

MOUNTAIN LAKE ECHOES



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MOUNTAIN LAKE ECHOES

1963

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A MESSAGE FROM THE DIRECTOR

I should like to take this opportunity to announce that Dr. J. James Murray, Jr., of the Biology Department at the University of Virginia, will be the Director for Mountain Lake next summer. Dr. Murray took his undergraduate studies at Davidson College and his doctorate at Oxford University. He is teaching courses at the University of Virginia in evolution and genetics of populations, and his particular interest is in the ecological genetics of land snails.

Dr. Hobbs has asked me to let you all know that there will be a Mountain Lake alumni breakfast at the December meetings of the AAAS. The time and place of the breakfast will be given in the AAAS program.

My thanks to you all for your help and cooperation this summer.

Sincerely yours,

James L. Riopel
Director

JUNIOR AND SENIOR INVESTIGATORS

Dr. Robert K. Burns - Bridgewater College. -- Continuation of study concerning the opossum. Working on the Station trails.

Dr. Thomas C. Cheng - Lafayette College.
 Randall W. Snyder, Jr. - University of Virginia
 Alan Blumenthal - Lafayette College
 Arthur Rourke - Lafayette College

Carbohydrate and lipid metabolism in five species of freshwater snails which had been experimentally infected with larval trematodes. Biochemical identification and localization of various enzymes in larval and adult trematodes were also studied.

Dr. L. R. Cleveland - University of Georgia.
 Bruce Cleveland - Johns Hopkins University

Continued investigations pursued in previous years.

Dr. Theodore Eaton
 Osteology and myology of Plethodontid salamanders, and action of muscles.

Peter Finlay
 Study of Babesiosomer jahni in the newt.

Dr. Harry L. Holloway, Jr. - Roanoke College
 Helminths of Mt. Lake mammals

Hugo James
 Investigations into the biology of a tapeworm Mesocestoides.

Dr. Charles Miller - University of Maine. -- Survey of aquatic phycomycetes.

Dr. G. R. Noggle - University of Florida. -- The isolation and identification of lichen substances which may be useful in taxonomic and ecological studies.

Dr. Alma T. Walker - University of Georgia. -- Some of the Cladonia, Usnea and Parnelia species of lichens were examined by microchemical tests and paper chromatography for the phenolic compounds they make. Representative flora were collected and identified.

Miss Lucile Walton - Danville, Virginia.

Dr. Ivey F. Lewis - Charlottesville, Va.

Comparative study of mite, midge, and cynipid galls.

Miss Margaret Walton - Danville, Virginia

Dr. Horton H. Hobbs, Jr. - U. S. National Museum,
Washington, D.C.

Continuation of the survey of the crayfishes in the
Mt. Lake area and their ostracod associates.

By Becky Black

Bryology was taught this summer by one of the foremost bryology personalities in the world, Dr. Rudolph M. Schuster. Although many long hours were spent in lecture and in the laboratory, most of our work was done in the field.

Highlighting our trips in the field was a four day camping trip, via the Blue Ridge Parkway, to the Black Mountains and Mt. Mitchell in Western North Carolina, and on into Tennessee to Roan Mountain. Also on our summer itinerary was a two day trip to White Top Mountain and Mt. Rogers, in Virginia.

Lectures centered almost entirely about evolution and classification of the mosses and liverworts. Laboratory periods saw us busily sorting our newest collections, preserving some of them, and keying some of them.

Members of our class were Ashby Coffindaffer and Marvin Scott of Virginia, Joe Keller of Pennsylvania, and Lloyd McFarland of Texas - all graduate students. The undergraduates were Mary Ann Bowman and Becky Black of Virginia, and Brownlee McKee of Illinois.

ENDOCRINOLOGY

By Martha Griffith and Ed Allport

The Endocrinology class consisted of Martha Griffith, Joe Smiddy, Ed Allport, and Bill Campbell. Each day promptly at 9:00 a.m., we appeared for class ready, willing and sleepy. After a stimulating lecture by our learned professor, the venerable Dr. B. E. Frye, the morning routine began. Before long, all students were experts at injecting potent hormones into unwilling rats. Operations, both successful and unsuccessful, were carried out daily - as were dead rats.

Experimental investigations were conducted on the adrenal, testis, ovary, thyroid and pituitary gland. Emphasis in lecture was placed on the interpretation of historically significant experiments, such as the one in which "No Toes" died. Extensive field work was carried out daily after supper at the volleyball court. Great strides were made in this area because of the diligence of the noted Dr. Frye.

In the midst of the term, Joe Smiddy, being both a scholar and a gentleman, recognized the difficulties forthcoming with the assignment of large numbers of lab reports and undertook to alleviate the problem by securing a secretary. This he did on the afternoon of July 6 when he entered into the blissful state of matrimony. Other members of the class were unable to achieve such efficiency.

After the final exam, we left the lab taking pleasant memories and fond friendships with us.

ICHTHYOLOGY

By Ashby Milstead

With "Shall we gather at the River" as our theme song and our colors as olive and silver, we of the Ichthyology class had a fine semester studying fresh-water fish under the fatherly guidance of Dr. W. J. Woolcott of the University of Richmond. We are happy to report that we survived near drownings, snake bites, and frost bitten toes from the cold mountain streams. In spite of these minor set-backs, Dr. Woolcott was heard to remark that the class was progressing nicely with some members even learning to spell generic and specific names properly at times.

The members of the class included: William McCall, James Sheldon, Ashby Milstead, Barbara Holden, Bill Mathis, Karen Brandtoft, Leroy Janies, Shirley Whitt, and Dick Ailstock - and a good time was had by all.

ORNITHOLOGY

By Pat Chisholm

Professor Maurice Brooks taught the 1963 Ornithology class this summer which was composed of Carole Massert, Barbara Conta, Kathy Dearborn, Maeve Maurer, Bonnie Cleneay, Pat Chisholm, Tom Olsen, Howie Miller, and Jack Kille.

The daily routine consisted of a morning field trip and then an afternoon class, after which each member of the class went to his respective spot to observe his respective bird on which he was doing his respective paper. Each day's observance brought forth many interesting questions: Will Barbara's chestnut-sided ever hatch those eggs? - Did Kathy's catbird really eat that peanut butter? - Have Maeve's chipping sparrows left home?

Howie's paper was originally planned to be on the cardinal, but the one he found was a "bit of a stuffed shirt" and not much fun to observe. Tom's bill from the hotel for front-porch rent was a little high, but his view of the cedar waxwings was well worth the price.

In addition to enjoying the regular lectures and field trips, the class also had the added enjoyment of nights in the upstairs mortuary, Mr. Brooks' gifts of butter mints, and completion-of-the-transection-of-the-mountain celebrations.

The information and attitudes we gained from Ornithology and from Mr. Brooks will not be forgotten. Though we have completed the course, we continue to be challenged by our experiences in the class. This is evidenced by the fact that we are determined to continue onward in search of the beloved bird which became our class symbol - the one and only Giant Forest Cuckoo Baby!

HELMINTHOLOGY

By Rita Rios and Joyce Jaeger

Members of the Helminthology class taught by Dr. Martin Ulmer were Pat Chisholm, Ed Allport, Barbara Holden, Dick Plymale, Lloyd McFarland, LeRoy Janies, Tom Olsen, Rita Rios, Joyce Jaeger, and Joe Smiddy.

Class met in the mornings with lectures and slides, and our own attempts at slide work, while the afternoons were devoted to collecting. Dr. Higgins, a frequent hedder on these trips, called the ichthyology seining techniques "a rave ritual dance of Mountain Lake subnormals" and recorded it for posterity on movie film.

Then it was home to the lab to dissect our animals, declare them clean, turn them over to our Chief and have him find the specimens for us. Came the last week with nematodes, nematomorphs, acanthocephalans to cover, slide collections to amass and classify, and Hugo's mesocestoidesless large mammals to dissect. Here arose the plaintive cries of science fiction, sheer fabrication, and they all look alike. Finally the final exam, car packing, and we left our mountain lake.

INVERTEBRATE ZOOLOGY

By The Class

The course in invertebrate zoology taught during the second summer term was composed of Shirley Whitt, Bill Mathis, Kenneth Esau, and G. E. Matheny. The course was taught by Dr. Robert P. Higgins of Wake Forest College, a "retired" marine master sergeant. The subject of the course ... "non-marine invertebrates ..."

The class spent a fast and furious five weeks looking for various and sundry cryptic invertebrate groups.

Shirley took 195 pages of notes during the five weeks and was great at flushing covies of tardigrades from Little Spruce Bog.

Bill Mathis, in addition to accumulating over 150 vials of invertebrates, was renowned for his frequent discovery of "egg-like structures", which turned out to be, as Dr. Higgins would astutely announce, "eggs!"

"Ken's Kookery or Pauropos Rookery" provoked the curiosity of most visitors to Room 5 at the Lab, but the two large Berlese funnels proved very effective in bringing forth some of the more retiring members of the woodland fauna.

Colonel Matheny, between attacks on flies, managed to accumulate a great deal of material which will have transfer value for his high school kids this coming school year. He was voted an honorary degree in "Irwin Loop Manipulation and Slide Manufacture."

We are grateful to Dr. Higgins who has developed a precise formula for determining the carborundum tolerance of each student and who has the habit of mercifully changing the pace just before the troops crack.

LICHENOLOGY

By Martha Griffith

Members of the lichenology class were Martha Griffith, Sheila Rector, Ken Poff, Dr. Walker and Dr. Noggle. Dr. William Culberson was the professor.

Field trips proved varied and exciting. Ken became the most avid field tripper in the class. He chose as his term project to blaze new trails down the cascades in search of the rare lichen Hydrotheria venosa. He managed to haul fifty-pound

boulders back along with numerous paper bags full of his lichen discoveries. To these, Sheila added at least 180,000 paper bags of lichens from Mt. Lake trees. Martha's project never quite achieved the human-microtome talents exhibited by Dr. Culberson, but she did manage to cut one section only seven millimeters thick.

Of the two auditors in the class, Dr. Noggle will be fondly remembered for his quiet and helpful ways and also for his delightful pyridine aromas as he conducted his chromatographic experiments; and without Dr. Walker's helpful hints, we might not have made it through the term. Her custom-made vial holders will soon be on sale for lichenologists all over the world.

The term was enjoyed immensely by all, and lichens will always have a special place in the hearts of at least three Mountain Lakers.

MYCOLOGY

By Joe Keller

Experiment: Botany sm 207 (Mycology)

Purpose: To introduce the study of fungi through fungal collection, taxonomy, evolution, morphology, reproduction, life cycles, and culture methods.

Materials: Introductory Mycology by Alexopoulos; microscope and accessories; dissecting equipment; vasculum; autoclave (without safety valve); petri dishes; agar; alcohol (95%); and hiking boots.

Procedure: Take Marvin Scott, Ashby Coffindaffer, Bill McCall, Karen Brandtoft, and Joe Keller, and put them in the guiding hands of Dr. Charles Miller. Preliminary procedure should involve the cleaning and sterilizing of at least two hundred petri dishes and the preparation of F13 and M3 agar. Then the class collects water samples to be used in the study of Chytrids and water molds. After an introduction to the fungi, exercises with the use of the microscope, a test, then the study of the Ascomycetes and Basidiomycetes with lectures, lab exercises and collecting trips; then comes the collection and identification of mushrooms. In the meantime, each student should become "intimate" with some phase of Mycology and present a written report. After two more tests, the last phase of this study involves the recleaning of the two hundred petri dishes.

Discussion: It was surprising to see how many cultures can be raised on Marvin's F 13 agar (since he used 73 grams of cornmeal agar instead of 17 grams). Mr. Scott also surprised the

scientific world by proving that the Saprolegneaceae really do have chromosomes. It has also been found that the hotel horse stables are indispensable for a thorough study of the Pilobolus shooting mechanism. Also of note is the fact that there are edible mushrooms, poisonous mushrooms and Russula emetica -- which has its own peculiar taste. This experiment shows that pipes are a prime necessity in fulfilling the course requirements -- cherry being the favored blend of tobacco. Most of this equipment can be found in Ashby's desk drawer.

Picture-taking can be instituted. Aminita verna was found to be an excellent model. Bill even took time out from his Acrasiales to set up the photographic layout (but then he always did have a "twitch" for mushrooms). The instructor must be reminded to give both names for the Hemiascomycetes and to take the class to VPI to see the various types of "shakers."

Conclusion: If the above procedure is followed carefully, all suggestions being taken into consideration, an Introduction to Mycology can be an interesting and rewarding experience.

THURSDAY NIGHT SEMINARS

First Term

- June 20 Dr. William S. Woolcott
 "The Bryozoan Lophopodella Carteri and its
 relation to fishes."
- June 27 Dr. Rudolph M. Schuster
 "Plant Distribution in the Antipodes"
- July 3 Mr. Maurice G. Brooks
 "The Appalachian Mountains"
- July 11 Dr. Thomas C. Cheng
 "The Chemical Physiology of Intiamolluscan Larval
 Trematodes"

Second Term

- July 25 Dr. Charles E. Miller
 "Studies on Aquatic Phycomycetes"
- August 1 Dr. Robert P. Higgins
 "Oblivion: Where the Kinorhynchs Dwell"
- August 8 Dr. G. R. Noggle
 "Photosynthesis"

August 15 Dr. William L. Culberson
"The Life of the Lichens"

SUNDAY NIGHT TALKS

June 16 Mr. Maurice G. Brooks
"Bird Study Today"

June 30 Dr. Robert K. Burns
"The Opossum"

July 7 Dr. Charles E. Miller
"Not only fleas to bite 'em"

July 14 Dr. Alma T. Walker
"Peru and the Andes"

August 4 Dr. Martin J. Ulmer
"Slides on Iowa State Biological Station"

August 18 Barbara Holden
"Slides on Africa"

ENTERTAINMENT

June 22 Treasure Hunt (Chapman)

June 29 Bowling (Elliott)

July 6 Scavenger Hunt (Audubon)

July 27 Movies (Shanty Tavern)
Historic Virginia

August 3 Moonshiners (The Station)

VISITORS

Miss Marjorie Carver and Miss Polly Brooks of Alderman Library, Charlottesville, visited the Station in early June to orient the new librarian and to take inventory of the Mt. Lake library.

Dr. Horton H. Hobbs, Jr. U.S. National Museum, Washington, D.C., spent a week at the Station working with Miss Margaret Walton.

- Mr. and Mrs. Bill Pritchett, University of Virginia.
Mrs. Pritchett, a former librarian, assisted in opening the library.
- Col. R. P. Carroll, Virginia Military Institute
Visited on several occasions.
- Mr. and Mrs. Donald Simmons and family, University of Virginia,
stayed several days at the Station.
- Mrs. James W. Wiltshire, Jr., Lynchburg, Virginia.
Attended one of the Thursday night seminars.
- Miss Mary Lou Woods and Miss Sally DeMott stopped by for a day
at the end of the session.
- Dr. Dean Whittier and family, Virginia Polytechnic Institute,
visited on several occasions.

ECHO NOTES

Mr. and Mrs. George Maxwell, Mt. Lake '60, are presently at Stone Laboratory (Ohio State University) at Put-in-Bay on Lake Erie. George is working on a problem connected with the black-crowned night heron for his doctor's dissertation. They have two sons: Blair - 2 years, and Bruce - 9 months old.

NEWSFLASH!

Ruth Ann Esau, 9 lb. 7 oz. baby daughter of Kenneth and Louise Esau, was born about 3:00 p.m. (we don't know for sure) September 17, 1963, in a Volkswagon in Mechanicsburg, Pennsylvania, en route to the hospital. Ruth Ann, big brother David Lloyd, father and mother are reported recovering from the initial shock of the exciting experience.

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