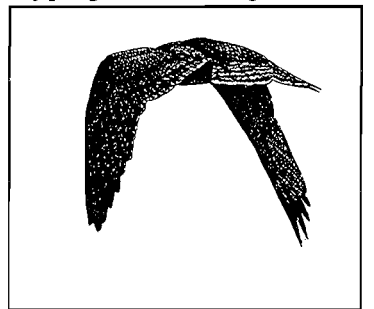
vival of the birds depends upon constant monitoring, and an integral job is that of the hack site attendant (affectionately called a "hacker") whose responsibility it is to monitor and feed the falcons. On a mountain top this typically includes learning how to string a bear bag without getting the rope stuck up in the tree or having the rock fall on top of your head. All of the sites this summer were staffed by William and Mary students including Britt Argow, Tama Cathers, Amy Ehr Gott, Ivy Hamby, Brian Nicholson, Steve Saari and Mark Stoetzer, another second year hacker.



With a typical site lasting 7-8 weeks, hack site attendants are a hardy breed sleeping in tents and dealing with any unexpected visitors, be them human or wild. Tales of timber rattlesnakes came from the George Washington Forest sites while the Shenandoah crews, though overwhelmed with hikers, prefer to tell of numerous encounters with the black bear sow and her 4 cubs. My site, which overlooked the Shenandoah Valley, lasted a bit longer than the

others. Quickly dubbed "the international peregrine falcon hack site" it lasted for 3 1/2 months and it is little wonder why my partner and I became endearingly known as "the falcon ladies" of Shenandoah National Park. Not only were two sets of captive bred young released, but also a wild female hatched on the USF&G building in Baltimore, who, due to unusual circumstances, was re-released in the mountains. While post-release "work" days start at dawn and end at dusk, there was plenty of time to hike, "botanize", bird, read (Edward Abbey's *Desert Solitaire* makes for appropriate reading) or just sit on the cliff edge and watch the specks, which only you knew to be falcons, careen across the clouds.

Through reintroduction efforts falcon populations are increasing; West Virginia had its first active nest in the mountains this year and a Virginia released bird from two years ago is one of a pair in Pittsburgh. Paradoxically, while populations remain in jeopardy, the east coast recovery program is drawing to a close due to lack of funding. Dr. Byrd, who logs hundreds of miles each year looking for and monitoring peregrines, hopes to continue the program at least another year if a donor can be found to fund the cost of the site.



Some might say that three and a half months is an eternity to live on a mountain top. But, those who say that have probably never seen a falcon. It becomes a passion whose heart, as put by an attendant from the Adirondacks, "lies in knowing how exceptional, solitary, and unlike any other species they are." And, in the overall scheme of conserving a species which inhabited the hills of Appalachia before any human trails were cleared, my time there was minuscule.

For more information or to get involved in the peregrine reintroduction effort please contact Dr. Byrd.

Biology Majors Receive Major Awards At Commencement In May

A number of graduating Biology majors received major College and Departmental awards at last May's commencement, including two of only three student awards presented annually by the College President at graduation ceremonies.

Ken Callicott was a co-winner of **The Lord Botetourt Medal**, awarded annually to the graduating senior at the College "who has attained the greatest distinction in scholarship." Ken accepted the award from President Verkuil to the applause of his fellow graduating seniors and their families and friends. This is the most prestigious student academic award given by the College.



Ken was also a co-winner of the Department's Phi Sigma Award for Outstanding Biological Research for honors work with Dr. Charlotte Mangum. He won a rare Howard Hughes Medical Institute predoctoral fellowship and is now working on his Ph.D. at Stanford University.

Jennifer Thorne received **The James Frederick Carr Memorial Cup**, awarded annually "on the basis of character, scholarship and leadership" to one outstanding all around student. The award was established as a memorial to a former student at the College who lost his life in World War I. Jennifer is attending University of Virginia Medical School.

Wes Farris received the first ever **Cornell Award**, given by the Biology Department to a "most promising premedical student." Recognition includes a cash award generated from the Albert and Phyllis L. Cornell Premedical Student Award Endowment, established by gifts from the Cornells, family, and friends in honor of Dr. Albert Cornell, a 1930 William and Mary graduate who received his M.D. from New York University and went on to a fulfilling career in New York.

Elizabeth Crone won the **Baldwin and Speese Memorial Award**, given to the graduating senior in any field whose studies or activities have contributed to our knowledge of natural ecosystems or individual plant species. This award comes from an endowment established by Mrs. Christine Kurtz Fuerhoff, Class of '80, to honor the memory of Professors John T. Baldwin and Bernice M. Speese (both class of '32), longtime faculty in the Department of Biology. Elizabeth is working toward her Ph.D. at Duke University.

Wendy Taylor was co-winner along with Ken Callicott of the **Phi Sigma Award for Outstanding Biological Research**. She did honors research in molecular genetics with Dr. Greg Phillips. Winner of a National Science Foundation Predoctoral Fellowship, Wendy is working toward her Ph.D. at Duke.

Michael Vives was the first winner of the **Clifford E. Henderson Premedical Studies Award**. Given in honor of Dr. Henderson, now on the College's Health Center staff, through an endowment established by his patients on the occasion of his retirement from private practice in 1990, the award in the form of a book appropriate for medical school studies goes to a promising graduate going on to medical school. Michael has just begun medical school at the University of Pennsylvania.

- **Plans for a Biology Alumnae/i celebration in conjunction with the Tercentenary are well under way. Alumni responses to the Department's questionnaire indicated considerable interest in both Homecoming and Charter Day festivities, so the Department is planning activities for both. Alumni should keep their calendars open on either or both February and October 1993!**

Students Do Summer Research In Molecular Biology

This past summer, six Biology students were awarded research fellowships in molecular biology. These fellowships were sponsored by a large grant to the Department and College from the Howard Hughes Medical Institute.

Mike Fitch worked at the Chemistry/Toxicology department of VIMS. Mike investigated the incidence of cataracts in fish from the polluted Elizabeth river. Mike's work included growing eye lens tissue in culture and determining the effects of sediments taken from the river on fish held in tanks. Mike worked with **Dr. Faisal**.

Jennifer Isenhour also worked with Dr. Faisal. Jennifer characterized an established cell line, the Atlantic Manhattan liver cell line. She used attachment factor tests as well as kinetic studies on DNA, RNA and protein synthesis as part of her research.

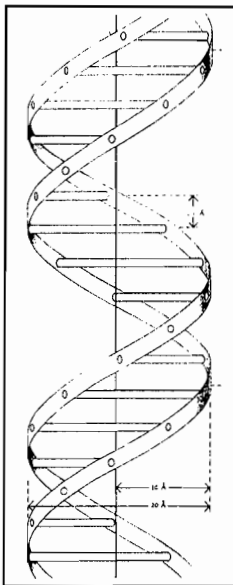
Lisa Jones spent her summer working in **Dr. John Graves'** laboratory at VIMS. Lisa used restriction fragment analysis of mitochondrial DNA to study the population structure of Weakfish along the atlantic coast.

John McKinnsey worked with **Dr. Greg Phillips**. His research involved extracting and digesting DNA, and reconstituting it into plasmids to be inserted into new cell lines. John's research was part of an ongoing project and he is continuing his work this semester.

Working with **Dr. Robert Black**, **Melissa Nazareth** studied the effect of salinity changes on jellyfish polyps and the relationship of these changes to protein synthesis. Melissa utilized protein labelling with phenylalanine and uridine, gel electrophoresis, protein synthesis inhibition and sodium/potassium pump inhibition techniques during her research.

Frank Probst investigated site directed mutagenesis in *Escherichia coli*. Frank conducted his research with Dr. Phillips, with whom he continues to work this semester.

Another biology student, **Nick Diprospero**, was awarded the Llanzo-Sherman research grant. Nick studied spinal tissue regeneration with **Dr. Lloyd Guth**. Their findings will be published in *The Journal of Experimental Neurology*.



---- ORGANIZATIONS ----

The William and Mary Recycling Organization (WMRO) is another environmental group on campus. The WMRO is responsible for much of the pick-up of recyclables and organization of the program on campus. Every Monday at 7:30, the WMRO meets in Small Hall room 152. Students are invited to attend. Every Saturday interested people meet at 9:00 in the Campus Center lobby to help with the pick-up. In addition, WMRO organizes two Comprehensive Day recyclable drop off points: one at Crim Dell and the other at William and Mary Hall parking lot trailer. All students and community members are welcome to bring their recyclables at either drop-off point. For more information, please call the WMRO office at x12563 or contact Marcy Rockman at x16231.

SUB (Students United for the Bay) is an organization aimed at preserving the Chesapeake Bay. Club meetings are held every other Wednesday night at 7:30 pm in the Campus Center, room C. Fall activities consist of a beach sweep, a sunset hike at York River State Park, and a canoe trip down the James River. Also, Dr. Byrd of the Biology department plans to speak about ospreys. For further information about the club, contact Kurt at 229-6419 or Nancy at X-0689.

The Outdoors Club offers students and faculty the opportunity to engage in high adventure outdoor activities. Fall semester trips include white water rafting, a ropes course, camping on skyline drive, and spelunking. No experience is required. Meetings are generally held monthly on Tuesday evenings at 6:30 pm in Small 102. For further information, contact Laura at X-4301 or Christina at X-4014.

The Campus Conservation Coalition is an environmental action group concerned with educating the college and the Williamsburg community about ecological and environmental issues. The current fall schedule of activities includes:

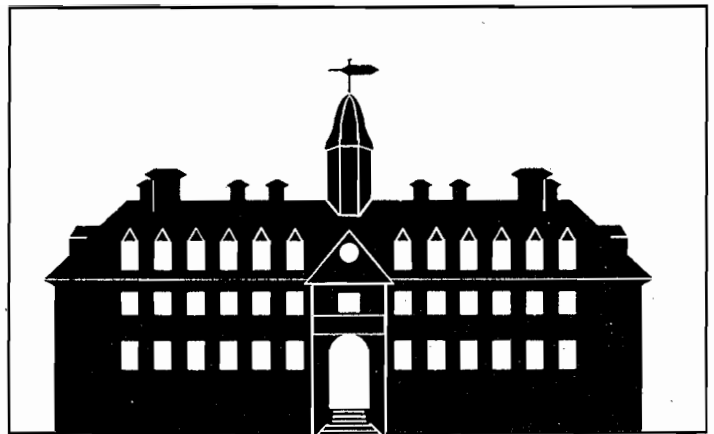
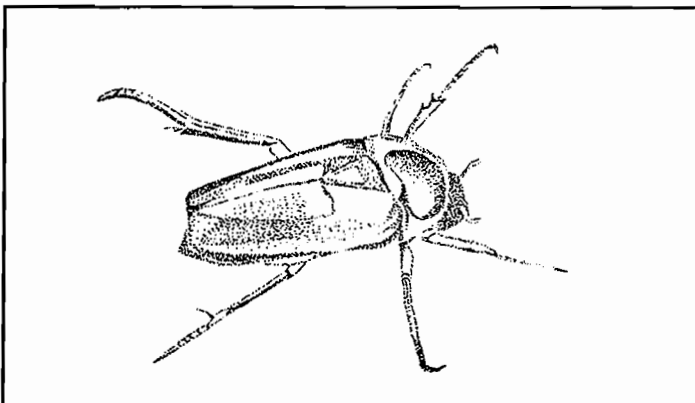
October:

- Fall Break: Camping trip to the Shenandoah
- Thursday 24th: Guest speaker, Dr. Lee
- Saturday 25th: Campus Restoration Project
- Thursday 31st: Vegetarian Dinner in the Greenhouse

November:

- Saturday 2nd: Trip to the National Zoo
- Thursday 7th: Movie, *The Black Circle*
- Saturday 9th: Adopt a Highway
- Thursday 21st: Eco-Shopping Spree

Anyone interested in more information or participation contact Angie at 253-7924. Meetings are held on Thursday at 7:30 PM in Millington 117.



Department Welcomes New People

Dr. Bryan Watts has returned to William and Mary as a Research Assistant Professor after finishing his Ph.D. this summer in the Department of Zoology, University of Georgia. Bryan received his M.A. in Biology in our Department in 1987, working with **Mitchell Byrd**. He will be studying the composition and distribution of wetland bird populations in Virginia with a grant from the Virginia Department of Game and Inland Fisheries.

Teaching Immunology this Spring will be **Dr. Beverly Sher**, a Cal Tech Ph.D. with postdoctoral experience at Stanford and Washington Universities. She has worked on transplantation antigen gene sequences and lymphocyte homing behavior. Dr. Sher's husband, Mark, is a member of the College's Physics faculty.

Dr. Zhang Zi-Yin of Beijing, China arrived in September to spend two to three years as a visiting scientist in Dr. Lloyd Guth's laboratory. Dr. Zhang obtained his medical degree in 1983 from the Beijing Medical University and completed postgraduate surgical training at the Mafang Center Hospital in Beijing. He continued postgraduate training in neurobiology at the Capital Institute of Medicine after which he was appointed to the research faculty in the Department of Neurobiology. In 1989 he won the Beijing Municipality Award for Advanced Science and Technology. He will continue his research in collaboration with Dr. Guth and will lend his special expertise to some of the undergraduate research students in Guth's laboratory.

Six new graduate students have begun studies toward the research M.A. in the Department. Three of them are William and Mary graduates: **Steven Goss**, '91; **Matthew Harrison**, '87; and **Craig Tumer**, '89. **Daniel Shelly** comes to us from Lehigh University in Bethlehem, PA, **Minh Nhu Tran** is a 1990 graduate of VCU, and **Christina Wilson** graduated from Bard College in Annandale, New York last Spring.

Responding to a NICHE questionnaire to new students, **Matt Harrison** says he plans on medical school after completing the M.A. Following graduation from W&M with a double major in Biology and Studio Art, Matt spent two years doing research in Pediatric Leukemia at Johns Hopkins University, followed by a year in Colorado, and a year working at Duke University on the molecular genetics of Alzheimer's Disease.

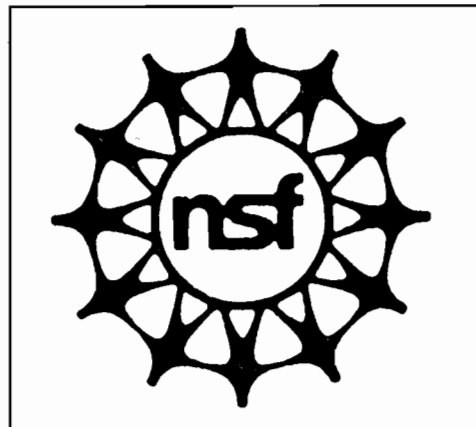
Minh Tran worked as a clinical lab assistant in a small Richmond hospital following her graduation in 1989 with a Biology major at Virginia Commonwealth. Of her first month in the Department, she says "I like it a lot so far."

Deadlines Approach for National Fellowships: W&M Biology Students Traditionally Do Well In Competition

Biology students have been successful in past competitions for the most prestigious predoctoral fellowships. More than any Department at William and Mary, our students have won such awards as National Science Foundation graduate fellowships. These awards are wonderful because they not only pay tuition, fees, and living expenses while in graduate school, they also allow the student to take the award to any graduate program in the country.

Please check the left-most bulletin board across from Room 117 for fellowship, workshop, course, and job information, or see Professor Wiseman in Room 104 for information and application forms.

- November 8th Deadline: Howard Hughes Medical Institute Predoctoral Fellowships in Biological Sciences; National Science Foundation Graduate Fellowships; National Science Foundation Minority Graduate Fellowships; Ford Foundation Predoctoral and Dissertation Fellowships for Minorities:
- March 1st, 1992 Deadline: National Cancer Institute Student Research Training Program (for undergraduates in summer research at NCI)



~ ~ Some Faculty and Graduate Student ~ ~ Summer Activities

Second year grad student **Tim Boyer** worked with **Dr. Terman** on female reproductive inhibition in white-footed mice. Over the summer he set up treatment groups to test the level of reproductive inhibition in two populations of mice (one from Michigan and one from Virginia) in response to the presence or absence of an adult female.

Graduate student **Craig Bailey**, who is working with **Dr. Joe Scott**, spent much of the summer at the Center for Marine Science Research in Wilmington, NC estimating nuclear DNA content in nine species of red algae. He also attended the 4th International Phycological Congress at Duke University.

Dr. Carl Vermeulen taught the lab portion of a course called "An Introduction to Biology as an Experimental Science" at the University of California at San Diego where he spent the year on research leave. The course was an amalgamation of high school and college students, several high school teachers, and three university professors.

Dr. C. Richard Terman presented three papers with William and Mary students at the annual Virginia Academy of Science meeting. He also presented a paper at the American Society of Mammalogists in Kansas. Most of Professor Terman's time was spent in the woods around the Laboratory of

Endocrinology and Population Biology continuing his ten-year study of population regulation in mice. He did take time, however, to visit Boston and Seattle and a new grandson in each city.

In June, **Dr. Gus Hall** backpacked, botanized, and bird-watched in Big Bend National Park, Texas. He also spent a week in the Sierra Madre of eastern Mexico at the Rancho del Cielo International Biosphere Reserve, a huge wilderness protecting the northernmost tropical cloud forest in the Americas.

Dr. Stewart Ware says he "managed to finish three manuscripts and submit them to journals." He did mow half his yard, but failed once again to get around to painting his house....

Dr. Sharon Broadwater taught in the Governor's School in Science and Technology. She also spent time in California learning new molecular biological techniques.

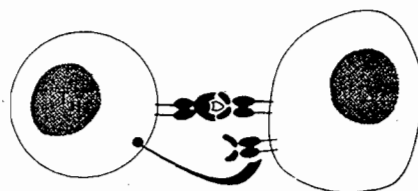
Dr. Lawrence Wiseman also taught in the Governor's School. He attended an NSF-supported workshop on Rocky Mountain Ecology at the University of Denver High Altitude Research Laboratory on Mt. Evans, Colorado, after which he managed to squeeze in a few weeks in the four-corners area of Colorado/New Mexico/Arizona/Utah.

Students AIM to Restore Lake Matoaka Amphitheater

Amphitheater Initiative is a new student led organization founded in the spring of 1991, which is dedicated to the restoration of the Lake Matoaka amphitheater. Meetings are held on Tuesdays at 7:00 in the Campus Center and we have already begun planning long term goals, work days, education programs, and Earth Day ideas. Aim to preserve one of the most beautiful spots and traditions at William and Mary - help restore the amphitheater! For more information please contact Amanda Allen (221-4919) or Jeremy Somer (221-5591).

SPRING IMMUNOLOGY COURSE

Immunology will be offered MWF, 10-11, this Spring as a Topics 404 Course (section 2). Because Genetics and Cell Biology will be prerequisite for the course, permission of the Instructor (or Department Chair is required).



Alumni Prove Biology Degree Opens Up A Whole Range Of Jobs

by Erika C. Shugart

Many people consider the Biology major to be synonymous with "pre-med." In fact, there is a whole range of jobs possible for Biology majors from zoo keeper to writer, and some of our alumni have found them.

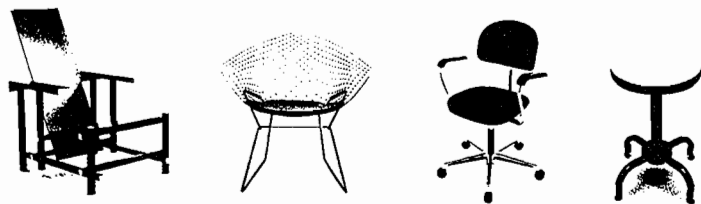
Thomas Driscoll (Class of 1976) works for the Science Museum of Virginia in Richmond. He decides what programs to develop and he researches information for programs to go with special events or films the museum might sponsor. This was not, however, the first thing that he set out to do, which should be a relief to all you seniors who at this point in time are looking at a career as a waiter until you become inspired. Driscoll took a year off down on the Gulf of Mexico, then came back to Williamsburg and worked in an amusement park until he decided that he wanted to go to graduate school and get a doctorate in limnology. It only took a little while at the University of Michigan for him to decide he didn't like Michigan and he didn't want to get a doctorate. After receiving his masters he came back to Virginia to work as a naturalist for Chesterfield county. He designed nature paths for several parks and did the environmental impact statements for these paths. He was then recommended by friends to the museum where he works today. Being able to pursue both his interests in science and education made this job ideal.

Mr. Driscoll says that his studies in Biology and other sciences at William and Mary have helped because they gave him a wide base of knowledge so he knows where to start looking for information and can understand technical journals he must read. "One of the things you learn after college," he says, "is how much you don't know."

Martiscia Davidson (Class of 1974) originally thought that she wanted to go into research, but after a short time in Dartmouth's graduate program she realized that she didn't really like laboratory work. She took a leave of absence and worked as a science writer for the Food and Drug Administration. After her leave of absence she got her master's degree then worked as the first woman executive at a vegetable packing plant in Louisiana while her husband finished his graduate work in computer science. Then, by chance, while teaching at a nanny school she fell into the job that she has today.

She is a free-lance writer who specializes in reviews of toys and games for magazines and newspapers. She gets many free samples of toys every month, and has her two daughters help her in her work. She is also writing a children's book. Although reviewing toys may seem to be unrelated to biology, she says that her biology background has helped her as writer because it taught her discipline and trained her to look at facts and see what conclusions can be drawn from them. Her advice to Biology majors at the college now is to major in Biology because you like it, not because you think it will get you a job that you will want, and also to be flexible because there are more types of jobs out there than you could ever think of in college.

If you are at a loss about life after college then maybe you should talk to alumni. They have been through it before and can most likely tell you where to start looking for jobs you might like to do --plus you might get to hear some juicy gossip about what some of your professors used to do.



"Chair Museum" Free To Public

Nobody'd Pay To See It Anyway

by Chris Beck

A mere year ago with some incredible forethought -- and a little humor -- the Chair Museum was founded by Dr. Wiseman and Dr. Grant. Located on the third floor of Millington, this small, yet fascinating Museum, contains three chairs separated from the hallway by a rectangle of blue tape. It is truly a masterpiece of modern museum curatorship in such financially trying times.

The first piece, the newest of the three, dating from the late seventies to early eighties, is a simple rolling office chair. It is a prime specimen of technology that continues to this day. The grey vinyl upholstery has been impeccably kept. What makes this piece particularly valuable is the absence of padding on the arms and the subtle tilt to the left due to a missing wheel. This tilt is what makes this the epitome of grading chairs, which to many is synonymous with sleeping chairs, for this chair would allow any professor to fall asleep without doing so face down in the stack of papers. A normal sitting position is almost always maintained.

Some evidence suggests the second chair predates Millington, previously residing in a converted Army shack laboratory before the department moved into the new Millington. The age is apparent in that cloth was still used to cover the seat; presumably, vinyl was not invented yet. This relic of days past shows the signs of much wear. The cloth on the front has been worn away to the point where only the stuffing remains. Yet, as always, the rock-hard stuffing is less prone to wear than any substance known. The comfort of this chair has long since past, for the back pad no longer remains.

Finally, the third work acts as a transition piece for the first two, dating most likely from the early seventies. It maintains the same style as the earlier chair, but bursts forth with the new technology of vinyl. Mind you, this is not just any vinyl. This is an enticing deep green vinyl, creating the illusion of a chair of solid malachite. With this the illusion of comfort is obviously created anew. Yet, the stuffing of this chair still reveals itself from beneath the vinyl, as on the earlier model. However, repair technology has increased in that decade, allowing for the vinyl to be taped back together -- with limited success -- with multiple pieces of white tape. This chair foreshadows the newer side-tilt sleeping chairs with its backward leaning design. Although this design provides more comfort than the newer side-tilt varieties, normal sitting position is difficult to maintain. The literature also seems to indicate multiple casualties from people flipping over backwards and landing on their heads. Thus, this design was phased out.

The Chair Museum has just reopened for the season under new management. Go and see it. It's unique among college campuses across the nation. Don't miss this opportunity to share in the history of chair technology.

At William & Mary There Is Almost Always A Fungus Among Us!

by Cathy Urnine

Have you ever stopped to wonder just what life forms share your dorm room with you? Biology at William and Mary is not limited to the outdoors and classroom alone. Besides bed mites, fleas, and cockroaches, the dorm room is a wonderful habitat for fungus.

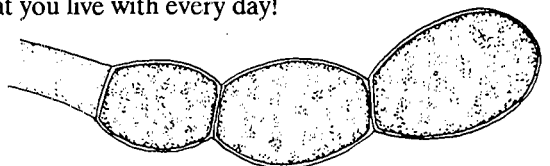
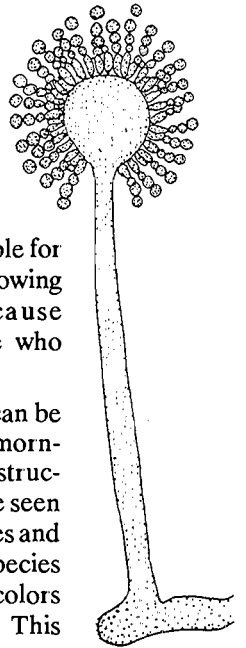
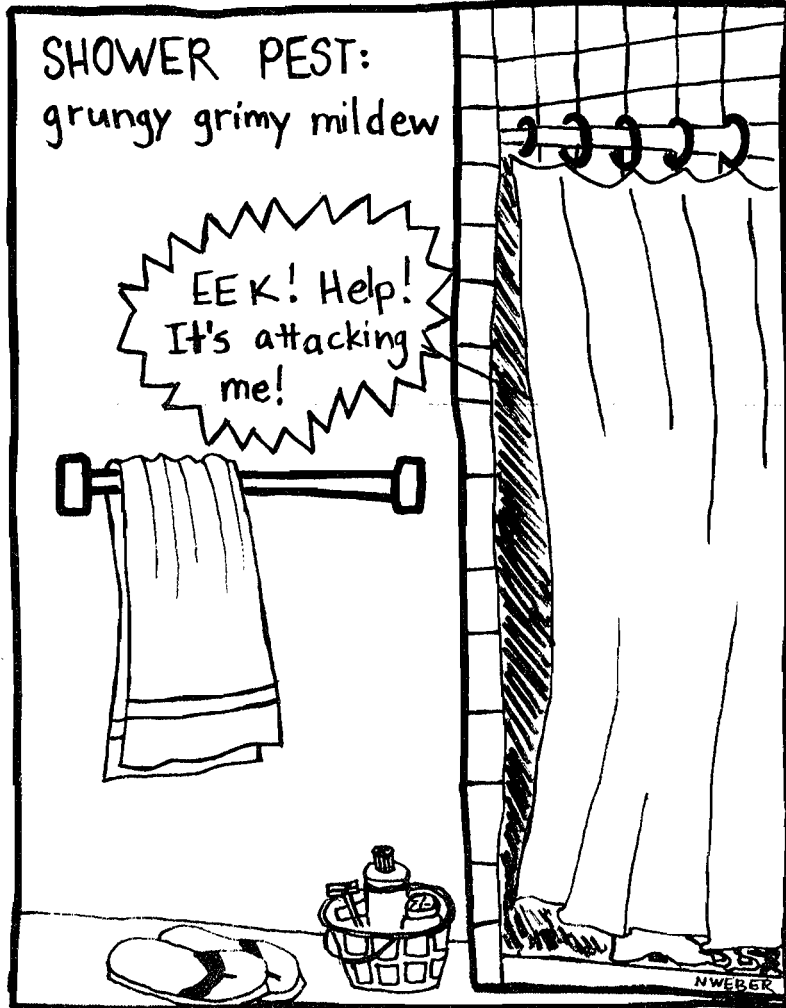
The fungus that lives in dorm rooms is generally lumped under the broad term of "mildew". Mildew specifically describes saprophytic fungi, the kind that obtains foods by absorbing dissolved organic material. Mildew grows on clothing, canvas, walls, and other materials that are valuable to you. Mildew, as my roommate recently discovered, grows especially well in and on large, overstuffed mattresses. The unpleasant, musty smell the mildew created caused her to camp out on the floor for two weeks until a new mattress could be found.

Aspergillus and *Penicillium* are the two most common types of fungus found in dorm rooms, and everywhere for that matter. These fungi create incredible amount of spores because for each conidiophore, or stalk, of *Aspergillus* or *Penicillium* there are hundreds of spores waiting to be freed. These spores travel through air conditioning and heating vents and can remain viable for many years. And along with growing mildew, these spores can cause respiratory problems in people who are allergic to them.

Aspergillus and *Penicillium* can be best seen in your shower every morning. The hyphae or filamentous structures that make up the fungus are seen as patches of "scum" in tile crevices and on shower curtains. Different species of *Aspergillus* come in different colors and can be identified this way. This mildew is making use of ideal temperature, light, and moisture conditions found in the shower. Effective antiseptics for getting rid of shower mildew are zinc chloride, copper sulfate, and anilide of salicylic acid. A lack of water will quickly kill the fungus, but not the spores.

The shower floor with its pools of water is a suitable place for the fungus *Trichophyton mentagrophytes* to live and proliferate. This fungus is in the dorm room because it likes your feet. Athlete's Foot, as it is called, is a common and unpopular disease that causes itching and scaling of the skin on the feet. Because of the public showers athletes often use, this fungus can hop from one person to the next.

Fungus makes a very profitable living using you and your dorm room as room and board. Spend some time getting to know these interesting and far out life forms that you live with every day!



Students: Win \$10 Gift Book Certificate

Last year THE NICHE asked Biology faculty what three books have been most influential in their lives. Eleven faculty answered and their lists were published in the newsletter. Now we'd like to ask our students the same question: **What three books have most influenced your life?**

We will list the books mentioned anonymously, but if you include your name with your "vote" we will have a drawing:

- **The winner will receive a \$10-gift certificate for a book at the College Bookstore.**

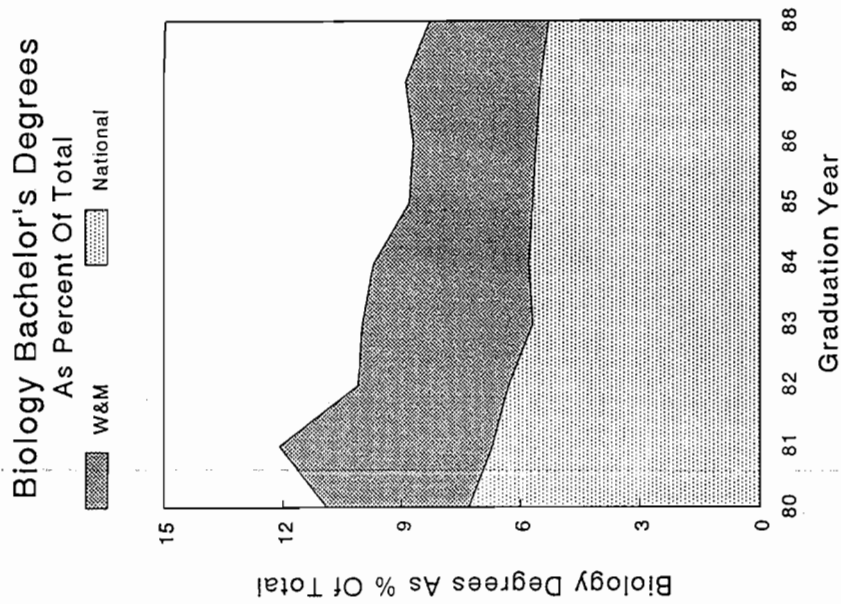
Send your entry by campus mail to THE NICHE, Biology Department.

Your Name: _____

Three Books: _____

THE NICHE

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College of William and Mary



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PRE-SORTED
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