Studying Bush Babies

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to go on to university, some high school graduates carry a diploma without the ability to construct proper paragraphs. Education is designed to serve the purposes of opening minds and instilling knowledge, but it is also meant to teach students to think for themselves. Writing is an invaluable way to encourage students’ minds to come alive. Personally, it is what made my education enjoyable.

I came to Southern Miss having never diagrammed a sentence in my life. I didn’t know what a comma splice was and had no idea what was meant by a predicate nominative. This may have been a failing in my own education, but since I had been taught how to use these grammatical constructs in writing throughout my educational career, I felt no need to know their names. My school English classes were fun: we were able to choose topics of worth to us and analyze them in our writing. We read books and wrote about them. We never sat in front of a blackboard and learned the names for the words we were using. It is a different approach to education that I think paid off, even though I now feel a foreigner to my own discipline’s lingo.

As an international student here at Southern Miss, I can bring a unique perspective to the university academics I take part in every day. The American system of education has its strengths, and I am certainly glad to be part of a university community that encourages interdisciplinary learning. There are weaknesses to the British education system too, and I am far from criticizing a country that has welcomed me with open arms. However, if I have learned one thing from my experience of two strikingly different educational systems, it is this: there is nothing so powerful as the written word, and our children—no matter from which nation they originate—should be provided with this unique tool in order to confidently face the world.

For an undergraduate student to engage in what promises to be groundbreaking, revolutionary research is an extraordinarily unique experience. In August of 2003, I was given the opportunity to participate in a research program advancing the understanding of primates through behavioral research of prosimians known as bush babies (Otolemur garnettii), at The University of Southern Mississippi’s Laboratory for Prosimian Studies. Through research and observation, I am learning something new every day about the behavioral, cognitive, and anatomical differences and congruencies between humans and our fellow primates.

Bush babies are native to the African countries of Somalia, Kenya, and Tanzania. They are smaller than other primates and weigh approximately two pounds. Bush babies have hands that resemble those of a human. Rather than paws, they have small hands and fingers with nails instead of claws. They are nocturnal but their keen sense of smell and hearing adequately compensate for their lack of good vision. Bush babies are omnivorous and eat almost anything, from Fruit Loops to Vienna sausage. However, their daily diet in captivity consists of high-protein monkey chow.

Bush babies have numerous advantages in research over other primates such as chimpanzees, lemurs, and macaques that are more commonly studied. They are not aggressive and are easy to handle. Due to their small size, bush babies are less costly to study and maintain than other primates. Furthermore, in bush babies, there is low risk of the disease transmission that exists in some monkeys.

The University of Southern Mississippi’s group of twenty-four constitutes one of the few bush baby colonies in the U.S. These primates came to Southern Miss one and a half years ago. However, the colony’s bush baby founders were brought to America by U.S. Army researchers in 1981. After completing their studies, the Army donated the bush babies to the University of Memphis. When the Memphis colony was disbanded after twelve years of research, Southern Miss adopted a subset of the animals. Currently, the bush babies are housed at the Hattiesburg Zoo and are not on public display.

Only noninvasive, behavioral research is conducted with the bush babies, and as is with all animals, is strictly monitored by the University Animal Care and Use Committee. No research is considered that may be potentially harmful or cruel to the bush babies. One of the things we are currently studying is the sex ratio bias in bush babies. In humans the ratio of newborns is about 106 males to 100
females. In bush babies, the ratio is much higher, about 130 male offspring to 100 females. This semester, though, my main project is to build a complete computer database of the information we have on each bush baby. Other potential projects for the future include a study of mother-infant interactions, studies of cognitive abilities of the bush babies, and studies of the animals' social behaviors.

Southern Miss is currently building the bush babies a laboratory that will allow us to expand our studies of the animals. The new laboratory will consist of multiple rooms to house the bush babies in, as well as a room in which we can observe them out of their cages, interacting with each another. We are already developing new research protocols. We anticipate that, through the efforts of the researchers at the Southern Miss. Laboratory for Prosminian Studies, the bush baby will become a valuable primate model for the study of behavior and cognition.

David is an 18 year old freshman biological sciences major with a minor in pre-veterinary medicine. Prior to moving to Hattiesburg, David lived in Ashland, Kentucky, where he worked as a veterinary technician at Guardian Animal Hospital. During that time, he worked with both domestic and exotic animals, including wildlife. This job opened David's eyes to the world of science and gave him the knowledge and experience needed to become part of a research program at Southern Miss's Laboratory for Prosminian Studies working with bush babies. Working with these primates has opened David's eyes to a variety of opportunities for the future, including graduate school at Southern Miss and the continuation of my research. He very much enjoys what he does.

Undergraduate Research Highlight: Mississippi College

By Ronald W. Howard, Ph.D.
Vice President for Academic Affairs, Mississippi College

Undergraduate research at Mississippi College has its roots in the Honors Program. For over forty years, top students in all departments have had the opportunity to participate in a three-semester Honors Research Project with a faculty mentor. These projects culminate in an Honors Thesis and recognition at graduation. In the last ten years, undergraduate research at MC has grown to include a greater number of students; four departments have led the way in these efforts.

The Communication Department requires a research class for all of their undergraduate majors and, from this course, selects students to present their work at the Mississippi Communication Association Annual Meeting. In addition, many other communication classes utilize research, including their senior capstone course, which requires the compilation of a research portfolio.

Several professors in the Department of Biological Sciences direct student research projects. Research emphases include ecological genetics, systematic entomology, and mitochondrial genomics. In 1994, the Howard Hughes Medical Institute awarded the department a one million dollar grant, which allowed the acquisition of quality equipment, which continues to aid their research today.

The degree requirements in the Psychology Department include a strong research component. In addition to research projects directed by individual professors, the department maintains a fish laboratory, which is utilized by students in two courses. Students present their research each year at the Southeast Psychological Association Conference and the Mississippi Psychological Association Conference.

Perhaps the most successful inclusion of undergraduates into ongoing research projects occurs in the Department of Chemistry and Biochemistry. Students in the Computational Chemistry Group, Molecular Biophysics Group, and Structural Chemistry Group present their research at numerous local, regional, and national conferences each year. At the annual Undergraduate Chemistry Research Conference at the University of Memphis, an MC student has won one of the top awards each of the last five years.

In the last two years, efforts have been made to expand the successes of these four departments to the rest of the institution. Last year, MC had its own Undergraduate Research Symposium, which included students from seven departments. This year, MC will join with Tougaloo College for the first TC/MC Undergraduate Research Symposium that will be held April 15 and 16 at Tougaloo.