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ANIMAL BEHAVIOR SOCIETY
Annual Meeting

I attended the annual meeting of the Animal Behavior Society (ABS) as part of a large contingent of CISAB students, faculty, and alumni. Before the meeting, I contacted a short list of professors to inquire about the possibility of meeting at ABS to discuss postdoctoral fellow positions in their laboratories. Three professors expressed interest in meeting and two volunteered to attend my talk.

After cramming every recent journal article those professors recently published into my brain, running through my talk 200 times, and helping the two undergraduate students I mentored make their poster presentations, I relaxed on the airplane with a guilty pleasure: a pop culture book, "Freakonomics". I must admit I felt rather decadent.

Upon arrival at the Salt Lake City Airport, I hopped on a shuttle bus to Snowbird, where the ABS meeting was held. I shared the shuttle with several graduate students from the Ecology, Evolutionary Biology, and Behavior Program at the University of Michigan. We immediately started discussing research, only stopping to gaze awestruck at the amazingly beautiful scenery whizzing by.

I checked in to the Lodge at Snowbird with its breathtaking mountain Continued on page 2

ANIMAL BEHAVIOR BULLETIN

Post Doctoral Training Grant Recipients Announced

This spring, IU was awarded a one million dollar NIH training grant entitled “Common Themes in Reproductive Diversity” under the direction of Ellen Ketterson, Dale Sengelaub, Troy Smith and Greg Demas. At the end of October, two post doctoral grant recipients were announced. **Heather Rupp** finished her undergraduate work at Duke in three years and is about to receive her PhD from the Department of Psychology and the Center for Behavioral Neuroscience at Emory University where she works with Kim Wallen. Her research interests include cognitive processing of sexual stimuli, sex differences in neural function and structure, sex differences in external factors influencing sexual arousal, hormonal modulation of sexual behavior and cross-species analogies in sexual behavior and underlying neuroendocrinology. During her time at Emory, she was a Center for Behavioral Neuroscience Scholar. Heather’s research with human sexual behavior will be centered in the Kinsey Institute. Cont pg 3

ANIMAL BEHAVIOR SOCIETY

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Center for the Integrative Study of Animal Behavior

Volume 8 Issue 4
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Special points of interest:

- NIH grants
- ABS Meeting
- Graduate Student Accomplishments

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vistas, where I shared a room with two students from Dr. West’s Lab (Jennifer Miller and Grace Freed-Brown) and one student from Dr. Alberts’ lab (Virginia Coryell). Soon after arrival, we set off in search of food. An overpriced burger tastes much better when it is in the company of old and new friends.

The meeting began Sunday morning with Dr. Packer from the University of Minnesota delivering the Keynote Address on how nothing in ecology makes sense without behavior. In the large conference hall, listening to his words I felt connected with the animal behavior community. The rest of the morning I spent zigzagging between talks in the Cognition, Social Behavior, and Mating / Breeding Systems sessions.

At two o’clock, I presented my talk on the effect of thermal environment on the development of the Norway rat. In the audience were the two professors that volunteered that they would attend and many of my CISAB friends. As I stepped up to the podium, I felt my nerves tense and my hands begin to shake. Then I looked out at the audience and saw the CISAB crew routing for me. At once my nerves relaxed. At the end, I was pleased with the reception my talk received.

Monday morning Dr. Wingfield presented the Fellows Lecture on behavioral strategies for coping with a changing environment. His talk brought into question the utility of the word stress when referring to environmental change and presented alternative vocabulary. Later that morning, Dr. Freeberg, a CISAB alum and assistant professor at the University of Tennessee, presented a talk on his studies that suggest group size influences the vocal complexity of Carolina chickadees.

That evening the poster session was held in a large outdoor tent. People mingled in the cool crisp mountain air about the posters that presented a wide array of research topics such as female social systems in the brown-headed cowbird, investigations of monogamy in the spiny mouse, note composition of chickadee calls, urinary behavior in female domestic dogs, behavioral patterns of tropical damselflies, activity budgets of northern sea otters, and foraging behavior of golden hamsters in the wild, just to name a few. After the poster session, a social was held at Snowbird’s Trans Club. CISAB alumni, including Marianne Engle, Walter Piper, Todd Freeberg, and David White, piled into the V.I.P. lounge. The past alumni and current CISAB students networked behind the velvet ropes.

Later that afternoon, Dr. Dewsbury presented a fascinating historical account of the founders of the ABS. He reported that the ABS was founded in Montreal, Quebec in 1964, emerging from the Section on Animal Behavior and Sociobiology of the Ecological Society of America and the Division of Animal Behavior of the American Society of Zoologists. He reported that although there were 326 charter members, ABS recognizes those early members involved in its administration as “Founders.” In fact, only 52 to 61 members could be regarded as founders, of which just four were women and only 11 were psychologists.
On Tuesday Dr. Foster presented a noteworthy talk on the idea that behavioral plasticity can permit populations to persist in novel environments until selection can improve the fit of the population to the environment and a second possibility that plastic behavioral responses to novel environments can, by determining which phenotypes are expressed, influence the course of subsequent evolution. She noted that the pattern of ancestral plasticity could determine which behavioral phenotypes are exposed to selection and hence, have the potential to evolve through genetic assimilation, or genetic accommodation. She explored both possibilities using behavioral data from populations that are part of the post-glacial adaptive radiation of the threespine stickleback fish.

Dr. Strassmann delivered Wednesday’s Fellows Lecture on the importance of behavior in a genomic age. In her talk she stated that the availability of genomes will advance behavioral studies, but also behavioral approaches could reveal how genes have evolved. The Fellows Lecture was followed by a business meeting and then Genomics, Parental Care, and Mating / Breeding System sessions. I unfortunately missed many of the talks in these sessions because I was finishing my meetings with the professors I had contacted about postdoctoral positions. I was pleased, however, with the outcome of those meetings.

As I flew back to Bloomington Wednesday evening in an exhausted haze, I dreamily reflected back on the trip. My eyelids drew shut as I drifted off pondering the events of the past few days and the excitement of the future ahead. Thank you CISAB for an amazing and influential experience!

Jill Villarreal

Continued from page 1

Lynn Siefferman attended IU for her undergraduate education and received a PhD in Biological Sciences from Auburn University in Alabama where she worked with Geoff Hill. Her research has included studying molecular systematics, phylogeography and phenotypic plasticity in the freshwater mussel genus Elliptio; coloration, sexual selection, and coloniality in blue-tailed bee-eaters (Merops philippinus); genetic, environmental, and gene-by-environment determinants of sexually selected plumage coloration in eastern bluebirds (Sialia sialis); sexually selected function of pterin- and carotenoid-based coloration in the dewlaps of Anolis lizards; and the influence of egg size and parental provisioning rates on growth and ornamentation of natal eastern bluebirds. Lynn has over a dozen publications and has received grants from organizations such as Auburn University, National Science Foundation, American Museum of Natural History, Animal Behavior Society and Women in Science.

CISAB ANIMAL BEHAVIOR LAB NEW EQUIPMENT

The CISAB Animal Behavior Lab (Jordan Hall 136) is a wet lab set up for molecular genetic, endocrine, immune and biochemical assays. Services offered by the facility include genetic techniques such as: DNA and RNA extraction, PCR; Microsatellite genotyping; RFLP/SNP genotyping; cloning and sequencing; software for primer design and genotyping analysis. In addition, neuroendocrine techniques can be completed such as RIA and EIA.

The lab has recently acquired several new pieces of equipment. The new equipment includes an Eppendorf MasterCycler Gradient thermocycler, a set of Finnpipette pipetters, and a standard VWR 20-well heatblock. In addition, the lab computer has recently been updated to the most recent version of Genemapper.

For more information on the CISAB Animal Behavior Lab, stop by 136 JH or contact:

Amy Eklund, PhD
CISAB Animal Behavior Lab Manager
Jordan Hall 136
Phone: (812) 856-1139
E-mail: aeklund@bio.indiana.edu
CISAB GRADUATE STUDENT MEMBER
ACCOMPLISHMENTS

David A. Wood is a Ph.D. candidate in Neural Science and Psychology working with George Rebec and Greg Demas. He is interested in electrophysiological analysis of nucleus accumbens core and shell in behaving rats, the assessment of plasma corticosterone circadian rhythms in differentially housed rats, immunohistochemical analysis of glutamate receptors in nucleus accumbens core and shell of differentially housed rats, visuospatial response initiation and isolation of microsatellite loci in Desmognathus Ocoee.

David is the recipient of a predoctoral National Research Service Award (NRSA) from the National Institute of Health: “Environmental influences of nucleus accumbens electrophysiology.” He has also received the IU President’s Summer Undergraduate Research Initiative Award in 2003: “Effects of differential housing on the electrophysiological activity of nucleus accumbens subregions during goal-directed behavior,” as well as the IU President’s Summer Undergraduate Research Initiative Award in 2002: “Effects of differential housing on the acquisition of an operant nose poke task.” Other awards include the CISAB Research Award in 2001: “Single-unit activity in nucleus accumbens in a natural reinforcement paradigm,” Sigma Xi Grants-in-Aid of Research Award in 2001: “Single-unit activity in nucleus accumbens before and during natural reinforcement,” Research Assistant Fellowship, CISAB Research Award 2000-2001, IU Summer Incentive Research Fellowship: “Neural correlates of the rewarding effects of novelty, and CISAB Research Award in 2000: “Appetitive and aversive properties of neurobehavioral responses to novelty and stress.”

RECENT PUBLICATIONS:


POSTERS/PRESENTATIONS:


INVITED COLOQUIA:

Wood DA. Electrophysiological activity of nucleus accumbens during appetitive behavior: Sub-regional differences and environmental influences. Center for Addiction, Department of Psychiatry, University of Pennsylvania. September 2005


Wood DA. Electrophysiological activity of nucleus accumbens during appetitive behavior: Sub-regional differences and environmental influences. Center for Biological Timing, Department of Biology, University of Virginia. April 2005.

Julienne Rutherford Goehl is a M.A., Ph.D. candidate in the Department of Anthropology working with Kevin Hunt. She is an adjunct Research Assistant, Southwest National Primate Research Center, Southwest Founda-
Idelle Cooper is a 4th year graduate student in Curt Lively’s lab. Her dissertation research focuses on the evolution of female-limited dichromatism in damselflies. Color polymorphisms limited to females are common in odonates, particularly damselflies. Typically, one morph appears cryptic and the other looks like the brighter-colored conspecific male. The evolutionary cause and maintenance of this dimorphism are unknown despite evidence that the dichromatism is adaptive. Previous studies have focused on sexual selection and suggest that male mimicry may serve as a strategy of females to avoid costly sexual interactions. However, recent studies have cast doubt on this explanation. Geographic variation in polychromatism is poorly understood and natural selection pressures on the two morphs have not been examined. I discovered a female-limited dichromatism in the Beautiful Hawaiian Damselfly, *Megalagrion calliphya*, which appears to be the only one of 26 species within this endemic Hawaiian genus that displays color variation among only females. Idelle is examining patterns of morph frequency over environmental gradients, investigating selection pressures on the morphs, and examining the types of selection pressures maintaining this dichromatism in nature. Throughout this year, she has been working and conducting fieldwork in Hawaii.
Jodie Jawor has conducted her postdoctoral research in the lab of Dr. Ellen Ketterson for the past two years. Her investigations concentrate on maternal effects and their relationship to ornamentation in female birds. In particular, she is interested in whether the steroid hormones and carotenoids found in egg yolks co-vary with melanin- and carotenoid-based plumages in females. To answer these questions she works with female northern cardinals (Cardinalis cardinalis) as they possess both melanin- and carotenoid-based ornaments that indicate information on condition and that influence mating success. Additionally, she is investigating female intrasexual aggression and reproductive success in captive populations of dark-eyed juncos (Junco hylanis). She has found that while endogenous levels of testosterone are not predictive of dominance, nor responsive to intrasexual aggression, higher dominance status enhances female reproductive success. Currently she is investigating other steroid hormones for their potential influence on female intrasexual aggression.

Jodie has an NSF grant in review that addresses in more depth the co-variation between female ornamentation, maternal effects, and offspring quality, and the influence of this on male mate preferences in northern cardinals. She will be presenting last summer’s research at the upcoming Society for Integrative and Comparative Biology meeting in January 2006.

PUBLICATIONS:

She has two papers in review, one on year-round T-profiles in male and female northern cardinals (this data has been collected while at IU) and another on male ornamentation and incubation feeding rates to his mate in northern cardinals (the last of her dissertation work). She has a ms in preparation (the GnRH challenge in juncos).

PRESENTATIONS:
In July 2004, she attended the 8th International Society of Avian Endocrinologists in Phoenix, AZ. There she presented two posters, one on year-round T-profiles in male and female northern cardinals and a second on seasonal and sexual variation in response to GnRH challenge in dark-eyed juncos. To attend that meeting she received a NSF travel grant.

In June of 2005, she attended the annual Society for Behavioral Neuroendocrinology meeting in Austin, TX. Here she presented two posters, one on male response to GnRH challenge and one on female response to GnRH challenge in dark-eyed juncos. I received a travel award from CISAB to attend this meeting.
In September of 2005, she attended the NSF E-BIRD Maternal Effects Workshop in Seattle, WA. She presented a poster on preliminary data concerning the co-variation between adult female ornamental plumage in northern cardinals and the levels of certain egg components.

Browyn Heather Bleakley works in Brodie’s lab and is interested in exploring the underlying genetic basis for interacting phenotypes (phenotypes that are expressed only in the context of social interactions) and understanding how these traits, which require genes in two or more individuals to be expressed, evolve. Her research is currently focused on understanding if indirect genetic effects (IGEs) can impact social behavior in guppies, Poecilia reticulata. She works with both inbred ornamental guppies and wild guppies from Trinidad, manipulating group content to partition the effects of genes, general environment and social environment in generating social behavior. Heather’s research has been funded by an NSF doctoral dissertation improvement grant, an Animal Behavior Society Student Research Program grant, and a CISAB fellowship.

PUBLICATIONS:


PRESENTATIONS:


2006 REU PROGRAM
MAY 22- JULY 28

The NSF funded Research Experience for Undergraduates program in Animal Behavior brings about 10 undergraduate students to Indiana University each summer to engage in animal behavior research. The program offers a unique opportunity for talented undergraduates to spend the summer doing state-of-the-art research and to gain valuable skills while exploring career opportunities in the sciences.

For students interested in participating in the program the application deadline is FEB 14, 2006. Applications are available on-line at our REU webpage:

http://www.indiana.edu/~animal/REU/
Private contributions are an important way in which we can expand our efforts. Even a small amount can go a long way. For example, $500 can send a student to a major scientific meeting to present their research, $200 can buy supplies for a museum exhibit, $25 can purchase chemicals to do DNA fingerprinting or other genetic tests, $10 can cover the cost of distributing our Kid's Page to an elementary school class.

Charitable gifts are tax-deductible and can be mailed to: CISAB, 402 N. Park Ave, Bloomington, IN 47405 (payable to IU Foundation).

Yes, I would like to support Animal Behavior Research at Indiana University. I have included a contribution of ______________

Name:_________________________________________
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Those contributing over $25 are entitled to receive paper copies of the Animal Behavior Bulletin for one year (also available as PDF copy on our web page). If you wish to receive the Bulletin please check here._____