



# NEWSLETTER

## Animal Behavior Society

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A quarterly publication

Janis W. Driscoll, ABS Secretary

Michael J. Owren, Assoc. Editor

Dept. of Psychology, University of Colorado at Denver, Denver, CO 80217-3364

### ELECTION RESULTS

Three hundred and forty-one ABS members, about 13.5% of the membership, voted in the election. This is an increase of more than 100 ballots over last year's election. A very good showing!

The following persons were elected to ABS offices. They will take office at the end of the 1992 annual meeting.

**Second President-elect:** Hugh Dingle

**Program Officer:** John Byers

**Member-at-large:** Patricia Adair Gowaty

**Parliamentarian:** George Waring

Jeanne Altmann was elected representative to the USECC and delegate to the IEC Council. Judy Stamps was elected representative to the USECC and alternate to the IEC Council.

The ABS Executive Committee congratulates these new officers and extends thanks to all of the candidates in this year's election.

### REMINDERS

The ABS Film Committee welcomes entries of films for the 1992 film festival. Awards will be made for commercial and noncommercial films. Contact Tom Rambo, Dept. of Biol. Sci., Northern Kentucky University, Highland Heights, KY 41076.

Past-President Charles Snowdon seeks suggestions for nominations for ABS Research Career Awards. For information, contact him at Dept. of Psychology, University of Wisconsin, Madison, WI 53706.

If you have a change of address, phone number, or want to add an e-mail address to the ABS Membership Directory, contact Ira Perelle at 28 RD1, East Branch Road, Patterson, NY 12563.

### CORRECTION TO MINUTES

The following item was omitted from the Minutes of the 1991 ABS business meeting, published in the August Newsletter. "The Executive Committee approved Ellen Ketterson as Associate Editor and Kris Bruner as Assistant Editor of *Animal Behavior*. The Editorial Board recommended by Editor-elect West was also approved with the suggestion that a behavioral ecologist be added to the Board."

### TREASURER'S NOTE

The mailing label on your Newsletter now indicates in the upper right corner, the last year for which your ABS

dues have been paid. For example, if this number is 91, your dues are paid through 1991, and you should have received (or will soon receive) a dues notice. If you have paid your dues for multiple years, this number will indicate the year through which your dues are paid. You will not receive a dues notice until the end of that year. Please remember that the deadline for paying ABS dues is Dec. 1. Contact Treasurer Bob Matthews if you do not receive your dues notice by the middle of November.

### ABS OFFICERS

**President:** H. Jane Brockmann, Dept. of Zoology, University of Florida, Gainesville, FL 32611, USA.

**First President-elect:** Gail Michener, Dept. of Biol. Science, University of Lethbridge, Lethbridge, Alberta, T1K 3N6, CANADA.

**Second President-elect:** Zuleyma Halpin, Dept. of Biology, University of Missouri, St. Louis, MO 63121, USA.

**Past President:** Charles Snowdon, Dept. of Psychology, University of Wisconsin, Madison, WI, 53706, USA.

**Treasurer:** Robert Matthews, Dept. of Entomology, University of Georgia, Athens, GA 30602, USA.

**Secretary:** Janis Driscoll, Dept. of Psychology, University of Colorado at Denver, Denver, CO 80217-3364, USA.

**Program Officer:** Lynne Houck, Dept. of Ecology and Evolution, University of Chicago, Chicago, IL, 60637, USA.

**Parliamentarian:** George Waring, Dept. of Zoology, Southern Illinois University, Carbondale, IL, 62901, USA.

**Editor:** Meredith West, Dept. of Psychology, Indiana University, Bloomington, IN, 47405, USA.

**Members-at-large:** Steven Austad, Dept. of Biology, Harvard University, Cambridge, MA, 02138, USA.

Martin Daly, Dept. of Psychology, McMaster University, Hamilton, Ontario, L8S 4K1, CANADA.

Bennett Galef, Dept. of Psychology, McMaster University, Hamilton, Ontario, L8S 4K1, CANADA.

**Historian:** Donald Dewsbury, Dept. of Psychology, University of Florida, Gainesville, FL, 32611, USA.

### ANIMAL BEHAVIOR SOCIETY DIRECTION OF CORRESPONDENCE

ABS Newsletter and general correspondence concerning the Society: Janis Driscoll, Dept. of Psychology, Campus Box 173, University of Colorado at Denver, P.O. Box 173364, Denver, CO, 80217-3364,

USA. Deadlines are the 15th of the month preceding each Newsletter. Next deadline is January 15, 1992. (FAX 303-556-4861)

**Animal Behaviour** - manuscripts and editorial matters: Meredith West, Dept. of Psychology, Indiana University, Bloomington, IN, 47005, USA.

**Change of address**, missing or defective issues of *Animal Behaviour*: Robert W. Matthews, Dept. of Entomology, University of Georgia, Athens, GA, 30602, USA.

### NSF REORGANIZATION WILL AFFECT ANIMAL BEHAVIOR

Jane Brockmann, President  
Animal Behavior Society

The National Science Foundation is planning a major reorganization which will affect animal behavior research. I visited NSF in October to provide input on where the field of animal behavior might fit into the reorganization plan, and Chuck Snowdon and Carl Gerhardt made a follow-up visit a week later before their regular panel meeting. We spoke with most of the NSF officials who were involved in planning the reorganization. The recommendations that have been made will be good for our field; ABS input has made a difference.

For those of you who are not familiar with the ins and outs of NSF organization, let me begin by giving you a quick organizational chart. When you submit a proposal, it is evaluated and funded by a program, like the American Behavior Program which Fred Stollnitz heads. Programs are grouped into divisions, e.g., Animal Behavior is in the Behavioral and Neural Sciences Division, BNS. Divisions are grouped into directorates. There are directorates for Geosciences, Mathematical and Physical Sciences, Engineering, etc. BNS is in the Biological, Behavioral and Social Sciences Directorate (BBS). It is this BBS Directorate that will be divided with psychology, anthropology, geography, etc., going into a new directorate called Social, Behavioral and Economic Sciences (SBE). What remains will become part of a new BIO directorate.

At the ABS annual meeting last June, Chuck Snowdon and Jeanne Altmann led a workshop discussing the NSF Task Force Report, *Adapting to the Future*, which recommended the separation of the social sciences from the biological sciences. In testimony presented on Nov. 30, 1990 in Washington, DC by Chuck Snowdon, ABS sided with those who felt that separating human from nonhuman research was scientifically indefensible. However, the majority of the testimony from social science organizations argued otherwise.

On Oct. 11, 1991, Walter Massey, the director of NSF, announced that the split into social sciences and biological sciences would take place. This announcement had been anticipated and four working groups were already in place. On Oct. 18, these working groups presented their recommendations to the division directors and on Oct. 23, the division directors made their recommendations to Dr. Mary Clutter, the director of the BBS Directorate. These recommendations were also given to the Advisory Committee of BBS who met on Nov. 1. Major organizational changes may be in

place as early as November. Sometimes the wheels of government move very quickly, indeed. (However, Dr. Clutter has said that for the spring 1992 cycle of reviews, the programs and their advisory panels will continue to operate as they have in the past.

Fortunately, I found out about this schedule and visited NSF after Dr. Massey's announcement but before the preliminary reports were submitted, Oct. 16-17. Before the trip, I polled the ABS Executive Committee concerning the various proposals for reorganization. During my visit I spoke with numerous NSF officials about the field of animal behavior and how it might fit into this reorganization. Three recommendations have been made that will affect ABS members.

#### (1) Animal Behavior Should Be in the BIO Directorate.

Because animal behavior is a field that includes psychologists and anthropologists (who go to SBE) as well as zoologists (who go to BIO), it was not clear to NSF where animal behavior should end up. I argued that animal behavior belongs in BIO and this is the recommendation that has been made.

#### (2) A New "Integrative" Division Has Been Proposed for BIO.

The recommendation of the division directors is that a new "organismal" biology division should be formed, called Integrative Biology and Neurosciences. I strongly supported this proposal on the advice of the ABS Executive Committee. The new division would include neurosciences from BNS and parts of Physiological Processes and Development from the Cellular Biosciences Division. The rest of the Cellular and Molecular Biosciences Divisions would fuse into a new division called Cellular and Structural Biology. This would mean that there would be three research divisions within the new BIO Directorate: Cellular and Structural Biology, Integrative Biology and Neurosciences, and Environmental Biology (i.e., the Biotic Systems and Resources Division, BSR, which has the Ecosystems, Population Biology, Ecology and Systematics Programs). The Advisory Committee, however, has recommended four divisions with Integrative Biology and Neurosciences being placed in separate divisions. Forming an Integrative Biology Division within BIO makes a lot of sense and provides a unique role for NSF. In the words of the Task Force Report: "The biological sciences are moving away from the era of analytical reductionism, in which scientists strive to learn the simplest facts and rules about biological organisms or units, to integration which involves trying to find out the most complex things about biological systems. In other words, the shift evident here is from taking biological systems apart to see what the pieces are and how they work, to putting the pieces back together to understand how the totality works together. That analogy suggests that it is a movement into a phase of greater scientific maturity."

#### (3) Animal Behavior and Behavioral Ecology Proposals Should Go to One Program.

In the past animal behavior and behavioral ecology research proposals have gone either to the Animal Behavior Program (in BNS) or to the Population Biology and Physiological Ecology Program (in BSR). All mechanistic animal behavior, comparative psychology, and learning proposals have gone to

Animal Behavior. Behavioral ecology proposals, however, have gone both ways: those with a mechanistic bent went to Animal Behavior and those without went to Pop. Bio. While this separation might have made sense at one time, it has become arbitrary. Mechanistic animal behaviorists have come to address adaptive questions and those who focussed on adaptation are now also studying mechanisms. It was widely held by the ABS Executive Committee, and other members that I consulted, that our science would be best served if all animal behavior and behavioral ecology proposals went to one program. This would mean that we would have a program of sufficient size that our proposals would be reliably read by those who understand our science and the questions we are asking. As a result of our discussions, the division directors have made this recommendation. The Animal Behavior Program (as it would be called) would be housed in the new Integrative Biology Division. The panel would be expanded to include more behavioral ecologists. Of course, proposals will continue to be jointly reviewed with Pop. Bio. when they contain life history, genetic or molecular aspects.

The Environmental Biology Division (the old BSR) may undergo some reorganization of its own. A new program, Physiological and Functional Ecology, has been proposed. It would be made up of physiological ecology from Pop.Bio., functional morphology from Systematics, and comparative physiology from Physiological Processes. These changes would mean that the Population Biology Program, which has grown markedly over the past eight years, would be much more focussed, evaluating proposals on plant and animal evolution and population biology, ecology and genetics.

The Bottom Line. The underlying problem that has led to this major reorganization is a lack of funding. As proposals are transferred from one program to another, the funding goes with them, but overall, this is a zero-sum reorganization. The fundamental problem is that on average only about 20% of the individual investigator research proposals submitted to our directorate are funded. Given that a large portion of the scientific community has opted out of trying for NSF funding, this is an appalling figure. Funding for research at NSF is up 11% this year, but that is certainly not enough to increase the support of basic research in any meaningful way. I urge you to talk with your legislators and tell them how important it is to support individual investigator research at NSF.

ABS has brought the concerns of animal behaviorists, comparative psychologists and behavioral ecologists to the attention of NSF. This emphasizes the importance of scientists banding together into professional organizations that represent their interests.

#### AN OPPORTUNITY FOR COMPARATIVE PSYCHOLOGY

Michael Renner

ABS Liaison to APS

I'm writing this to encourage comparative psychologists and animal behaviorists to join the American Psychological Society (APS) not instead of ABS, but in

addition to your membership here. I am writing this both for those who are interested in the behavioral sciences in a broad sense, as well as those who care only about animal behavior, but want to ensure that the study of animal behavior continues to have a place in the field of psychology.

The American Psychological Society was founded in 1989, mostly as an outgrowth of a perception among scientists in psychology that the existing society, the American Psychological Association (APA) was no longer adequately representing the discipline of psychology. (With the explosive increase in the number of persons in clinical practice in psychology and allied fields over the past 30 years, APA's attention had been drawn increasingly to issues surrounding clinical practice and licensure.) APS does not include clinical psychology, but its charter, focus, and activities clearly identify it as an organization devoted to the needs of psychology as a scientific discipline. In less than three years, APS has grown to more than 12,000 members, held three annual conventions, and become a visible presence in Washington as an advocate for behavioral science research.

APS is still in a malleable enough state that we can make a niche for comparative psychology there, and we as a discipline need such a niche. ABS serves a critical interdisciplinary function, but animal behaviorists who are also psychologists need a home within psychology. It is clear that APA has disintegrated as a viable forum for experimental psychology in general, and biologically-relevant research in particular. I'm sorry about this; the APA has a long history dating back to the founding fathers of American psychology. I'll also grant that APA is making sincere efforts to "do right" by science. The truth is, however, that research psychologists of all types, including comparative psychologists just aren't joining APA, and many who have been members are not staying. As Don Dewsbury said in his position paper for a comparative psychology roundtable at the 1991 ABS meeting in Wilmington, "One problem is that we lack an effective organization and have no place to meet and discuss ideas as comparative psychologists. Division 6 of APA and the Psychonomic Society no longer attract comparative psychologists in substantial numbers." (I hope I haven't taken your words out of context, Don.) It is possible for us to make a place for ourselves within the broader community of psychological research, but it is by no means guaranteed. We need to join APS to make our presence known.

APS is eager for broad participation. Part of the reason I see many possibilities for comparative psychology in APS is that the staff and elected officers of APS are making welcoming gestures. For example, we have been invited to participate in the series of National Behavioral Science Summit meetings that APS has organized to try to assemble research initiatives that will showcase the behavioral sciences and increase funding for behavioral research. We have an opportunity to make a visible presence for ourselves there, where our rich tradition and essential perspective can perhaps do some good for the broader discipline.

Since 1990, APS has published the highly regarded *Psychological Science* six times per year. This journal,

which is modeled after *Science*, contains review articles and empirical reports, as well as news, research briefs, letters and columns. *Psychological Science* has rapidly become a widely respected core journal in the behavioral sciences. In its two-year existence, animal research has been well-represented in its pages (although it's true that more papers have appeared about behavioral neuroscience than animal behavior). Starting in 1992, they will also publish a new journal of brief reviews titled *Current Directions in Psychological Science*. This is a particularly economical time to join APS because there is a Fall Membership special. If you join APS for 1992 for \$95 (including *Psychological Science* and *Current Directions in Psychological Science*), for an extra \$15, your membership will be effective for 1991 and you will receive all 1991 issues of *Psychological Science*.

For information about membership or submission of program proposals, contact the American Psychological Society membership officer Allen Walker, American Psychological Society, 1010 Vermont Ave. N.W., Suite 1100, Washington, DC 20005-4907. The APS phone number is 202-783-2077, FAX number 202-783-2083 and e-mail address (BITNET) is APS2@UMUC.

**ANIMAL BEHAVIOR AND COMPARATIVE  
PSYCHOLOGY: ACTIVITY AT THE 1991  
MEETING OF THE AMERICAN  
PSYCHOLOGICAL SOCIETY**

**Washington, DC, June 13-16, 1991**

**Michael Renner**

**ABS Liaison to APS**

The third annual convention of the American Psychological Society (APS) was held in Washington, DC, from June 13-16, 1991, a week following the ABS meeting in Wilmington. The format of the meeting consists of invited and submitted symposia, invited addresses, and poster sessions for the presentation of individual submitted research. The official count of registrants was about 2000 for the whole meeting. There were four invited symposia that were clearly comparative in focus: The first, titled "Brain Complexity/Behavior Complexity: What Is the Relationship?", was chaired by Duane Rumbaugh of Georgia State University. The second was "Comparative and Neuropsychological Research in Human Factors Psychology" chaired by Gary Greenberg of Wichita State University. The third, "Perspectives on Different Forms of Memory Across the Life Span: From Animals to Humans" was chaired by Paul Gold. The fourth, "Biological Approaches to Human Sex-Dimorphic Behavior" was chaired by J. Michael Bailey. All of these symposia were pretty well attended and lively discussions spilled over into the hallways afterwards. A special poster session by funding agencies presented information about opportunities for research support. A quick scan of the program's subject index revealed that about 10-20% of the 547 posters presented at the meeting were reports of animal research. The actual count of relevant papers is affected by one's threshold for what would be of interest to an animal behaviorist, but this count excludes studies of the biological bases of

behavior conducted with human subjects; including these studies would have substantially increased this number. The next meeting of APS will be June 20-22, 1992 in San Diego. The deadline for submission of program materials is December 6. I am on the program committee, and I would like to encourage as many animal behavior poster submissions as possible to make another strong showing at this meeting.

For information about membership or submission of program proposals, see the previous article.

**ANNOUNCEMENTS**

**EDITOR'S NOTE:** Opportunities and announcements are published in the next issue of the Newsletter after they are received. However, because of the timing of the Newsletter, it sometimes happens that a position is filled between the time that the Editor receives the advertisement and the time of the next issue of the Newsletter. The Editor apologizes for any inconvenience this may cause, and recommends that interested persons call to determine if a position is still available before making a formal application.

**ABS RESEARCH GRANTS FOR 1992.**

Application materials are now available for ABS Research Grants. The maximum award is \$1000 US and all current ABS members are eligible although funding priority is given to graduate students and recent PhDs in their first year of postdoctoral training. Application materials should be requested from **Steven N. Austad, ABS Grant Committee Chair, Harvard University Biolabs, 16 Divinity Avenue, Cambridge, MA 02138**. Applications are due no later than 15 December 1991 and awards will be made by 15 April 1992.

Here are a few tips for first-time grant proposal writers: (1) emphasize the general question(s) your research addresses (e.g., why would it be of interest to someone studying another animal group); (2) relate your experiments/observations back to the general questions; (3) be concise (nothing turns off reviewers like having to extract a small detail from a massive barrage of verbiage); (4) have your proposal critiqued by an experienced investigator.

**VENDORS WANTED FOR ABS ANNUAL MEETING.**

Assistant Program Officer Jeffrey Lucas is looking for vendors who might want to display at the annual ABS meeting. Possible vendors would include firms that sell scientific equipment pertinent to animal behavior (event recorders, tracking equipment, etc.) and artists whose art focuses on animals. If you know of any vendors who would be appropriate for our meetings, please contact **Jeff Lucas, Dept. of Biol. Sci., Purdue University, W. Lafayette, IN, 47907. Phone: 317-494-8112, e-mail JRL0@PURCCVM (note: JRLzero)**

**PRIMATE TALK - A DISCUSSION FORUM FOR PRIMATOLOGY.**

The Wisconsin Regional Primate Research Center (WRPRC) at the University of

Wisconsin, Madison, is pleased to announce the availability of a new electronic mail listserver called PRIMATE-TALK. PRIMATE-TALK is an open forum for the discussion of primatology and related subjects. This forum is open to electronic mail users world-wide with an interest in primatology. Subject matter may include, but is not limited to the following: News items, meeting announcements, research ideas, information requests, veterinary/husbandry topics, job notices, animal exchange information, book reviews.

People with Internet, BITNET, or UUCP addresses can communicate with PRIMATE-TALK. Users of other networks should contact the WRPRC. If you are interested, in joining PRIMATE-TALK, send a message to **PRIMATE-TALK-REQUEST@PRIMATE.WISC.EDU** stating that you would like to sign on. If you have questions about electronic access to the list, you may call **Larry Jacobsen at 608-263-3512, or FAX at 608-263-4031. You may also write to the WRPRC Library, 1220 Capitol Court, Madison, WI, 53715-1299, USA.**

**SOPHIE DANFORTH CONSERVATION BIOLOGY FUND.** The Sophie Danforth Conservation Biology Fund was established by the Roger Williams Park Zoo and the Rhode Island Zoological Society to help protect the world's threatened wildlife. Each year, we award grants to individuals or institutions working in conservation biology for up to \$1000. Projects and programs that enhance biodiversity and maintain ecosystems receive the highest funding priority. Field studies, environmental education programs, development of techniques that can be used in a natural environment and captive propagation programs that stress an integrative and/or multi-disciplinary approach to conservation are also appropriate. Proposals for single species preservation, initial surveys, or seed money for technique development are not appropriate.

Recipients are required to acknowledge the Roger Williams Park Zoo and the Rhode Island Zoological Society in any publications that result from the project. Recipients must also submit a progress report which includes an update on the status of the project. This report is due one year after funding. All proposals must be submitted by May 1, 1992. Applications will be reviewed by a committee of zoo, zoo society, and outside advisors. Grants will be awarded in July, 1992. For further information and application forms, contact: **Dr. Anne Savage, Director of Research, Roger Williams Park Zoo, Elmwood Ave, Providence, RI, 02905. Phone: 401-785-9450. FAX: 401-941-3988.**

#### MEETINGS

**1993 ABS MEETING.** The Animal Behavior Society will hold its 30th meeting at the University of California, Davis, 24-30 July. For information contact **Benjamin Hart, Dept. of Physiology, School of Veterinary Medicine, University of California at Davis, Davis, CA, 95616.**

**A CONFERENCE** entitled "**Implementation Strategies for Research Animal Well-being: Institutional Compliance with Regulations**" will be held December 5-6, 1991 at the Peabody Hotel, Baltimore, Maryland. The conference is co-sponsored by the Scientists Center for Animal Welfare and Wards, Inc. For information, contact **SCAW, 4805 St. Elmo Ave., Bethesda, MD, 20814.**

**SWARM** (Southwestern and Rocky Mountain) Division of AAAS will hold its 68th annual meeting May 17-21, 1992 at the University of Arizona, Tucson, AZ. All scientists (including graduate students, for whom there are special awards) are invited to present research reports or to participate in symposia or workshops. For further information, contact: **SWARM Division, AAAS Meetings, Colorado Mountain College, 215 Ninth St., Glenwood Springs, CO, 81601.**

**1992 ASZ MEETING.** A symposium entitled "Cannibalism and Infanticide" organized by Gerald FitzGerald is scheduled for the 1992 ASZ meeting in Vancouver, B.C. Scheduled speakers include W. Vickery, Lori Stevans, Gary Polis, Craig Sargent, Felix Breden, David Pfennig, Eileen Lacy, Doug Mock, F.G. Worsley, Carolyn M. Crockett, and Mark A. Elgan.

#### OPPORTUNITIES

**GRADUATE FELLOWSHIPS IN ECOLOGY AND EVOLUTIONARY BIOLOGY.** The W.K. Kellogg Biological Station of Michigan State University announces a new Graduate Research Training Group in Ecology and Evolutionary Biology funded by the National Science Foundation. This program provides long-term fellowship support for Ph.D. students in an integrated, research-based training program focussing on linking levels of ecological organization. The goal is to develop scientists who can synthesize across traditional disciplinary boundaries and levels of ecological organization. Participating faculty work in aquatic and terrestrial environments on microbes, plants, animals, and ecosystems. For addition information, contact **RTG Director, Kellogg Biological Station, Hickory Corners, MI, 49060. Phone: 616-671-5117.**

**FIELD ASSISTANTS NEEDED** April to August to aid in a field study of the breeding biology of Dark-eyed Juncos at Mountain Lake Biological Station in southwestern Virginia (some flexibility in starting date). Responsibilities include mist netting, blood sampling, nest finding, radiotelemetry, behavioral observations, data entry and analysis. Transportation allowance, room and small stipend provided. Successful applicants need to be energetic, self-motivated, resistant to cold and damp, and able to distinguish color bands in the field. Experience is preferred, but not required. The work is very rewarding if you are interested in animal behavior and like to be outdoors. Send letter of interest including a summary of your background and objectives in applying, and names, addresses, and telephone numbers of three references to **Ellen D. Ketterson and Val Nolan**

Jr., Dept. of Biology, Indiana University, Bloomington, IN, 47405. Phone: 812-855-6837, BITNET: KETTERSO@IUBACS.

**FELLOWSHIP - HUMAN/ANIMAL BOND.**

Applications are being accepted from individuals who wish to study the human-animal bond or the behaviour of companion animals. This, the Secord-Curry Fellowship, is supported to a maximum of \$25,000 per year for up to three years and is renewed annually conditional on satisfactory progress. The successful candidate may pursue, as appropriate, either a graduate degree program or post-doctoral study. Applications will be accepted until Nov. 30, 1991 or until the position is filled. Submit a curriculum vitae, a brief statement regarding the area of research to be pursued, and the names of three references to Dr. Alan H. Meek, Associate Dean, Ontario Veterinary College, University of Guelph, Guelph, Ontario, Canada, N1G 2W1. Phone: 519-823-8800, Ext. 4421. Position is subject to final budgetary approval.

**FIELD ASSISTANT NEEDED** starting late April or early May to the end of July to work on a study of mating success and sexual selection in the Scissor-tailed Flycatcher. Study site is mesquite prairie located on Ft. Sill in Southwestern Oklahoma, adjacent to the city of Lawton. Work involves locating and monitoring nests, netting and color-banding Scissor-tails, and handling nestlings. We will also conduct behavioral observations of feeding at the nest, and draw blood for parasite analysis and paternity testing. Room, board, and travel expenses will be provided. To apply, send resume and names and phone numbers of two references to Jonathan Regosin, Dept. of Ecology and Evolution, University of Chicago, 1101 E. 57th St., Chicago, IL, 60637. Phone: 312-702-9477.

**BIOPSYCHOLOGY POSITION.** Denison University Psychology Department is recruiting for a tenure-track position at the Assistant Professor level in Biopsychology (brain-behavioral relationships including any neuroscience speciality). Initial contract will be for three years. Teaching responsibilities will include physiological psychology with a laboratory and introductory psychology, as well as other courses in interest areas. Preference will be given to candidates who (1) have a strong commitment to teaching undergraduates and to maintaining an active research program, (2) are interested in participating in the development of an interdisciplinary neuroscience program, and (3) have a Ph.D. and teaching experience. Denison is an undergraduate liberal arts college with a strong psychology program and extensive laboratory research facilities. Send vita and three letters of recommendation by January 31, 1992 to Rita Snyder, Chair, Dept. of Psychology, Denison University, Granville, OH, 43023.

**LECTURER IN BIOPSYCHOLOGY.** The Department of Psychology at Cornell University is considering candidates for a lecturer appointment in the

biopsychology area. Lecturer is an academic appointment with responsibilities that are primarily in teaching. This appointment will require teaching two to three courses in the fall and spring semesters of each academic year. The courses would include an advanced undergraduate lecture course on hormones and behavior, and could include advanced seminars and laboratory or field courses. Professional qualifications should be comparable to those for the position of Assistant Professor. Appointments are for periods of not more than three years and are renewable. The position will begin January, 1992. Review of applications will begin November 1, 1991. Interested applicants should submit a curriculum vitae, reprints or preprints of completed research and letters of recommendation sent directly from three referees to: Secretary, Lecturer in Biopsychology Search Committee, Dept. of Psychology, Uris Hall, Cornell University, Ithaca, NY, 14853-7601.

**FIELD ASSISTANTS NEEDED** for help with a project on the mate-searching behavior of male thirteen-lined ground squirrels. Duties will include assistance with live-trapping and marking of individuals, collection of behavioral data, and some data entry. This position begins in late March and runs through June, 1992. Salary is \$759 per month, housing is NOT included (but is relatively inexpensive in this area). Previous field experience and some coursework in animal behavior are desirable. To apply, send a resume and the names, addresses, and telephone numbers of three references to: Dr. Trish Schwagmeyer, Dept. of Zoology, University of Oklahoma, Norman, OK, 73019. Phone: 405-360-8770 (home) or 405-325-4821 (work).

**FIELD ASSISTANTS NEEDED** for help in studying the energetic costs of fatal sibling aggression by nestling cattle egrets. Duties will include observing and recording data from blinds, censusing survivorship in colonies, data entry, and helping with injection of isotopic water plus collection of small blood samples. This position runs from mid-May to late June, 1992. Salary is \$759 per month, housing is NOT included. Previous field experience and some coursework in animal behavior are desirable. To apply, send a resume and the names, addresses and telephone numbers of three references to: Dr. Doug Mock, Dept. of Zoology, University of Oklahoma, Norman, OK, 73019. Phone: 405-360-8770 (home) or 405-325-4821 (work).

**GRADUATE STUDENTS FOR PROGRAM IN SEXUAL BIOLOGY OF SHRIMPS:** I am looking for highly qualified graduate students (masters, doctoral) to participate in a program on the study of mating systems and sexual selection in freshwater and marine shrimp (*Crustacea: Decapoda*). Students with high GPAs and GRE scores and interests in animal behavior studies are encouraged to apply. Teaching assistantships and doctoral fellowships are available. Contact Raymond T. Bauer, Dept. Biology/Center for Crustacean Research, University of

**Southwestern Louisiana, Lafayette, LA,  
70504-2451. Phone: 318-231-6435.**

**FIELD ASSISTANTS NEEDED** for study of behavioral ecology of Gunnison's prairie dogs. Topics of research include variance in male and female reproductive success, alarm calling, infanticide, communal nursing, and levels of inbreeding. Study site is in Petrified Forest National Park, Arizona. Field season starts March 1 and ends June 30, 1992. Lodging expenses will be available, and stipends may also be available for students who qualify. The only requirement is that you have a genuine interest in field research in ecology and social behavior. Academic credit is possible, and several previous assistants have applied research towards either senior thesis or Master's degree. If interested, contact **John L. Hoogland, The University of Maryland, Appalachian Environmental Laboratory, Frostburg, MD, 21532. Phone: 301-689-3115.**

**SOUTHWESTERN RESEARCH STATION STUDENT RESEARCH GRANTS:** The American Museum of Natural History awards several grants each year of approximately \$400-\$800 to graduate students or post-doctoral students pursuing research at its Southwestern Research Station in the Chiricahua Mountains, Portal, Arizona. Information and application forms concerning this program and other Museum grant programs can be obtained by writing: **Office of Grants and Fellowships, American Museum of Natural History, Central Park West at 79th St., New York, NY, 10024-5192.** Application due date: 15 February 1992. Address questions concerning the Research Station to **Dr. Wade C. Sherbrooke, Southwestern Research Station, Portal, AZ, 85632. Phone: 602-558-2396.**

**VOLUNTEERS:** Approximately 20 volunteer positions are open in 1992 at the American Museum of Natural History's Southwestern Research Station in Portal, Arizona. The volunteer program is run annually and offers students in biological science outstanding opportunities to observe and become involved with scientists doing field research. Food and lodging are provided to volunteers in exchange for four hours per day of routine chores, with the remaining time available for research activities. Volunteers are needed between March 15 and November. Appointments are for part of this period with a minimum appointment of six weeks. Applicants for spring positions (March - May) should submit forms by 15 February; summer volunteers (June - August) by 1 April and fall volunteers (Sept. - Nov.) may apply any time. For application forms, write **Dr. Wade C. Sherbrooke, Director, Southwestern Research Station of the American Museum of Natural History, Portal, AZ, 85632. Phone: 602-558-2396.**

**FIELD ASSISTANT** needed to assist in a study of the behavioral ecology of golden marmots in Pakistan's Karakoram Mountains - mid-April to mid-September, 1992. Responsibilities will include trapping, marking,

and observing marmots. The field site is located in a 14000' high alpine meadow in the spectacularly beautiful Khunjerab National Park in Pakistan's Northern Areas. Potential assistants should either be in excellent physical condition or be able to get into shape quickly. Foreign visitors to the study site require Pakistani security clearance - a simple but lengthy process. If interested, please contact me immediately for more information. **Dan Blumstein, Dept. of Zoology, University of California, Davis, CA, 95616. Phone: 916-752-3075. FAX: 916-752-1449. BITNET: DTBLUMSTEIN@UCDAVIS.**

**PREDOCTORAL FELLOWSHIPS** for research and training in vector biology, disease ecology, and tropical medicine in the Department of Immunology and Infectious Diseases provided for qualified applicants. Stipend and tuition. Applications due Feb. 1, 1992 for the 1992-93 academic year. Contact **Hermine Bongers, Dept. Immun. & Inf. Dis., School of Hygiene and Public Health, The Johns Hopkins University, 615 N. Wolfe St., Baltimore, MD, 21205. Phone: 516-955-3459, FAX: 516-955-0105.**

**RESEARCH ASSISTANT:** Field assistant needed to work on a small mammal mark-recapture study at the Mountain Lake Biological Station in Virginia. Duties will include trapping and handling small mammals, collecting blood and tissue samples, and some data analysis. Experience with small mammals preferred. Assistant will live at the Station. Dates needed early May until late August. Board and room and small stipend provided. Contact **Jerry O. Wolff, US-EPA, 200 SW 35th St., Corvallis, OR, 97333. Phone: 503-757-4377.**

**RESEARCH ASSISTANT NEEDED** for a comparative study of mate choice and sexual selection in the Northern Pintail and White-cheeked Pintail at the Smithsonian Institution's Conservation and Research Center in Front Royal, VA. Excellent opportunity to learn and participate in all phases of a behavioral and endocrinological research project. Duties include hormone analysis in the laboratory, behavioral observations, assisting with handling and measuring birds, and data entry. Applicants should have a background in zoology/biology with coursework in chemistry, physiology, and animal behavior desirable. Enthusiasm and willingness to sometimes work long hours a must. Position runs from late Nov. to late August or Sept. 1992 (starting date flexible, may consider appointments of shorter duration). Dormitory-style housing provided. Contingent on funding, a modest stipend may be provided starting Feb. 1, 1992. To apply, send your resume and names and phone numbers of two references to **Dr. Lisa G. Sorenson, Conservation and Research Center, Smithsonian Institution, Front Royal, VA, 22630. Phone: 703-635-6564 or 703-635-6380.**

**TWENTY-NINTH ANNUAL MEETING  
ANIMAL BEHAVIOR SOCIETY  
13-18 JUNE 1992  
QUEEN'S UNIVERSITY, KINGSTON, CANADA\*\*\***

Queen's University cordially invites you to attend the 29th Annual Meeting of the Animal Behavior Society. Our campus is situated in historic Kingston, on the shores of Lake Ontario near the heart of the Thousand Islands. Queen's is one of the oldest universities in Canada (founded 1842) and is celebrating its Sesquicentennial in 1991-92. The registration information and forms appear in this Newsletter and will also be mailed to all members by early January. PLEASE NOTE: This registration material and call for papers will NOT be repeated in the February Newsletter.

The following information on travel, meeting highlights and facilities should help you plan your trip. Feel free to contact either co-host with your questions: Laurene Ratcliffe (613-545-6142), or Kathy Wynne-Edwards (613-545-6349; e-mail WYNNEED@QUCDN), Dept. of Biology, Queen's University, Kingston, Ontario, Canada K7L 3N6 (FAX 613-545-6617).

\*\*\*Renseignements en français aussi disponibles; s'adresser a L. Ratcliffe, Biology, Queen's University, Kingston, Ontario K7L 3N6.

**SETTING AND FACILITIES:** Queen's is graced by 19th century limestone architecture, tree-lined streets, and parks. The campus is eminently walkable; all meeting activities will be conveniently centred within sight of each other. Symposia, technical sessions and workshops will be held in a modern hall across the street from the dormitory, which will also house the poster sessions and socials. The cafeteria, which overlooks the lakeshore, is located about 150 yards from the dorm. All these facilities have handicap access. Ample free parking is located behind the dorm.

The university library, student centre and Agnes Etherington art gallery are located one block from the dorm. A jogging track winds through campus, and athletic facilities (squash/tennis courts, pool) can be arranged with a guest pass from Queen's physical education centre. Kingston hosted the 1976 Sailing Olympics, and excellent sailing and windsurfing facilities are located within a short stroll of campus. NB: Wetsuits are recommended this time of year.

The dormitory can accommodate all who wish to stay there. There are a number of campgrounds in the vicinity; only one (Lake Ontario Park) is within a 10 minute drive of campus, so early bookings are essential. For those preferring bed and breakfast or hotels, there is a good selection in the heart of the city, only a 10 minute walk from campus. We hope meeting participants will acquaint themselves with Kingston's many fine restaurants, brew pubs, boutiques, open-air market (food, crafts, antiques), and lively nightlife. Downtown traffic, including evenings, is mostly pedestrians and bicyclists. Everyone should find the downtown accessible and worth the short walk.

**TRAVEL ARRANGEMENTS:** Kingston is situated half-way between Toronto and Montreal on Highway 401. Syracuse, NY is an easy 2.5 hour drive. The greater Kingston area (pop. 150,000) is well-served by air from Toronto (see below), by train (VIA Rail) and bus (Voyageur Colonial) from Toronto, Montreal and Ottawa. Once in Kingston, taxi service from any of these stations to campus will average \$5-\$10 (Cdn.) We remind non-Canadians that Canada is a foreign country, and you may be asked for proof of citizenship at the border.

**Air Travel.** The OFFICIALLY DESIGNATED AIR CARRIER for the meeting is American Airlines. To obtain the discount fares described below, you should call toll free 1-800-433-1790, identify yourself as attending the 1992 Animal Behavior Society meetings, and quote "**STAR NUMBER 046 2MD**".

Discounts apply for the period 11-20 June, 1992. AA offers 30% off the trans-border fare (flights into Toronto's Pearson Airport) and 40% off flights into Syracuse, NY. AA can also help you with any hotel reservations or car rental. For those flying into Toronto, Canadian Airlines offers connecting flights (55 minutes) on Canadian Partner to Kingston's Norman Rogers Airport. For those flying into Syracuse, Mohawk Air offers connecting flights to Watertown, NY. You will need to rent a car from either Syracuse or Watertown.

**CHILD CARE:** We plan to have a number of experienced undergraduate sitters to provide child care on campus during day and evening activities. If you wish to have child care at the meeting, you must contact Laurene Ratcliffe by 1 April 1992 with information on the number and ages of children.

**PLANNED EVENTS - HIGHLIGHTS:** In accordance with the new tradition established at the 1991 Wilmington meeting, arrival and registration will commence on Saturday, papers will begin on Sunday and end on Thursday. Here are highlights of some of the events being planned:

**Keynote and Fellows Speakers:** We are pleased to announce our Keynote Speakers, **Barrie Frost** of Queen's University, who will speak on "Ecological Sensory Physiology" and **Steve Emlen** of Cornell, whose talk will deal with "Reproductive Decision-making in Birds". Our two Fellows Lecturers are **Miles Keenleyside**, University of Western Ontario, speaking on "Parental Care in Cichlid Fish" and **Judy Stamps** "University of California at Davis, whose talk is titled "Territorial Behavior: Testing the Assumptions".

**Saturday Evening BBQ:** On the lakefront, a chance to sample some of the offerings from Kingston's microbreweries.

**Tuesday Evening "Night Out":** We offer the choice of a Thousand Islands dinner/dance cruise, or a field trip and dinner at Queen's Biological Station located on the Rideau waterway, 35 miles north of Kingston. Capacity is limited for both events, so book early.

**Thursday Evening Banquet followed by Music Night:** Breaking with tradition, the banquet will be held on the last evening of the meeting, i.e., Thursday, rather than Wednesday. Back by popular demand is an Evening of Music and Entertainment, starring home-grown ABS talent. Those with musical, comedic or other skills who wish to participate should contact the hosts as soon as possible.

**Other Events:** Poster Sessions, Amateur and Professional Movies, and Art, Technical and Publishers' Exhibits.

Please note: (1) Anyone wishing to display art and/or technical material of interest to ABS members should contact Jeff Lucas, Dept. of Biological Sciences, Purdue University, West Lafayette, IN, 49707. Phone: 317-494-8112. E-mail: JRL0@PURCCVM. (Note:jrl zero.)

(2) All posters will be up on display from Sunday to Wednesday, across the street from the spoken papers. We are planning two poster sessions with half of the authors present at each session, to allow the maximum exposure. We strongly encourage meeting participants to consider presenting posters.

**OPTIONAL ACTIVITIES:** Registrants will be provided with information on sightseeing in and around Kingston, either on foot, bicycle or by coach (details at Registration). In addition, we offer the following TOURS. Prices for these trips are approximately, based on break-even costs for minimum group sizes. A \$US 10.00 (\$Cdn 12.00) deposit will hold your reservation (see Registration form). Deposits will be refunded if a tour on a particular date does not meet the minimum number required. Deposits for tours which go will not be refunded after 1 May 1992.

**Upper Canada Village, St. Lawrence Parks Commission.** (Saturday, 13 June & Thursday, 18 June, 9:30am-5pm.) Approximate price \$US 27.00 (\$Cdn 30.00), includes \$Cdn 9.00 entrance fee. Lunch not included. An historic trip down the shore of the St. Lawrence River to a village of about 35 buildings carefully restored to the 1860's era. Working exhibits, bateau rides, and guides in period character all illustrate life in Upper Canada.

**Old Fort Henry, Kingston.** (Sunday, 14 June and Friday, 19 June 9:30am-12noon.) Approximate price \$US 10.00 (\$Cdn 12.00), includes \$Cdn 8.00 entrance fee. Guided tour of the 19th century fort guarding the entrance to Kingston Harbour, built during the War of 1812-14. A living museum of garrison life, including family activities during the 1800s.

**Reptile Breeding Foundation, Cherry Valley** (Wednesday, 17 June, 8:30am-4pm.) Approximate price \$US 18.00 (\$Cdn 20.00), includes entrance fee. Lunch not included. The Reptile Breeding Foundation, located about 1.5 hr. drive west of Kingston, is a unique Canadian facility for breeding and studying endangered reptiles. It is affiliated with the Metro Toronto Zoo. The tour includes a visit to the "Exotarium", with displays of over 100 animals, including native and exotic species, followed by a specially arranged visit to the breeding facilities where the Foundation's Curator will provide a personal tour.



**DINNERS AND SPECIAL EVENTS**

Barbecue, Saturday, June 13 @ \$US 11.00 (\$Cdn 12.50) x \_\_\_\_\_ tickets = \_\_\_\_\_  
 Dinner, Sunday, June 14 @ \$US 12.00 (\$Cdn 13.50) x \_\_\_\_\_ tickets = \_\_\_\_\_  
 Dinner, Monday, June 15 @ \$US 12.00 (\$Cdn 13.50) x \_\_\_\_\_ tickets = \_\_\_\_\_

Thousand Islands Dinner Cruise, Tuesday, June 16  
 @ \$US 31.00 (\$Cdn 35.00) x \_\_\_\_\_ tickets = \_\_\_\_\_

or

Queen's Biology Station Field Trip/Dinner Tuesday, June 16  
 @ \$US 24.00 (\$Cdn 27.00) x \_\_\_\_\_ tickets = \_\_\_\_\_

Dinner Wednesday, June 17 @ \$US 12.00 (\$Cdn 13.50) x \_\_\_\_\_ tickets = \_\_\_\_\_

Banquet, Thursday, June 18 @ \$US 22.00 (\$Cdn 25.00) x \_\_\_\_\_ tickets = \_\_\_\_\_

(check here ( ) if vegetarian banquet preferred)

**Dinner/Event Subtotal** \$US \_\_\_\_\_  
 or \$Cdn \_\_\_\_\_

**T-SHIRTS** (striking animal silhouettes on blue, dark green, or red, 100% cotton)

Sizes: S, M, L, XL Colours: Blue, Dark Green, Red

Indicate Quantity/ Size/ Colour: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
 \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
 \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

\_\_\_\_\_ T-shirts @ \$US 11.00 (\$Cdn 12.50) \$US \_\_\_\_\_  
 or \$Cdn \_\_\_\_\_

**OPTIONAL ACTIVITIES**

Upper Canada Village Tour  
 Saturday, June 13 \_\_\_\_\_ deposits x \$US10.00 (\$Cdn 12.00) = \_\_\_\_\_  
 Thursday, June 18 \_\_\_\_\_ deposits x \$US10.00 (\$Cdn 12.00) = \_\_\_\_\_

Old Fort Henry Tour  
 Sunday, June 14 \_\_\_\_\_ deposits x \$US10.00 (\$Cdn 12.00) = \_\_\_\_\_  
 Friday, June 19 \_\_\_\_\_ deposits x \$US10.00 (\$Cdn 12.00) = \_\_\_\_\_

Reptile Breeding Foundation  
 Wednesday, June 17 \_\_\_\_\_ deposits x \$US10.00 (\$Cdn 12.00) = \_\_\_\_\_

**SUMMARY**

	\$ US	\$Cdn
Registration Sub-total	_____	_____
Housing Sub-total	_____	_____
Dinners/Events Sub-total	_____	_____
T-Shirts	_____	_____
Optional Activities	_____	_____

**GRAND TOTAL** \$ \_\_\_\_\_ \$ \_\_\_\_\_

Make checks payable in either US or Cdn funds to "1992 ABS Meetings". Entire payment must accompany the registration form. Refunds less \$US10 administration fee will be made if we receive written notification by 1 May 1992. No refunds will be made after 1 May 1992 except in severe emergency.

Mail to: 1992 Animal Behavior Society Meeting  
 c/o Dr. K. Wynne-Edwards  
 Dept. of Biology  
 Queen's University, Kingston  
 Ontario, CANADA K7L 3N6

If you require a receipt prior to the meeting, please include a self-addressed envelope bearing appropriate US or Canadian postage.

**1992 ANNUAL MEETING  
ANIMAL BEHAVIOR SOCIETY  
13-18 JUNE 1992  
QUEEN'S UNIVERSITY  
KINGSTON, ONTARIO, CANADA**

**CALL FOR PAPERS:** A Transmittal Form and Abstract Preparation Form for contributed papers are included here. There are two types of contributed papers: 20 minute (15 min. for presentation and 5 min. for discussion) and poster papers. **ABS members may present or sponsor only one contributed paper at an Annual Meeting.** When a member is a co-author with a nonmember who is presenting, the member is sponsoring the paper. A member may also show one film and participate in an invited paper session or symposium in addition to giving or sponsoring one contributed paper. The research reported at an Annual Meeting is expected to comply with all applicable laws concerning animal care and welfare. Transmittal and Abstract Forms, as well as inquiries concerning the program, should be directed to the ABS Program Officer, Lynne D. Houck, Dept. of Ecology and Evolution, University of Chicago, 940 E. 57th St., Chicago, IL, 60637-1455.

**FINAL DEADLINE FOR RECEIPT OF ABSTRACTS: 17 FEB 1992. Only submissions on the proper form will be accepted. Late submissions will be returned. No FAX submissions.**

NOTE: You must pre-register for the meeting at the same time as your abstract is submitted. Registration forms are included in this Newsletter, and a separate copy will also be sent to each member. **Send Registration Forms directly to the local Host: Dr. Laurene Ratcliffe, Dept. of Biology, Queen's University, Kingston, Ontario, Canada, K7L 3N6.**

**POSTER PAPERS** will be on display throughout the meetings, with hours for author attendance scheduled during two evenings. Poster papers are highly recommended: Posters can facilitate more discussion, perusal of data, and one-to-one exchanges of ideas. The ABS now sponsors a competition, the **Founders Award for Poster Papers**. If you are planning a poster paper submission and wish to be considered for this award, please check the appropriate box on the Transmittal Form. All members of ABS presenting poster papers are eligible for the award. Details of the competition and some suggestions for poster paper presentation will be mailed to those in the competition.

**ALLEE AWARD:** The W.C. Allee Award will be presented for the outstanding student paper at the 1992 Annual Meeting. Any independent student research that is largely unpublished at the time of submission for the competition is eligible for this cash and book award, as long as the student has not competed before and has not had the final defense of the doctoral dissertation prior to the preceding Annual Meeting. Each paper must have a single author. To compete, send the Transmittal Form and Abstract Form, as well as four copies of a written version of the paper to the Program Officer by 17 Feb. 1992. The written manuscript must not exceed seven pages of double-spaced typewritten text; it may include no more than four tables and figures and should be completed in the *Animal Behaviour* format. A single page update may be submitted between 17 February and 1 June, 1992.

**INVITED PAPER SESSIONS:** ABS encourages those who wish to plan a session of invited papers or a symposium. The annual deadline for submission of proposals for invited paper sessions or for symposia is November 1 preceding the next annual meeting. Plan now for the 1993 meetings to be held 24-30 July in Davis, CA. At the earliest opportunity in your planning, please contact the Program Officer for proposal format and additional information.

**ABSTRACT PREPARATION:**

1. Abstracts will be photographed just as you submit them; you must follow the specified format.
2. Abstract should be typed or printed within a 3" x 7" space. An example of this maximum abstract size is provided below. Do not type your abstract onto this example; use plain bond paper or good xerox paper. Single space all typing. Leave no top or left margins and no blank lines anywhere.
3. If typed, use an electric typewriter with a good ribbon; make neat corrections. Elite type (12 pitch) is preferred. Use black ink for symbols not on your typewriter. If at all possible, avoid dot matrix printers - they produce inferior copies.

4. Your abstract should be organized as follows:

- a. Title - use CAPITAL LETTERS; check to be certain that the titles on your Transmittal Form and your Abstract are identical; when using a Latin name, please include the common name also.
- b. Authors - include departmental and institutional affiliations.
- c. Specific objectives - include a brief statement unless this is clear from the title.
- d. Methods - include a brief description as necessary.
- e. Results - provide a clear, specific summary of findings.
- f. Conclusions.

5. We provide an example below of a title and by-line. DO NOT type your Abstract on this page: Use plain bond paper. Please do not include any lines around your abstract.

**BEHAVIORAL ISOLATION OF SALAMANDERS OF THE GENUS PLETHODON**  
**Nancy L. Reagan, Dept. Ecol. & Evol. Biol., University of Chicago, Chicago, IL**

**CHECKLIST FOR SUBMITTING AN ABSTRACT:**

1. The entire abstract (including title and author) fits within a space that is 7" wide x 3" high.
2. Only the title is in all CAPS.
3. TWO copies of the abstract are being submitted.
4. The abstract will not be folded to be mailed.

**Use this 3" x 7" box as a spacing guide. Please do not type your abstract in this box.  
Do not put lines around your abstract.**

**ABSTRACT TRANSMITTAL FORM:  
ANNUAL MEETING OF THE ANIMAL BEHAVIOR SOCIETY  
13-18 JUNE 1992, QUEEN'S UNIVERSITY, KINGSTON, ONTARIO, CANADA, K7L 3N6**

Return to : Lynne D. Houck, Dept. of Ecology and Evolution, University of Chicago, 940 E. 57th St., Chicago, IL, 60637-1455.

**PLEASE TYPE OR PRINT**

Title of Paper:

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Author(s): Please place a star to the left of the presenting author's name.

First Name                      Middle Initial                      Last Name                      Institutional Affiliation

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Mailing Address of Presenting Author:

Telephone Numbers

\_\_\_\_\_ Office: \_\_\_\_\_

\_\_\_\_\_ Home: \_\_\_\_\_

\_\_\_\_\_ FAX: \_\_\_\_\_

\_\_\_\_\_

**ABS Membership of Presenting Author:**

Regular member of ABS \_\_\_\_\_ Student Member of ABS \_\_\_\_\_

Nonmember of ABS \_\_\_\_\_ Sponsored by \_\_\_\_\_

Visiting Foreign Scientist Engaged in Animal Behavior Research \_\_\_\_\_

**Category of Paper to Be Presented (abstract required of all categories)**

Poster Paper \_\_\_\_\_ Invited Symposium Paper \_\_\_\_\_

Founders' Award Poster Paper Competition \_\_\_\_\_ 20 Minute Paper \_\_\_\_\_

Invited Paper Session \_\_\_\_\_ Allee Award Competition \_\_\_\_\_

**Would you like to chair a session?** Yes \_\_\_\_\_ No \_\_\_\_\_

A standard 2 x 2" slide projector and overhead projector will be provided. Note other A-V requests below:

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Note: Electricity will not be available for poster sessions.

Please identify your paper according to animal group and principal subject by circling the appropriate categories. Your category choices are used as suggestions to assist the Program Officer in arranging the program.

ANIMAL GROUP:

Humans	Carnivores	Crustaceans	Arachnids
Ungulates	Reptiles	Amphibia	Insects
Marine Mammals	Rodents	Other Mammals	Invertebrates
Non-human Primates	Birds	Fishes	Molluscs

SUBJECT:

Applied Ethology	Genetics	Social Behavior	Behavioral Ecology
Learning	Agonistic Behavior	Biological Rhythms	Methodology
Altruism/Kinship	Communication	Natural History	Courtship/Mating
Development	Orientation/Navigation	Dominance	Physiology/Neuroethology
Theory	Mate Choice	Predator/Prey	Self Maintenance
Intrasexual Competition	Play Behavior	Parent-Offspring Relations	
Territoriality	Human Ethology		

None of the above categories seems appropriate. I would best categorize my paper as dealing with

---

I would prefer to have my presentation in a session arranged by: Subject \_\_\_\_\_ Taxonomic Group \_\_\_\_\_

SPECIAL REQUESTS that the Program Officer will TRY to accomodate:

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By submission of this abstract to ABS, I declare that the research reported herein was conducted in compliance with the ABS Animal Care Guidelines and all laws applicable to my work.

Signed \_\_\_\_\_

This presentation is based on research sponsored by an ABS Research Grant: Yes \_\_\_\_\_ No \_\_\_\_\_

**APPLICATION FOR MEMBERSHIP: ANIMAL BEHAVIOR SOCIETY**

Name in Full \_\_\_\_\_ Degrees \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_ Phone \_\_\_\_\_ E-Mail \_\_\_\_\_

Position \_\_\_\_\_ Institution \_\_\_\_\_

\_\_\_\_\_ Member - \$36 (US) Receive Animal Behaviour and Newsletter

\_\_\_\_\_ Student Member - \$18 (US) Receive Animal Behaviour and Newsletter

\_\_\_\_\_ Spouse Member - \$15 (US) Receive Newsletter

My student membership is endorsed by (Dept. Head, ABS Member, or Fellow)

Name \_\_\_\_\_ Signature \_\_\_\_\_

This application should be send with remittance (make check payable to Animal Behavior Society) or include your

Mastercard # \_\_\_\_\_ or VISA # \_\_\_\_\_

Expiration Date \_\_\_\_\_ Card Holder's Signature \_\_\_\_\_

**Send the application to: Robert W. Matthews, ABS Treasurer  
Dept. of Entomology  
University of Georgia  
Athens, GA 30602**

\*\*\*\*\*

J. Driscoll  
ABS Secretary  
2550 W. 43rd Avenue  
Denver, CO 80211-1732

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PERMIT NO. 4096

ADDRESS CORRECTION REQUESTED



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