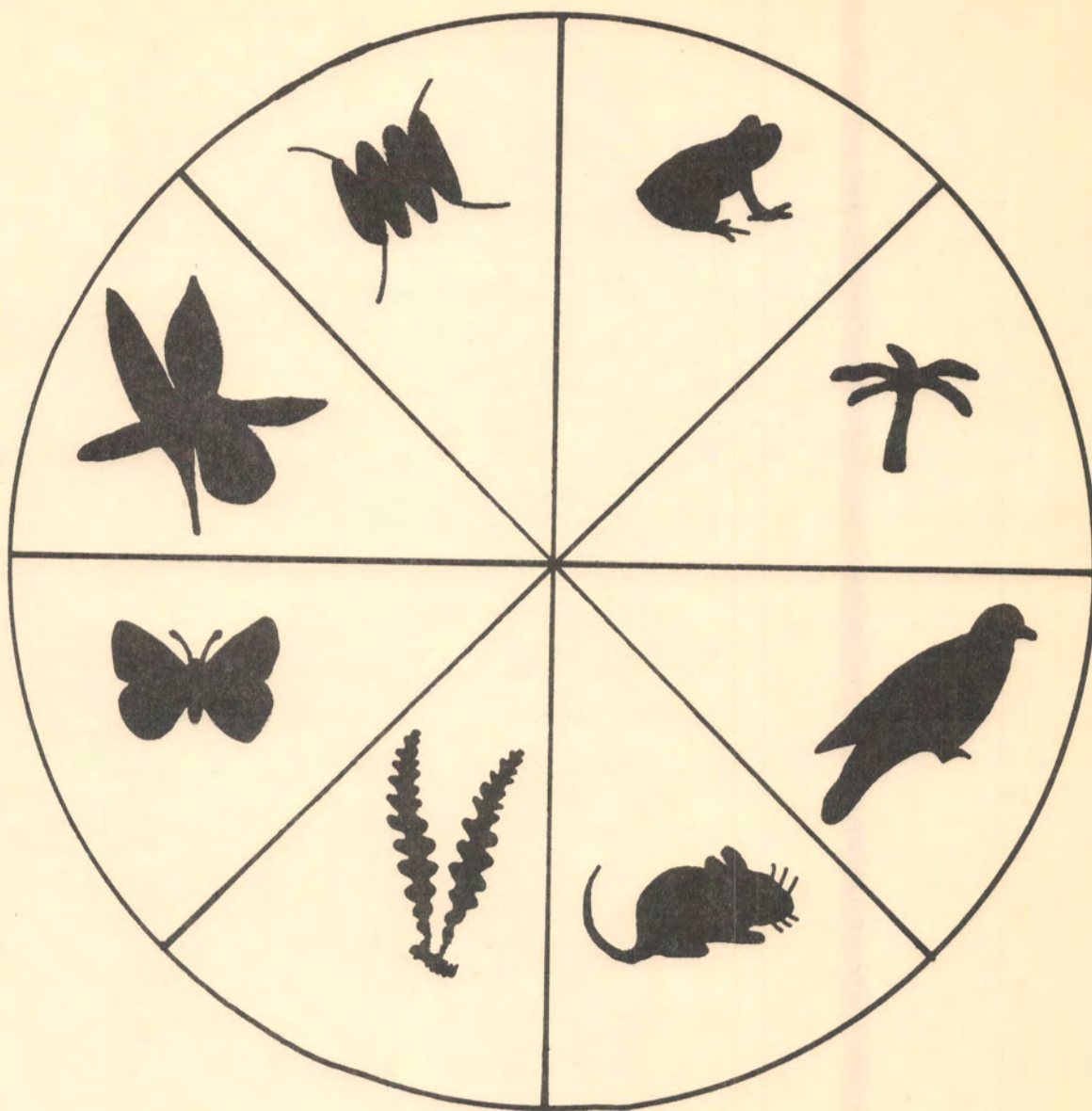


# MOUNTAIN LAKE ECHOES



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MOUNTAIN LAKE ECHOES

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## A MESSAGE FROM THE DIRECTOR

Dear Mountain Lakers:

As the Christmas season again approaches with lightning speed, we send you once more our seasons greetings, some memories from the summer, and addresses for your friends. It was a good summer. A full house has its problems, but it warms the heart to see the Station operating at full steam.

Mountain Lake didn't want to close this fall. After the regular season we were hosts first to a conference of University faculty and student leaders brought together by President Shannon, and then to the Biology Department of the University for a memorable weekend get together.

Plans for next summer are already crystallizing. Jim Riopel has assembled a top-notch staff for next year, so that you will have a variety of courses to choose from.

First Term: (June 16 - July 21)

Plant Ecology	Dr. G.L. Miller	Eisenhower College
Animal Behavior	Dr. R.L. Jeanne	U. of Virginia
Ornithology	Dr. D.W. Johnston	U. of Florida
Experimental		
Morphogenesis	Dr. J.W. Dent	U. of Virginia

Second Term: (July 23-August 26)

Plant Biosystematics	Dr. C.R. Bell	U. of No. Carolina at Chapel Hill
Entomology	Dr. G.W. Byers	U. of Kansas
Principles of Parasitism	Dr. G.B. Solomon	U. of Pennsylvania
Comparative		
Endocrinology	Dr. B.E. Frye	U. of Michigan

The Murrays will be coming up next summer only for the occasional visit, but I hope that we will see you all back again when we are there.

Merry Christmas to one and all,

Jim Murray

## FIRST TERM CLASSES

## PLANT TAXONOMY

The first day of the course we were introduced to the world of cute plants. A small voice from the back of the room said, "But I don't know this stuff!" This cry of anguish continued all the way to Kelly's Flats. A few had difficulty in recognizing plants. However, Bob Lazor recognized the most, because he could not distinguish between herbs and herpes.

Bonnie, our star taxonomist, was attacked by a vicious vine which molested her entire body.

Keying right along, Helen was so vociferous, it was difficult to hear Dr. Evans above her silence.

On the other hand, Ot had a few enlightening anecdotes to brighten up the course.

Most of the class worked diligently, except Emma who labored incessantly and Ray who didn't know this stuff. In fact, Ray was the only illiterate who aced this course.

Double Ann and Single Ann added mirth to the course and Jane's delightful giggle made our day.

Jim provided the ambulance service since the shale barrens defeated two of our members. But Fearless Fred was undaunted.

As the term blossomed on, every member of the class gradually developed binocular eyes from the heavy keying out that was done.

At the end of the term everyone was happy, including Dr. Evans, which can be verified by the after-term party.

Otto Ohmart

## HERPETOLOGY

All of us who took the Herpetology course this past summer admit that life with Harry Jopson had its high points (Whitetop Mountain) and low points (Links Cave), its successes (many and frequent) and failures (the shale barrens, or the futile search for a lizard). To complement these group expeditions, we also undertook individual projects. Some of these were: Obtaining some a-maze-ing results with the red-backed salamander (Sylvia Greenwald); Intimidating green frogs with piped-in sound effects and a plaster "toady-frog" (Doug Smithey), while also studying their homing behavior (Joe Chinnici); Trying to create five-legged frogs from four-legged tadpoles (Mary Ann Angleberger); how pickeral and green frogs react to high temperatures--they croak (Jim Chapman); the (non)-homing behavior of the red-backed salamander (John Nichols and Jim Gibbs); The effect of humidity on spring peepers--damp peepers peep more (George Lowman); The movement of black-bellied salamanders in Hunter's Branch--there's no place like home (Lynne Kour); The effect of iodine on tadpole development--at least they didn't develop goiter (Pat Oleksak); And an in-depth look at salamander structure (John Hopkins).

Although we learned a great deal about amphibians and reptiles from Dr. Jopson, we also learned quite a few things about biology (and life) in general which were not within the scope of the course. For instance, we discovered that there is not a lot of difference between water hyacinth and corn. We also found out that on Whitetop Mountain, plethodontid salamanders amplex (this really surprised Dr. Organ), and that two (or was it one and a-half) can travel as quickly as one (i.e., Mary Ann). Also, we learned that it is possible to "castrate a screeching rabbit" with little or no effort (an "in" joke), and that British herpetologists are rather injury prone (Valerie and Peter).

All in all, we found that herpetology was very exhilarating. In fact, at one point we were ready to launch a drive to nominate a certain herpetologist to high national office in 1972 with the campaign slogan: "A herptile in every pot". I wonder just which sort of pot we had in mind?

Joe Chinnici

## INVERTEBRATE PHYSIOLOGY

Invertebrates are spineless animals. It has yet to be proven whether or not opposites attract can be demonstrated in the choice of courses at Mountain Lake. Professor Fred Diehl was confronted with a huge class of three students which was later glutted to four when Ron McKay came over from Scotland. Goofing off is decidedly impeded when one gets a full 25 percent of the professor's personal attention, especially if said professor happens to be an ex-athlete to whom field trips over mountains and through bogs are mere nothings.

Who would have thought that weak innocent little invertebrates would have occasioned us a trip down into the bowels of the earth--well, the esophagus maybe--as we crawled through Link's Cave and then through Tawney's Cave ostensibly looking for cave flies. Fresh water mussels require snorkel diving and wood roaches require hacking open rotten logs and grabbing anything wiggly before it crawls away. Crayfish require turning over stones in S(t)inking Creek a little ways in front of two brave souls holding the net.

If pain is the price of redemption, then the Inverts' claim to redemption should not go unnoticed. Among the wounds that went above and beyond the call of duty were (1) a crayfish punctured finger, (2) a busted toenail, and (3) a branch whack on the forehead which produced a pair of black eyes that could not be completely concealed with Gretta Garbo sun glasses. (The names of the recipients have been omitted so as to protect the guilty.)

A camera was also dropped into New River for 2.88 seconds. After the water was poured and slung out, the camera was placed in the lab desiccator for 16 hours but still showed moisture condensation between the lenses. By dividing the exposure time of the camera to the water (2.88 sec.) into the exposure time to the desiccator (57,600 sec.) we arrived at a ratio of 1:20,000 which demonstrated a conclusive argument for active transport of water due, no doubt, to a hypersecretion of antidiuretic hormone on the part of the camera.

Oh, yes, we wish to apologize to all the other classes which were inconvenienced or pinched by wandering crayfish which managed to climb out of our aquaria. We find it difficult to believe, however, that our crayfish were responsible for all of the young ladies who were pinched but we apologize just the same.

## ALGOLOGY

The Royal Mounted Algologists are lying low and keeping mum this year. Perhaps the chameleon-like behavior of Scenedesmus has stimulated its students to do likewise. Dot Chappell has been seen around the halls of Academe; Mr. Wu has returned to Malacology; all else is silence.

## SECOND TERM CLASSES

## ANIMAL BEHAVIOR

The subject matter of this course covered everything from bird migration and population control to the neural bases of maternal behavior. We were interested in anything that could be called behavior, in the broadest sense of that term. We approached the subject from the ethologist's point of view as well as the psychologist's. And since the class was made up of both biologists and psychologists, heated discussions were often the rule rather than the exception. Quizzes kept us on our toes, but even there we found room for humor, as with ML's guano index.

Since each of us had to do a study in behavior, the lab was soon covered with every imaginable type of animal. With Mary Lee's and Jane's crayfish that kept going downstairs, Leland's mushroom extract for his guinea pigs, Edith's ants, Jack's bees, the infamous pigeons, and Ron's toothpicks, something was always going on.

The field trip to Durham was great fun as well as informative. We saw the primate labs, Dick's goats and deer, and the psychology pigeon labs. We talked to Peter Klopfer, Carl Erikson, and others. Everyone enjoyed dinner at the Naylor's, "Getting Straight", and sight-seeing. It was a good course, a great group of people, and a fun summer!

Gaye Lindsey



## ECOLOGICAL GENETICS

This course was designed to introduce the class to concepts of ecological genetics through class lectures, lab techniques, general field work and individual projects. Special emphasis was placed on methods of determining population size, study of polymorphisms, courtship and mating studies of various local insect populations.

Pieris Rapae, cabbage butterflies, were the first target of our assault into the meadows and fields of Giles County. Behind our fearless leader, Dr. T. C. "Top Cat" Emmel, we ventured in search of fast fleeting images of Pieris.

At Spruce Run we observed the sexual activities of Calopteryx. Helen "Loud Mouth" Farrier, being young and innocent, was not allowed to observe this lewd display of wild conjugal endearment and was asked to wait in the stationwagon. Peter Balch, the Edinburgh Flash, was allowed to observe but was unable to comprehend. However, since he could not affix a mathematical analysis to courtship behavior, he said it was irrelevant.

Dr. Joe Chinnici and Mama Mary Ann with her "egg clutch" led our expedition in search of Japanese Beetles. The collection was fast and furious, but "Silent" Jeanie Hobson and "Cornette" Carol Robinson had their killing jars open almost as much as their mouths and were almost overcome by the fumes. Consequently, they caught very few beetles

After our study of insect populations, we were presented with a field problem on introgression in Monarda. Our expert was "Dapper Dan" Shanahan, the Monarda Man, who was last seen wandering in the vicinity of the Mountain Lake dump in search of fistulosa. The results of our findings on Monarda were explained very well by "Yakin" Rhoda Yarkin.

"Whiskers" Phil Pope spent most of the four weeks in the woods counting the needles of pine trees; while "Alias Rebecca" Wesley manicured frogs. Keith "Hot Rod" McLaughlin and "Babbling" Nelson Brooks tempted male butterflies with paper models.

These remarks have been in jest. The knowledge we all gained in ecological genetics has given us a better understanding of the evolutionary changes which occur within populations.

Phil Pope  
Nelson Brooks

## MAMMALOGY

The Mammals with their professor, Dr. C. O. Handley, Jr., should remember some of the following instances:

Golliley! That's really great! Let's bomb through that lecture. The cripples---Bob, Jim and George. What is the record for a day's catch? 40!!! URP! Going with them (Sarah and Sally) is more fun than a movie!

You got a skunk!?! Where? Would you believe Bear Cliffs? Would you believe the back of a pick-up truck at 5 a.m.

You are not to eat the oatmeal; it is for the traps! And then Jane brought us some---things. Rizzle! The party? At the entrance of Tawneys Cave. Why were Glen and Jane skinning on the porch? There is a water fountain just around the corner---and we can look at three more animals.

The red flash! Doug and Jim looking for the beavers! Doug and Jim building a raccoon cage. The cartoon board. The male hippopotamus! The ferns did it! Bushman and Aardvark holes. Diurnal. Washington! Gut those "MULES!" Livers! Temperatures at 5 a.m. "Reserved for Mammalogy. An "air" about them! Che lives and his friends!

Jon going complacently to the hospital. Morning classes end at 11:30 a.m.? Schikle! Seminars - Z-Z-Z-Z

Sally DeMott

## PTERIDOLOGY

Wild Man Wagner and his motley Mountain Lake mob racked up a number of records this year in the field of ferns with the rallying call of "Let's gao, slow and easy." We were off on a marathon of mileage making, meandering over morass and meadows, cliff climbing and shale sliding.

Otto, trudging along in the rear, muttered, "Hey, Dad, I'm glad we're not in a hurry. I can't keep up this 40 m.p.h. pace."

"Hey! I've found a Botrychium," said Fern-Eye Fred. "Botrychulate everybody. Who stepped on my hand?"

"Ouch!" Harold shrieked. "Who disturbed that hornet's nest? That's the third time this week I've been nailed."

"DAVE!! Where's Dave?" asked Dr. Wagner. "Hey, come over here and see this hybrid. It's weird. Really crazy--a new state record. Must be at least a poly-polyploid. Florence, get a chromosome count right away. Biomasswise its spores must weigh a ton. Be careful! It's the only one in existence. Oh, No! Fred just demolished it! Fred, you've lost all your brownie points."

"Dorothy, load up your group and meet us at the popsick stop. We must discuss this field trip. Your committee will report on the latest finds made by this class. Be sure and check out the cars for tomorrow. We'll take a short trip to West Virginia, North Carolina and Timbucktu. Next day we will spend the afternoon working up the material and planning our field trips for the next five days. Oh, Yes! The test. We'll have that Saturday morning as usual. Study for it in your spare time. I've noticed you're looking tired. You should get a good night's rest."

Dot asked, "Ann, how do you pronounce 'Lackapowdium'?"

"I'm not about to open my mouth," Ann replies.

"Emma, why do you want to know the color of Irene Manton's notebook? Do you really think that will be asked on the test?"

"Well, replied Emma, "I'm really not sure of myself, and I want to be ready just in case. You know, I've certainly enjoyed this course. I MUST remember to tell Dr. Wagner how much I've enjoyed this course. Haven't you enjoyed it? Oooh, my back!"

"Oh, Baby! I think Ron Fortney has found a Trichomanes hybridizing with an Erora. Florence, help us pull him out of this hole. He seems to be stuck. Slow and easy now. We want those chromosomes. Mary Ann, yell for help. We need Louis' strong arm here."

"I'm not about to open my mouth," said Ann.

"Well, time for lunch. What do we have? Oh, No! Not peanut butter and jelly sandwiches again! We'll stop for Virginia ham at the next popsick place. Where's Darelyn? You mean again? She just went at the last stop. Hurry, now. We're off like a herd of turtles."

"Man! This log is beautiful! --'Kneedeep'-- Is that Ron Sower or a real frog? --'Kneedeep'-- I think we're lost."

"Herb, next time I think you should give him a guide," said Florence.

"I'm going to protest. Let's follow that bright light. It may lead us out of here. Oh, it's Dave's Septentrionale smile. He's already crossed the bog five times and should have his bearings by now."

"CAROLYN! We need the official photographer to get a record of this habitat. I think the combination of Pellaea and Cheilanthes is wild. I defy you to beat this population bionasswise. We'll discuss it over a pizza."

"Louis, have another glass of bourbon. Yours is getting warm."

"Welll," slowing replied Louis, "just a taint. I-uh-don't want to let it go to waste."

"I'd like to get a picture of this party," said Ron Fortney, "but the cat scratched my camera lens. Last week he chewed up my prize slide collection. I'm going to have to speak to Shirley sometime about that animal."

"Well, people, we'll get an early start for the field trip tomorrow. This time, as usual, we'll take it slow and easy so you can note the subtle differences between the hybrids of marg x marg and cris x cris. Let's gao!!"

Otto Ohmart  
Ron Fortney

--THANK YOU--

Dear Friends,

Our son, Stephen Ira, was born on July 26 at 7:44 p.m. He weighed 6 pounds, 6 ounces and was 20 $\frac{1}{4}$  inches long. We would like to take this opportunity to thank our many friends at the Biological Station for the lovely car bed. It is a very useful gift and we appreciate your kindness. Stephen enjoys traveling in his car bed, and we have found that it is a safe way to take him for a ride.

Sincerely,

Betty and Malcolm Levin

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--NEWSFLASH--

Latest addition to the Mountain Lake community. Thomas Wayne Angleberger, born October 24, 1970; weight 8 pounds 1 $\frac{1}{2}$  ounces. Reported by his mother to be "chunky" and a candidate for chief salamander-catcher of 1971. Congratulations to the proud parents!

## SEMINARS

First Term

- June 18 - Dr. F. R. Trainor. Morphological Variability in Small Algae.
- June 25 - No Seminar. Station residents were invited to attend the V.P.I. conference on "The Distributional History of the Biota of the Southern Appalachians", June 25-27.
- July 2 - Dr. A. M. Evans. Apogamous Reproduction in North American Ferns.
- July 9 - Dr. H. G. M. Jopson. The Appalachian Herpetofauna.

Second Term

- July 23 - Dr. W. H. Wagner. Cytology and Evolution in the Pteridophytes.
- July 30 - Dr. R. B. Hemmes. Maternal Behavior in Goats.
- August 6 - Dr. C. O. Handley. Zoogeography of the Mammals of the Appalachians.
- August 13 - Dr. T. C. Emmel. Population Structure in Tropical and Temperate Butterflies.

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