NEWSLETTER
Animal Behavior Society

Vol. 35, No. 2
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A quarterly publication

David Chiszar, ABS Secretary
Maura Carew, Associate Editor
Department of Psychology, University of Colorado, Campus Box 345, Boulder, Colorado, 80309

ABS NOMINATIONS FOR 1990 ELECTION OF OFFICERS

The following have been nominated for offices that begin immediately after the ABS meeting in 1991.

Second President Elect:

H. Carl Gerhardt	University of Missouri, Columbia
Zuleyma T. Halpin	University of Missouri, St. Louis

Editor:

David B. Miller	University of Connecticut
Meredith J. West	Indiana University

Treasurer:

David W. Dunham	University of Toronto
Jennifer A. Mather	University of Lethbridge

Member-at-Large:

Dorothy Fragaszy	Washington State University
Bennett G. Galef	McMaster University

Additional nominations may be made by letter to the Nominations Committee (c/o John Fentress, Depts of Psychology and Biology, Dalhousie University, Halifax, Nova Scotia B3H 4J1 Canada). Nominations must be signed by five or more ABS members in good standing (Constitution Article 8, Section 1); they must be received by 15 June 1990. The ballot and brief resumés of the candidates will appear in the August 1990 ABS Newsletter.

ABS NATIONAL CONVENTION, 1990

The 1990 meeting will be at SUNY Binghamton, 10-15 June. Local host: **Stim Wilcox**, Dept Biol Sci, SUNY, Binghamton NY 13901. Phone: 607-777-2423. See February Newsletter for Registration Form and meeting highlights

ABS NATIONAL CONVENTION, 1991

The 1991 meeting will be at the Univ of North Carolina at Wilmington, 2-7 June. Local host: **John Williams**, Dept Psych, Univ North Carolina, Wilmington NC 28403-3297. Phone: 919-395-3371.

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ANIMAL BEHAVIOR SOCIETY DIRECTION OF CORRESPONDENCE

ABS NEWSLETTER & general correspondence to the Society:
David Chiszar, Dept of Psych, Campus Box 345,
Univ of Colorado, Boulder CO 80309

AFTER 15 June 1990, mail correspondence to the new Secretary:

Janis W. Driscoll, Dept of Psych
Campus Box 173
Univ of Colorado, DENVER
1200 Larimer St.,Denver CO 80204
PHONE: 303-556-2601

ANIMAL BEHAVIOUR--Manuscripts and editorial matters:
Lee Drickamer, Dept of Zoology
Southern Illinois Univ
Carbondale, IL 62901

ANIMAL BEHAVIOUR--Missing, defective, or back issues; change of address:
Robert Matthews, Dept of Entomology
Univ of Georgia, Athens GA 30602

NEWSLETTER

Contributions for the ABS Newsletter are welcome. Deadline for receipt of materials for the August issue is 15 July 1990. **Send to: Dr. Janis Driscoll, address above**

ABS OFFICERS

PRESIDENT: Patrick Colgan, Biology Dept, Queen's Univ, Kingston, Ontario, Canada K7L 3N6.

1st PRESIDENT-ELECT: Charles Snowdon, Psychology Dept, Univ Wisconsin, Madison WI 53706.

2nd PRESIDENT-ELECT: H. Jane Brockmann, Dept Zool, Univ Florida, Gainesville FL 32611.

PAST-PRESIDENT: John Fentress, Dept Psych and Biol, Dalhousie Univ, Halifax, Nova Scotia, Canada B3H 4J1.

SECRETARY: (1987-1990) David Chiszar, Dept Psych, Campus Box 345, Univ Colorado, Boulder CO 80309

TREASURER: (1988-1991) Robert Matthews, Dept Entomolgy, Univ Georgia, Athens, GA 30602.

PROGRAM OFFICER: (1989-1992) Lynne Houck, Dept Biol, Univ Chicago, Chicago IL 60637.

PARLIAMENTARIAN: (1989-1992) George Waring, Dept Zool, Southern Illinois Univ, Carbondale IL 62901.

EDITOR: (1988-1991) Lee Drickamer, Dept Zool, Southern Illinois Univ, Carbondale, IL 62901.

MEMBER-AT-LARGE: (1987-1990) Julia Chase, Biol Dept, Barnard College Columbia Univ, New York, NY 10027.

MEMBER-AT-LARGE: (1988-1991) George Barthalmus, Dept Zool, North Carolina State Univ, Raleigh, NC 27650.

MEMBER-AT-LARGE: (1989-1992) Steven Austad, Dept Biol, Harvard Univ, Cambridge MA 02138.

ABS COMMITTEES (including ex-officio members)

Animal Care
Janis Driscoll (Chair), Judy Gibber, Harold Herzog, Craig Kinsley, Scott Line, Joy Mench, Gail Michener, Melinda Novak

Career Awards
John Fentress (Chair), Gary McCracken, Scott Robinson, Linda Sorensen, Kim Sullivan, George Uetz (one more appointment will be made)

Education
Larry Williams (Chair), H. Jane Brockman, John Fentress, Katherine Bruce, Julia Chase, Jerry Eberhart, Peter Judge, Carol Saunders

Endowments
No members yet.

Ethics
Michael Beecher (Chair), Sue McDonnell, Ron Rutowski, Bedford Vestal

Film
Jack Demarest (Chair), Dorothy Fragaszy, Steven Hopp, Tom Rambo, Carolyn Ristau, Eric van den Berghe

Issues in Applied Animal Behavior
Phil Lehner (Chair), Peter Borchelt, Ben Hart, Amy Marder, Patricia McConnell, Sue McDonnell, John Wright, Margaret Young

Membership
Ira Perelle (Chair), Vickie Backus, Jill Mellen, Stim Wilcox

Nomination
John Fentress (Chair), Sydney Gauthreaux, Jr., Gordon Burghardt

Organization and Bylaws
George Waring (Chair), Jed Burtt, Jeffrey Lucas, Patricia Schwagmeyer

Policy and Planning
Charles Blaich (Chair), H. Jane Brockman, John Fentress, George Waring, David Duvall, Christopher Evans, Mandy Medvin

Public Affairs
George Barlow (Chair), Cheryl Asa, Vic DeGhett, Irene Pepperberg, Ann Rypstra, Meredith West

Research Grants
Julia Chase (Chair), George Barthalmus, Steven Austad, Randall Kyes, Doug Mock, Patricia Schwagmeyer, Stephen Vessey, Orrey Young

OPPORTUNITIES

EDITOR'S NOTE. Opportunities and announcements are published as soon as possible (i.e., in the next issue of the Newsletter). It sometimes happens, however, that a position is filled between the time we receive the advertisement and the time of the next quarterly issue of the Newsletter (i.e., a period of 2-3 months). Accordingly, we apologize for inconveniences this may cause, and we recommend that interested persons precede their formal responses to advertisements with a phone call to ascertain that the position is still available. (If an ad appears in the Newsletter, the editors have received no indication that the position has been filled as of press time.)

THE UNIVERSITY OF CALIFORNIA RESEARCH EXPEDITIONS PROGRAM (UREP) - is seeking volunteers **this summer** to lend their time and talents in a variety of worldwide field expeditions. Under the guidance of UC researchers, volunteer participants can investigate everything from endangered pelicans in California to the traditional textiles of Bolivia.

Seven animal behavior projects are offered this year, including studies of rain forest birds in Kenya, mule deer of the High Sierra, mountain marmots of the Himalayas, and the wildlife of California's Inyo and White Mountains.

Now in its 15th year, UREP has enabled over 3,500 members of the public to spend 2 to 3 weeks sharing the challenges and rewards of scientific discovery as active members of UC research teams. The expedition teams usually include six to ten participants, and leave for destinations all over the world throughout the year.

For a free catalog and application, contact: University Research Expeditions Program (UREP), Desk L-02, Univ of Calif, Berkeley CA 94720. **Phone**: 415-642-6586.

RESEARCH POPULATION AVAILABLE- I am looking for a researcher to take over a marked population of Uinta ground squirrels, *Spermophilus armatus*, for a non-destructive study. Located in Grand Teton National Park, WY, the population consists of 120-150 adults and yearlings, and as many as 400 young of the year. The population has been part of a study of behavior and ecology that began in 1986. Most matrilineal geneologies are known from trapping juveniles as they appear for the first time at the maternal burrow at weaning, and individuals have been marked permanently using monel eartags. Squirrels emerge from hibernation around April 9, and most individuals have hibernated by the second week in August. The site is isolated from interference by tourists but, at the same time, easily driven to by those with permission. It is in a large pasture which was grazed for the last time in 1988. The predominant vegetation on the site is Kentucky blue grass, which remains relatively short throughout the season, facilitating behavioral observations and visual censuses. Interested persons should contact: **James Rieger**, Div of Mammals, Museum of Zool, Univ of Michigan, Ann Arbor MI 48109-1079. **Phone**: 313-764-0456.

PH.D. RESEARCH ASSISTANTSHIP- "Effects of Exploitation on Natural Animal Populations: An Experimental Approach Using Pig Frogs"- A stipend is available for a qualified student to conduct research on the effects of harvest on the dynamics of animal populations. Plans are to use a series of experimental ponds with pig frogs subjected to different harvest rates. Capture-recapture data will be used in conjunction with models developed specifically for this design to estimate survival and movement probabilities, as well as population size and recruitment. Resulting inferences will be relevant to some fundamental ecological questions regarding density-dependence, as well as to important questions in applied ecology about effects of hunting.

Applicants should have an M.S. degree in wildlife biology, animal ecology, zoology or a related field, and must meet admission requirements of the School of Forest Resources & Conservation (3.2 GPA for M.S. work; verbal + quantitative GRE scores of at least 1000). Preference will be given to applicants with demonstrated field skills and a strong interest in population dynamics and biometrics.

Assistantship will be $8,227.24 per year, starting either in the **summer or fall 1990**. Applicants should send a curriculum vitae, names, addresses and telephone numbers of 3 references, a copy (not necessarily official) of graduate and undergraduate college transcripts, and GRE scores to: **James D. Nichols**, U.S.Fish & Wildlife Service, Patuxent Wildlife Research Center, Laurel MD 20708. **Phone**: 301-498-0390.
EDITOR'S NOTE: See Nugget No. 4, P. 11.

CHIMPANZEE BEHAVIORAL RESEARCH ASSISTANT- position will be available at the Univ of Texas M.D.Anderson Science Park Chimpanzee Breeding Facility near Bastrop,Texas. The position is part-time (24 hr/wk) currently, but there is some possibility it may become a full-time position in the future. Duties include collecting behavioral data, computer entry of data and completing preliminary data summary and analysis. A bachelor's degree in a relevant field is required, and experience in the scientific observation of animal behavior is very helpful. Annual salary (for the part-time position) is $11,124.00. Contact **Dr. Mollie Bloomsmith** or **Lydia Elliott**, UTMDACC, Science Park, Dept Veterinary Resources, Rt. 2, Box 515-B1, Bastrop TX 78602. **Phone**: 512-321-3991. The Univ of Texas M.D.Anderson Cancer Center is an equal opportunity/affirmative action employer.

POSTDOCTORAL POSITION- at the Univ of Texas **beginning Sept 1990**, through an NIMH training grant that focuses on the neurobiological bases of species-typical behavior. We are especially interested in individuals whose intended research integrates physiological, ecological, or evolutionary interests with behavioral studies. Training faculty in the Zool and Psych Depts include E. Bigler, F.H. Bronson, J.J. Bull, D. Crews, M. Domjan, M.J. Ryan, D.D. Thiessen, T. Schallert, and W. Wilczynski. Application deadline is 1 June. Applicants should send a vitae, list of references, and statement of research interests indicating prospective faculty sponsor to: **D. Crews**, Dept Zool, Univ of Texas, Austin TX 78712.

Ph.D. RESEARCH OPPORTUNITY- We have begun a long-term study of cooperative polyandry, parental care and individuals' choices of mating patterns in the Tasmanian native hen, a large, flightless gallinule. Study site is at Maria Island National Park off the east coast of Tasmania, Australia. At least 200 native hens are located in an area of less than two square kilometers. Observation conditions are outstanding. The birds are very habituated to people, the terrain is open, the grass very short and territories are small. By the start of the 1990 breeding season (August or Sept.) we expect to have 150-200 individuals banded, sexed and blood sampled. DNA fingerprinting on this population is already under way. We are looking for a Ph.D. student from any university to get involved in the project as soon as possible to help ensure its long-term success. However, at this point a student would have to find his or her own funding. For more information write to: **Anne and Alan Goldizen**, Zool Dept, Univ of Tasmania, G.P.O. Box 252C, Hobart Tasmania 7116, Australia.

GRADUATE STUDENT POSITIONS--two (M.Sc. or Ph.D.)- available for those interested in pursuing a career in aquatic behavioral ecology. Specific areas of research may be predator/prey interactions (including foraging theory and antipredator strategies), decision rules, and fishing fleet dynamics. Field research opportunities are available at the Delta Marsh Field station in Manitoba and on Vancouver Island, British Columbia. Financial support is available. Interested candidates should contact: **M. V. Abrahams**, Dept Zool, Univ of Manitoba, Winnipeg Manitoba R3T 2N2 Canada. **Phone**: 204-474-6395.

VOLUNTEER FIELD ASSISTANTS- **May-Aug** and **May-Dec 1990** for study on behavioral ecology of coyotes in Yellowstone National Park, Wyoming. Project conducted by the Wildlife Research Institute of Moscow, Idaho. This long-term study seeks to quantify the socio-ecological role of coyotes before possible wolf restoration. Duties include extensive behavioral observations of coyote packs at winter carcasses, pup/parent/helper interactions at den sites, and foraging behavior; radio-tracking from fixed- station shelters and aircraft; extensive hiking of transects; capture and handling of coyotes; conducting field manipulations; and experience with other research projects (e.g., mountain lions). Could work into possible funded position and/or graduate position. Looking for motivated and enthusiastic persons willing to work long field hours. Previous field experience and developed outdoor skills preferred. Room and board provided. For more information **Phone**: 406-848-7927, or send resumé and references to **Dr. Bob Crabtree**, P.O.Box 161, Gardiner MT 59030.

RESEARCH ASSISTANTS- two needed for **1990 field season (5 June to 25 Aug)** to help with ongoing inbreeding study on pika, *Ochotona princeps*, being conducted at 2 sites on the east side of the Sierra Nevada, Calif: Bodie State Historic Park and the Harvey Monroe Hall Natural Area. Duties include assisting in trapping and marking of study animals, mapping study site and making behavioral observations on marked individuals. Study sites are fairly remote, very rugged and camping is required. Interested persons must be in good physical condition as the position requires a fair amount of hiking and backpacking. A willingness to rise before sunrise each working day and a commitment to stay the entire summer are required. Previous field experience would be helpful, but not necessary. Expenses will be covered (gas, food) and if pending grants are funded there will be a modest stipend. Assistants must provide a tent, cooking stove, sleeping bag and other camping gear; should have own vehicle. Position can begin **as early as 30 May 1990**, but will consider those who can not start until the **later part of June**. Please send a letter of interest, your resumé, the names of 2 references, and date you can start to: **Mary M. Peacock**, Dept Zool, Arizona State Univ, Tempe AX 85287-1501. **Phone**: 602-965-4019, message phone: 602-965-3571. After 30 May, send information to Mary M. Peacock, General Delivery, Lee Vining CA 93541.

FIELD ASSISTANT NEEDED- **May-July** for ongoing mate choice study on the polymorphic White-throated Sparrow. Research will be conducted at the Cranberry Lake Biological Station in the Adirondack Mountains of northern New York. Work will include netting, banding, sampling blood, manipulating plumage, and performing behavioral observations. Previous experience desirable but not necessary; only prerequisites are patience and a good head net to keep the black flies away. Expenses at the field station will be paid. For further information, or to apply, contact: **Elaina M. Tuttle**, Dept Biol Sci, SUNY at Albany, 1400 Washington Ave., Albany NY 12222.

RESEARCH INTERNSHIPS- available involving participation in field study of Scrub Jay foraging ecology in south-central Florida. Duties include behavioral experience and interest in birds, degree or advanced standing in college biology program, and ability to work in hot, sunny climate. Starting date and duration are flexible. Interns receive room, board, small stipend, and research experience in behavioral ecology. Opportunity exists to conduct own project. Contact: **Glen Woolfenden, Bob Curry**, or **John Fitzpatrick**, Archbold Biological Station, P.O.Box 2057, Lake Placid FL 33852. **Phone**: 813-465-2571.

PREDOCTORAL FELLOWSHIPS, GEORGETOWN UNIV- Dept of Biol presently has 4 new competitive fellowships of $12,500 per annum plus tuition remission in addition to its 10 regular fellowships of circa $8,000 plus tuition remission for Ph.D.-track graduate students. If you know of an appropriate, competitive (GREs, grades, research experience, etc.) student for our fellowships, please let him, or her, know of this opportunity. Especially interested in students with inclinations toward insect behavior, ecology, and evolution. Lab is presently working on learning in Mexican bean beetles, herbivory of nutrient-enhanced mangroves in Belize, thermoregulation and sex-biased distribution of bagworm moths on their host's plants, the ecology of arthropods in an artificial Everglades mesocosm and the Everglades, and a survey of spiders and bees of Plummers Island, MD. Other areas of active research in Dept include: botany (plant tissue culture, phycology), cell biology, cnidarian biology (nematocysts), development (fertilization), genetics, immunobiology, protozoology, neurobiology, and ultrastructure. Requests for application packets should be sent to: **Prof Edward M. Barrows**, Committee on Graduate Students and Studies, Dept Biol, Georgetown Univ, Washington DC 20057.

FIELD ASSISTANT NEEDED- approximately **1 June to 10 August 1990** in the Colorado Rocky Mountains. Research focuses on the foraging activity of Golden-mantled ground squirrels and Least chipmunks, with particular attention to their anti-predator behaviors. Position requires observations of squirrels, sorting of seeds recovered from feeding boxes, ability to work without supervision and some physical stamina. Room and board will be provided at the Rocky Mountain Biological Laboratory, a spectacular and scientifically stimulating research facility. Send letter of interest and resumé to: **Rosemary J. Smith**, Dept Ecol and Evol Biol, BioSciWEST, Univ of Ariz, Tucson AZ 85721 or **Phone**: 602-621-5202 for more information on exact dates.

ABS RESEARCH GRANT APPLICATIONS FOR 1990-1991 COMPETITION- pending availability of funds, the ABS will conduct a Research Grant Competition with an application deadline of 1 Nov 1990. Full details will be published in the August issue of the ABS Newsletter following the Annual Meeting in Binghamton, NY. Application forms and guidelines will be available from Dr. George Barthalmus, Dept of Zool, North Carolina State Univ, Raleigh NC 27695-7617.

PRIMATE RESEARCH OPPORTUNITIES- The Education Committee of the American Society of Primatologists has compiled a list of opportunities for students to become involved in primate research and/or husbandry. For copies of the list contact: **Dr. Reinhold J. Hutz**, Chair of the Education Committee of ASP, Dept of Biol Sci, Univ of Wisconsin-Milwaukee, P.O. Box 413, Milwaukee WI 53201.

GRANTS, AWARDS AND PRIZES IN ORNITHOLOGY- is a detailed list (115 pages) published by the AOU and compiled by Richard C. Banks. It is available for U.S. $5.00 + $1.50 postage and handling from Max C. Thompson, Assistant to AOU Treasurer, Dept Biol, Southwestern College, 100 College St, Winfield KS 67156. Make checks payable to AOU. (Request ISBN 0-943610-56-7.)

ANNOUNCEMENTS

RULINGS FROM APHIS- the Animal Health and Inspection Service, USDA (the agency that enforces the Animal Welfare Act) has made some final rulings that may affect ABS members.

1. APHIS does not have the authority under the Animal Welfare Act to regulate laboratory-bred rats or mice. Wild rats and mice are covered.

2. An "animal" includes any "warm-blooded animal" other than those specifically excepted (laboratory-bred rats and mice). By "warm-blooded", the AWA means mammal. Birds are not covered.

3. APHIS has the authority under the AWA to regulate farm animals used for biomedical research or testing, but does not regulate farm animals used for food or fiber or agricultural research. APHIS is currently considering whether to exercise the authority to regulate farm animals used in biomedical research. Notice of any rulemaking will be published in the Federal Register. Note: It is not clear how APHIS would regard behavioral research on farm animals.

Also Note: that research involving animals studied in their natural habitats, without any invasive procedures, and without harming or materially altering their behavior is exempt from IACUC review and inspection under the AWA.

Information taken from the SCAW Newsletter, Fall, 1989, Vol. 11, No. 3. Submitted by the Animal Care Committee.

ELECTRONIC NEWSLETTER-
The *Multidisciplinary Letter on Property, Ownership, and Possession* is a free, quarterly newsletter, circulated via BITNET and EARN. Its purpose is to facilitate interdisciplinary communication on the topics of property, ownership, and possession. Each issue will contain bibliography, brief reviews, calls for papers, personal announcements of working drafts, requests for collaborations, brief accounts of press clippings, "sky-writing", and whatever else seems useful. Those interested in subscribing to the newsletter or in submitting materials should contact: **Floyd Rudmin** (RUDMINF@QUCDN) in North America and **Joop van den Bogaard** (BOGAARD@HENUT5) in Europe.

BOOKS FOR NATURE- is a grass roots organization which sends field guides, technical literature, and basic field research equipment to libraries, teachers and field biologists in developing countries. Our goal is to encourage the growth of conservation biology as a science and an ethic by increasing knowledge of the natural world.

We try to get our books and field equipment for free or at considerable discounts and send them to where they are needed with visiting researchers, or by post. If you would like to donate money, books, journals, or basic filed research equipment please send them to: **Books for Nature, c/o Bernie Tershy**, Neurobiol and Behav, Seeley G. Mudd Hall, Cornell Univ, Ithaca NY 14853 (please contact us by letter before sending more than one box of materials). We would also like to hear from researchers who have contacts with needy institutions and can deliver materials directly. **Phone**: 607-255-2255, Ext. 370.

VALUE OF ANIMAL BEHAVIOR RESEARCH- Patrick Colgan (President) and Chuck Snowdon (President-Elect) would like to have a discussion at the ABS meetings in Binghamton on what the Animal Behavior Society might do to articulate the value of our research to the public at large and to those involved in allocating funding for animal behavior research. (Note the Society cannot be involved in lobbying, but we are allowed to publicize the significance of our work.) We would appreciate receiving any suggestions you might have on how to do this and what of our research is likely to be viewed as most significant by the public.

Contact: **Chuck Snowdon**, Dept Psych
Univ of Wisconsin
1202 West Johnson St, Madison WI 53706.
Phone: 608-262-3974.
EMAIL: Snowdon@Wiscmacc.BitNet or Snowdon@vms.macc.wisc.edu.
Patrick Colgan, Dept Biol, Queens Univ
Kingston, Ontario, K7I 3N7 Canada.
Phone: 613-545-6144.
EMAIL: Colganp@QUCDN.BitNet.

"SUMMIT MEETING"- Ninety psychologists representing 65 organizations met in January with representatives of many U.S. Federal agencies to discuss research directions, priority-setting, and funding. A task force was selected to continue these discussions and to draft a document identifying problems of national importance that the behavioral sciences could take the lead in solving. President Colgan asked Michael J. Renner to observe these proceedings in behalf of ABS and to report on them at the Binghamton meeting.

SYMPOSIUM PROPOSALS- are invited for the 1991 (Atlanta) meeting of the American Society of Zoologists--Division of Animal Behavior. Contact: **Jan Randall** (Program Officer, ASZ-DAB), Dept Biol, San Francisco State Univ, San Francisco CA 94132. **Phone**: 415-338-7100.

EDITOR'S NOTE. The ABS Newsletter does not publish paid advertisements for textbooks or for other books; nor does the Newsletter make free announcements of commercially-published materials. As a service to the membership, however, I have been announcing the appearance of titles dealing with animal welfare and related issues (e.g., see Volume 34, No. 4, page 9 for announcements of two publications by the Scientists Center for Animal Welfare). Publishers do not pay for these announcements.

Continuing with this service, the following books are listed.

Farm Animal Ethology: A Guide to Sources by S. E. Cregier is available from Captus Press, York Univ Campus, 4700 Keele St., North York, Ontario, Canada M3J 1P3. Price is U.S. $21.00 or Canadian $21.00.

Interpretation and Explanation in the Study of Animal Behavior edited by M. Bekoff and D. Jamieson is available from Westview Press, 5500 Central Ave., Boulder CO 80301. This is a two-volume work with the second volume containing a four-chapter section dealing with moral questions. Price is U.S. $45.00 per volume plus $2.50 postage and handling. (The publisher offers ABS members a 20% discount).

THE 1990 AIBS COUNCIL and BOARD MEETING-

I am pleased to report that I attended a highly educational, excellently choreographed meeting of the AIBS Council on Thursday and Friday, 8 and 9 Febr 1990.

On Thursday, President John Patrick Jordan (biochemist, physiologist, USDA) called us to order. New President Paul R. Ehrlich (population biologist, Stanford) took the gavel and introduced new delegates to AIBS and its new affiliate Societies. Other business included information on the Meeting of the Board of Directors and Interim Council Meeting (1989), and the reports of our past President and committees.

Roy H. Saigo reported about education; Ralph E. Good, future meetings' Helen C. Cecil, a national registry of biologists; Laurence D. Moore, publications; Ehrlich, a proposed National Institute for the Environment; Paul A. Opler, AIBS finances; Ehrlich, development of biology as a profession in the 1990s; C. Herb Ward and Donald R. Beem, AIBS Special Science Programs. Julie A. Miller (Editor, *BioScience*) explained that *BioScience* is broadening its coverage and trying to increase its overseas distributions. C. Bohlen told us about his experiences as an AIBS Congressional Fellow. David Blockstein (former Congressional Science Fellow of the AIBS and ASZ) reported about women, minorities, and disabled in biology.

Task groups and our whole assembly scrutinized AIBS programs and priorities. ***WHAT DO YOU THINK THAT AIBS SHOULD BE DOING FOR BIOLOGY, THE ANIMAL BEHAVIOR SOCIETY, AND YOU?*** Please write to me and let me know. I would like to send your responses to the AIBS Board of Directors.

During Thursday evening, Paul H. Williams (botanist, Univ Wisconsin) addressed the Washington community about scientists' involvement in education of precollege students. He uses *Brassica* and other Brassaceae (cabbage relatives) to turn students on to biology. He is the original breeder of the 36-day crucifer, now used in many biological studies.

On Friday, we delegates and AIBS officers prepared for and made visits to appropriate subcommittees and committees on Capitol Hill. Judith S. Weis (Program Officer, Undergraduate Science Education, NSF) discussed NSF interest in interdisciplinary environmental science programs; Thomas W. Merrick (President, Population Reference Bureau), world population trends; and James Wilson (Science Consultant, House Science, Research, and Technology Subcommittee), Congress' interest in improved science education.

Led by Jack Gallagher (Plant Ecologist, Univ Delaware), my group visited with Gina DeFerrari (Professional Staff Member, House Fisheries and Wildlife Conservation and the Environment Subcommittee) and Mike Nelson (Professional Staff Member, Senate Science, Technology, and Space Subcommittee). We introduced ourselves and indicated the scientific societies that we represent. Our interactions included our comments and questions about our biodiversity crisis and our expression of deep concern regarding this predicament.

Edd Barrows, ABS Delegate to the AIBS
Dept of Biol, Georgetown Univ, Washington DC 20057.

WELCOME TO NEW MEMBERS OF ABS FROM THE AMERICAN ASSOCIATION OF ZOO KEEPERS

Dr. Perelle (Chair, Membership Committee) has informed me that a substantial number of people affiliated with AAZK have joined ABS. The President and the Executive Committee of ABS welcomes these and other new members. Further, all of these new members are invited to correspond with the Secretary (see page 1) in order to submit materials to the Newsletter.

PROCEDURE FOR THE INTRODUCTION OF RESOLUTIONS AT THE ANNUAL BUSINESS MEETING OF ABS

1. Resolutions deal with timely and substantive political and social issues and are transmitted by the ABS to external agencies, organizations, or the general public.

2. Written resolutions should be submitted to the Chair of the Public Affairs Committee 60 days prior to the annual business meeting. Each resolution should provide direction to the President so that it can be acted upon promptly.

3. Timely issues may be submitted up to 24 hours prior to the annual business meeting for evaluation by the Public Affairs Committee.

4. The Public Affairs Committee, as one of its responsibilities, will receive, evaluate, and if necessary, edit submitted resolutions. In the event that editing is necessary, or if the Public Affairs Committee deems the resolution to be inappropriate to the aims of ABS, this decision shall be transmitted to the submitter(s) no later than 15 days prior to the start of the meeting during which the annual business meeting is convened. The initiator(s) of the resolution may appeal, in writing, to the Executive Committee. Final decisions regarding resolutions reached by the Executive Committee during its annual meeting will not be subject to appeal during the interval between the meeting of the Executive Committee and the annual business meeting. The Executive Committee should reach a decision on the appeal within 2 months following the annual meeting.

5. Approved versions of resolutions will be made available to the members during the course of the meeting by being posted on available bulletin boards; hard or projected copies of resolutions will be available for distribution or viewing at the annual business meeting.

6. Approval by a simple majority of members voting at the annual business meeting is required for passage of a resolution.

7. Regardless of the fate of a resolution at the business meeting, a simple majority of those present can approve a mail ballot for the consideration of a resolution by means of the NEWSLETTER.

8. Approval of a resolution at the business meeting or by mail ballot will be followed by prompt action by the President of ABS as directed in the resolution.

9. Approved resolutions will be published in the NEWSLETTER.

Report submitted by **George H. Waring**, Chair, ABS Public Affairs Committee, Dept of Zool, Southern Illinois Univ, Carbondale, IL 62901.

ERRATUM: See the Basic program for recording behavioral events on a personal computer, February Newsletter, Vol. 35, No. 1, page 11. The last line on that page should begin with 240. Without that number the program won't run. I thank D. W. Inouye for pointing this out.

MEETINGS

SEVENTH BIENNIAL CONFERENCE ON THE ECOLOGICAL AND EVOLUTIONARY ETHOLOGY OF FISHES- **19-23 May 1990** in Flagstaff AZ hosted by the Dept Biol Sci and the Bilbey Research Center, Northern Arizona Univ, approximately 230 km north of Phoenix, the state capitol. Major airlines serve Phoenix, with commuter airlines and buses connecting to Flagstaff. AmTrak train service also to Flagstaff from east or west coasts of USA. Flagstaff rests at 2150 m elevation in Ponderosa pine forest along the base of the San Francisco Peaks (to 3862 m), where C. Hart Merriam developed his Life Zone concept one century ago (1890). Within easy driving distance are habitats ranging from Alpine Tundra to Sonoran Desert, encompassing the Colorado River and the Grand Canyon, Glen Canyon Dam and Lake Powell, and the red rock cliffs of Sedona. Aquatic habitats comprise large rivers and lakes, smaller rivers, permanent and intermittent streams, lakes and ponds, collapsed travertine spring mounds, and ephemeral pools.

Plans for the conference include two symposia, contributed paper and poster sessions, discussion meetings and trips to local habitats or historical sites. **SYMPOSIA: (Chief Organizer and Tentative Titles)**- 1. Behavioral Genetics of Fishes (David Noakes, Dept Zool, Univ of Guelph) 2. Colors, Vision and Underwater Light (Cynthia Annette, Cooperative Fishery Unit and Dept Zool, Univ of Arkansas. Contact: **Dr. W. Linn Montgomery**, Dept Biol Sci, Northern Arizona Univ, Flagstaff AZ 86011-5640 USA. **Phone** (602) 523-7505 or 523-2381.

ASSOCIATION FOR BEHAVIOR ANALYSIS- 16th ANNUAL CONVENTION-
27-31 May 1990, Opryland Hotel, Nashville TN. Submissions now being accepted for review! Deadline for receipt is 15 NOV 1989. For information contact: **ABA**, Western Michigan Univ, 258 Wood Hall, Kalamazoo MI 49008-5052. **Phone**: 616-387-4495.

THE BEHAVIOR OF MOLLUSCS-
3-7 June 1990 symposium and Film Festival at the 56th Meeting of the American Malacological Union at the Marine Biological Laboratory, Woods Hole MA. Papers are solicited on terrestrial, freshwater and marine molluscs of all classes. Subsections of the symposium include: Behavior related to Larval distribution, Feeding behavior, Social behavior, Reproductive tactics, Defensive behavior, Migrations, Biological rhythms, Ontogeny of behavior, and Integrative neurobiology and behavior. Contact: **Roger T. Hanlon**, President, American Malacological Union, Marine Biomedical

Institute, Univ Texas Medical Branch, Galveston, TX 77550 USA. **Phone:** (409) 761-2133. FAX: 409 762-9382. BITNET: HANLON@UTMBEACH.

ANIMAL BEHAVIOR SOCIETY- **10-15 June 1990** at SUNY Binghamton. Contact: Stim Wilcox, Dept Biol Sci, SUNY, Binghamton NY 13901. **Phone:** 607-777-2423.

INTERNATIONAL SOCIETY FOR RESEARCH ON AGGRESSION- the next world meeting if ISRA will be held in Banff, Alberta, Canada from **12-17 June 1990.** Abstracts for individual papers and poster presentations may be submitted now but no later than the deadline of 1 April 1990. The registration fee for ISRA members will be $80.00 US. Registration for non-members will be $95.00 US and registration for nonparticipating spouses is $40.00 US. This fee includes all aspects of the non-academic programme (the gondola social, the bus tour, barbeque, and the final banquet). Contact the conference organizer, **Gordon W. Russell, Phone:** 403-329-2406 (business) or 403-328-0870 (residence). Registration fees should be mailed to him at Dept of Psychol, Univ of Lethbridge, Lethbridge Alberta Canada T1K 3M4.

THIRD INTERNATIONAL CONFERENCE OF BEHAVIORAL ECOLOGY- meeting with the Foraging Behaviour Group, **22-26 August 1990** in Uppsala, Sweden. Request meeting information from: **Dr. Staffan Ulfstrand**, Dept Zool, Box 561 Uppsala Univ, S-751 22 Uppsala, Sweden. **Phone:** 46 18 182676. Fax: 46 18 559888. For information about the International Society for Behavioral Ecology, contact: **Dr. Martin Daly**, Dept Psych, McMaster Univ, Hamilton Ontario L8S 4K1 Canada.

BIODIVERSITY OF THE ROCKY MOUNTAINS. *A SYMPOSIUM-* Colorado State Univ, Fort Collins, CO- **12-15 March 1991-** Papers will be placed in one of four categories: genetic, population, community, and landscape. Each session will conclude with a panel discussion. There will not be a published proceedings; however, a copy of the abstracts will be made available. Panel groups will consist of representatives from management agencies, academia, interest groups, and industry. Plenary speakers will present global perspectives on biotic diversity issues ranging from the philosophical to the biological. Registration Forms and Abstract Submittal Forms for contributed papers can be requested from: **Biodiversity Symposium**, Office of Conference Services, Colorado State Univ, Fort Collins CO 80523. **Phone:** 303-491-7501.

INTERNATIONAL ETHOLOGICAL CONFERENCE- The 22nd Conference will be held **22-29 August 1991** in Kyoto, Japan. For further information write: **Conference Secretariat**, c/o SIMUL INTERNATIONAL, INC., Kowa Bldg. No. 9, 8-10 Akasaka 1-chome, Minato-ku Tokyo 107, Japan.

AMERICAN SOCIETY OF ZOOLOGISTS- Annual Meetings **27-30 December 1990**, San Antonio TX; **1991** Atlanta GA; **1992** Vancouver Canada; **1993** Los Angeles CA.

✦ ✦ ✦ ✦ SPECIAL FEATURE ✦ ✦ ✦ ✦

EDITOR"S NOTE: In the November Newsletter I announced the publication of two items by the Scientists Center for Animal Welfare. One of these was *Well-being of nonhuman primates in research*, edited by J. A. Mench and L. Krulisch. The book was published in 1990 and was based on a conference held by SCAW in Bethesda, MD, 23 June 1989. Dr. Jeanne Altmann was a participant and she prepared an excellent summary of the proceedings which appeared as pages 81-84 of the book. This material is here reprinted (with permission of the author and publisher) as an informational service to the ABS membership.

SUMMARY
Jeanne Altmann, PhD

Introduction

The concern of scientists and of the Congress for the psychological well-being of primates reflects a growing acknowledgment of the importance and the inseparable nature of physical and psychological well-being. In this meeting, we took as given both the scientists' obligation to provide for the well-being of research subjects and the assumption that the well-being of these subjects is essential to high-quality science and the utility of scientific results from animals as useful models for human biology. The task that was given to USDA is a formidable one, however. This is especially so not only because the Congressional mandate appears to bring regulation into a new area, but because the current regulatory framework was built on specification criteria rather than on outcome or performance criteria. The rules virtually ignore the vast diversity of behaviors, life styles, and physiology among the various primate species. To some extent, that approach reflects our state of knowledge, or ignorance, at least until the past decade or two, about primates and relationships between physiology and behavior. The consequences, however, have not always been in the interest of science or of animal welfare, the two integrated, not opposing, goals of the regulations and of the SCAW-sponsored conference examining the proposed regulations.

Virtually unanimous agreement has emerged within the scientific and veterinary/management community that outcome or performance standards rather than engineering standards are needed, and that such standards will often result in different specific actions being taken for different species, age-sex classes, and even individuals. A number of problems are inherent in developing and enforcing performance standards, and even enforceable performance standards will not correct all

deficiencies in the current regulations. However, some of these problems will fade when all laboratory animals have spent their lives under the new standards and when both institutional personnel and USDA inspectors have gained the additional expertise required to evaluate the criteria of well-being encompassed by the new regulations.

Writing performance standards that are enforceable is more difficult than writing engineering ones. Although the NIH guidelines are held to be more performance-oriented than are the USDA regulations, the NIH standards were written as guidelines and not as enforceable regulations. In addition, they often simply indicate that action as determined by the professional judgment of the attending veterinarian or according to accepted husbandry practices is acceptable. While there must be room for the professional judgment of both researcher and veterinarian, such statements cannot provide the sole basis for enforceable regulations. Moreover, the areas to be covered by the proposed Congressionally-mandated regulations are not those in which most veterinarians, USDA inspectors, or biomedical researchers receive training or gain sufficient expertise through experience. USDA inspectors, atending veterinarians and, in some cases, research scientists will be put in an untenable position in a situation with such a high level of ambiguity that the result will often be a power struggle, the outcome of which will rarely benefit either the animals or the research.

To some extent the proposed USDA regulations attempt to recognize species differences, as in phrases such as "species-typical." For the most part, however, the proposed guidelines provide many specific standards that are, inadvertently, insensitive to the differences within and among species and that are focused almost exclusively on rigid specifications of cage size, exercise, and groupings based on body mass alone for both individuals and for groups. The result, many of us fear, will often be exacerbation of the problems that already existed. Proposed increases in cage sizes would be accomplished at great financial cost; if these increases will provide little benefit to the animals, alternatives that provide much more benefit at potentially lower cost are essential.

Session on Biological Perspectives

The speakers in the biology session represented a variety of research areas, including neuroendocrine function, behavioral ontogeny, social communication, and relationships between social factors and reproductive biology, or between ecology and demography. They differed in many aspects of the conditions under which they conduct their research and the research techniques that they use. It is striking, therefore, that when we were planning the internal organization of the session two salient points consistently emerged from their data and from their reading of the available literature. First was the extent and implications of size-independent diversity across and within primate species, and second was the need, only partially due to this variability, for outcome or performance standards rather than specification ones because successful outcomes are not simply specified or singly determined.

In their remarks these speakers illustrated the diversity among species and provided data on variability among species and among individuals of the same species that provided strong arguments for performance rather than specification criteria. They discussed the advantages to scientists and their nonhuman subjects of choosing the most situation- and species-appropriate criteria from a set of physical, behavioral, and social configurations that provide equivalent well-being judged by an outcome or performance criterion. They then considered what these performance criteria might be, some of the demographic, physiological, and behavioral performance criteria that have been explored, why a management configuration might indicate well-being by one criterion but not by another, and why no single criterion can be justified for all purposes but will have to be chosen based on research and management constraints. Then we had a lively exchange of questions and comments from the audience.

Performance Criteria for Evaluation of Well-being of Nonhuman Primates

1. Demography:

- -- high rates of reproduction without compromising high rates rates of offspring survival
- -- high rates of survival for all but the oldest animals

2. Behavior:

- -- absence of stereotypic behaviors
- -- presence of the range of situation-appropriate species-typical behaviors
- -- ability to cope with changes/challenges in species-appropriate ways

3. Immune system response:

- -- ability to meet immune challenges with respect to situations that arise in the normal course of colony conditions and when provided with a neutral test of immune challenge

4. Physiology:

- -- reasonable, unelevated levels of stress hormones, especially cortisol

5. Approximation to key features of natural social and physical environment

[Note that most of these will be entailed by provision of housing in appropriate social groupings.] Key features include:

- *Control*: All nonhuman primates in the wild live under conditions in which they have considerable control over events in their lives, *e.g.*, choice of social partners and of the distance from conspecifics, choice of food and of particular routes within the general movements of the group. The availability of sufficient choice situations, rather than the particular areas of choice, may be the key feature that should be provided in the captive environment.

- *Lighting*: Some species, such as relatively open country baboons, macaques, and vervets are used to high lighting levels in their natural habitat for much of a 12 hour day. Other, more arboreal and forest-living species, such as callitricids, will normally experience much lower levels of lighting, and nocturnal or crepuscular primates never experience high levels of light. Most species, however, occupy a variety of habitats, including a range of lighting conditions. Because their natural habitats provide them with alternative options of scattered shadier, lower lighting conditions when light levels are high, extended periods at maximal experienced light conditions should only be considered acceptable if the animals are provided with such alternatives.

- *Social*: With rare exceptions, all primates spend most of their lives in a social group. The frequency of interactions and the number of social partners varies considerably across species. Additional variability occurs, however, within species and populations, within the same group over time, ontogenetically and otherwise during an individual's lifetime.

Even the lowest-ranking member of a wild-living nonhuman primate social group has various options and control. This is probably why rates of reproduction, mortality, and even morbidity are rarely different for subordinate as opposed to dominant nonhuman primates, especially females, under normal conditions in the wild. When abundant, especially spatially concentrated, food is provided, however, leisure time and aggression increase, and dominance-correlated differences in reproduction, maturation, and survival often increase even for otherwise unconstrained wild groups. These consequences are further aggravated when there is restriction of the space and escape options available to individuals that may be victimized. Social stressors in a group are also always greater when key group members die or are removed from the social group or during ontogeny when juveniles approach maturity and challenge previously dominant adults. These factors need to be taken into account in order to realize the numerous benefits of group housing without due costs to subordinates or other potential victims. Lack of success with any particular social housing attempt does not imply the need for single housing.

Other than for reasons of specific research protocols, or temporary medical treatment that requires single caging, compatible pairings or larger groupings can almost always be identified for every animal if proper attention is paid to familiarization, choice of partners, space allocation, food delivery, etc. There may be more exceptions to this immediately upon enactment of new regulations as additional time will need to be spent in evaluating, accommodating, and monitoring previously singly-caged animals, but it will certainly be the case after a phase-in period in which animals have been raised in or accommodated to social housing. Moreover, in group-living species, pairs will rarely be the group of choice in the long run, because of the considerable disruption when one member of a pair dies or must be removed for some reason. Prior planning and behavioral and demographic monitoring are an essential part of responsible husbandry in the management of social groups.

- *Space & Exercise:* Individuals of some species travel less than a kilometer each day, others over 10 kilometers; most spend at least a quarter of their time in travel, more than double that if travel while feeding is included. Even within species, however, travel distance is highly variable, as a function of ecological conditions. The amount of locomotor and other activity in which individuals engage under the most food-enriched situations could provide a reasonable goal for healthy activity levels in captivity and for the space needed for those levels of activity. Interindividual distances also vary among and within species. For species in which individuals (other than a mother and her infant) in the wild are rarely in contact or for which activity levels are high, individuals will need to have available to them greater amounts of "empty" space in group cages than will individuals of other species. Whether species have more of their cage volume in floor area or in height should depend on the arborality/terrestriality of the species.

- *Variability*: All nonhuman primates mature and live in frequently but irregularly changing social and physical environments, including environments in which food resources change almost daily, seasonally, and from year-to-year. Inability of some captive animals to cope with change is probably related to those individuals lacking experience with moderate and frequent change during ontogeny. Variability of routine from an early age can be expected not only to promote well-being but also to facilitate the animal's healthy response to the changes inherent in the individual's participation in research. Rigid change of a single variable such as food at specified intervals, however, is unlikely to provide the desired benefit to the animals while it may be unduly restrictive for research goals or colony management.

Recommendations

The following recommendations emerged, some from virtually every speaker from the podium or the floor.

1. The regulations should be performance-based (see suggested criteria, above) as well as enforceable.

2. When not all performance criteria can be optimized simultaneously and for all animals, as will often be the case, the choice among the best conditions may be based on research and management constraints.

3. Both institutional and USDA staff should receive training in those areas of primate behavior and biology in which they do not currently have expertise, and more intensive training in these areas should become a required part of the education of personnel hired for such positions in the future.

4. A graded implementation period should be provided, not with the focus on time needed to buy new cages but rather for development of institutional-compatible, species-appropriate measures that produce satisfactory performance standards and allow use of transitional conditions and techniques for animals that have a deficient history (e.g., non-socialized, accustomed to invariant routines, etc.).

5. A reporting procedure should be developed and required that will produce information for a national database that, like similar national databases for demographic, sociological, and medical information, will provide the additional information needed for increasingly enlightened and more efficient decision-making with regard to the care and maintenance of nonhuman primates for research. By the very nature of these nonhuman primates and the cost and importance of research on them, we cannot afford to squander the unreported or under-reported information that is essential for wise decisions in this area. The content and structure of the reporting system should be developed in consultation with experts in the several relevant biological areas, including demography and life history analysis, behavioral biology, biostatistics, colony management, etc. This requirement for provision of information that is critical to the wise and economical use of nonhuman primates and the quality of research produced in their use is not likely to violate either the letter or the spirit of the paperwork reduction act.

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Nuggets

Our literature is filled with accounts, some anecdotal, others rather rigorously documented, of behavioral phenomena that have been neglected, forgotten and/or never noticed by persons who could use them in one way or another. Our purpose in trying out this new feature is to provide a forum where we could remind each other of such phenomena. Contributions from ABS members and non-members are welcome, and the following guidelines should be followed:

(1) The "lost" phenomenon you describe must have been reported in the literature; no new observations can appear in the Newsletter (i.e., the Newsletter cannot compete with *Animal Behaviour*);
(2) you must include the full reference to the original publication(s); and a xerox copy of the page(s) containing the phenomenon in question; and
(3) your account should be 250 words or less.

The editor reserves the right to accept or decline submissions and to make minor adjustments in the text. Send submissions (as many as you wish) to D. Chiszar, address on page 1. Chiszar will continue preparing this column after the editorship of the Newsletter passes to Dr. Driscoll.

This feature has several goals. If any readers incorporate a *Nugget* into their lectures or if any research articles are inspired as a consequence of this feature, these goals will have been met.

Nuggets 1 and 2 were published in Vol. 35, No. 1, p. 11.

NUGGET 3 -- Ignoring Sleep

(Submitted by W. K. Hayes, Univ of Wyoming)

"It is proposed that sleep serves the function of maintaining immobility in animals at times when immobility is an optimum behavioural survival strategem. Sleep is of great evolutionary age and is always carefully tailored to the life-style of each animal; abundant in some species and absent from others. The survival advantages conferred on an animal by the power of sleep to schedule behaviour effectively may justify its existence and persistence in the evolution of species." (Meddis, 1975)

How often is sleep mentioned in animal behavior or behavioral ecology texts? (See for yourself!) Why is a behavior to which organisms devote so much time so easily ignored? Given the unanswered questions on the function of sleep (e.g. why animals should sacrifice vigilance for an unproductive activity), indeed "It is unfortunate . . . that few students of animal behaviour have shown much interest in sleep studies." (Meddis, 1975)

REFERENCE

Meddis, R. 1975. On the function of sleep. *Animal Behaviour* 23:676-691.

NUGGET 4 -- Pig Frogs

(Submitted by D. Chiszar, Univ of Colorado)

Rana grylio ranges from Louisiana to Florida and southern Georgia, inhabiting open water-lily prairies, marshes and ponds. Several interesting features of this frog's behavior have been remarked upon by herpetologists (e.g., buoyancy, shyness, loudness of the males), but its distinguishing curiosity is the fact that "the call is a grunt like that of a pig or an alligator" (Wright & Wright, 1949). A midnight chorus is spectacular. Although the unusual sound of this frog has been described many times, I am aware of no behavioral-ecological studies focused on its function and/or evolution. This situation is all the more remarkable because pig frogs are prolonged breeders(up to 7 months, March-Sept), and so they are likely to be amenable to analysis using recently popular models of both intrasexual and epigamic selection (see Ryan, 1985; Wells, 1977). One wonders whether "acoustic mimicry of alligators" is a reasonable hypothesis and whether sexual selection could have driven such a thing? Could male frogs be mimicking adult gators to frighten away smaller gators that practice the inconvenient habit of eating frogs?

REFERENCES

Ryan, M. J. 1985. *The tungara frog*. Chicago: Univ Chicago Press

Wells, K. D. 1977. The social behavior of anuran amphibians. *Animal Behaviour*, 25, 666-693.

Wright, A. H., & Wright, A. A. 1949. *Handbook of frogs and toads*. Ithaca, NY: Comstock Publishing Co., Inc.

EDITOR'S NOTE: See the third listing in the Opportunities section, p. 3

NUGGET 5 -- Whatever Became of Baby Chelydra?

(Submitted by Scott P. McRobert, Saint Joseph's University)

Burghardt and Hess (1966) demonstrated food imprinting in snapping turtles, and they argued as follows: : . . . "Imprinting has never been reported in turtles or any reptile. Turtles are even more precocial than birds: they are completely independent upon hatching, even of parental care or attention, so that social imprinting is unlikely. Food imprinting, however, could be as adaptive in turtles as in birds. Study of imprinting in a species from which the possibility of classical imprinting is absent may help one to understand the basic mechanisms underlying all imprinting."

Although this paper has been cited recently in articles dealing with imprinting and related phenomena in other taxa, very little follow-up exists on turtles (see Mahmoud & Klicka, 1979). Food imprinting may have adaptive value for populations exposed to changing environmental conditions. Young of the year could develop new food preferences (relative to adults) simply by imprinting to whatever prey species are now available. These issues certainly justify a lament that food imprinting has not been vigorously pursued. Hopefully this situation will be changed as we now consider the phenomenon from ecological and evolutionary perspectives.

REFERENCES

Burghardt, G. M., & Hess, E. H. (1966). Food imprinting in the snapping turtle, Chelydra serpentina. *Science*, 151:108-109.

Mahmoud, I. Y., & Klicka, J. (1979). Feeding, drinking, and excretion. In M. Harless & H Morlock (Eds.), *Turtles: Perspectives and research* (pp. 229-243). New York: Wiley.

THE USE OF ANIMALS IN RESEARCH

* Supplement to the Questionnaire published in the February Newsletter *

(see Vol. 35, No. 1, Page 14, for a description of the purposes of the Questionnaire.

Age: _____

Sex: _____

State/Providence of Residence: _____

Whose position to you tend to support?
Animal Researchers or Animal Rights Activitists

1. Do you believe there should be greater attempts between animal researchers and animal rights activists to reach an agreement regarding the use of animals in research?

YES / NO

2. Do you think such an agreement is possible?

YES / NO

Please return to: Dr. Randall C. Kyes
Box 7778 Reynolda Station
Wake Forest University
Winston-Salem, NC 27109

ANIMAL BEHAVIOR SOCIETY
SURVEY ON JOBS

The survey below is being conducted by the education committee on the types of jobs members of the society and their students are securing. Our committee distributes a brochure on the different career opportunities in animal behavior and the requirements for obtaining jobs in those areas. Since October 1989 we have sent out over 1000 of these brochures to high school and undergraduate students interested in careers working with animals. The information we gather with this survey will be used to update the brochure and provide hard facts about the type of work available to these young people. Please help us by filling in as much of the survey as possible. The first section will give us information on the jobs currently held by society members. If you graduate students, the second section will give summary information about where students are being placed. The third section will give us detailed information on students and allow us to look for trends in employment. Please help us make this a meaningful survey by completing at least sections I and II. Return this sheet to:

Carol Saunders
Education Department
Chicago Zoological Park
Brookfield, IL 60513

I. Personal Information (do not restrict yourself to examples given if they do not fit)

_____ 1. Highest degree (i.e., AA; BS; MS or MA; PhD, DSc, DVM or equivalent)

_____ 2. Year Awarded

_____ 3. Teaching field (i.e., Anthropology, Biology, Genetics, Medicine, Psychology, Wildlife Man, Zoology, None, Other)

_____ 4. Research field (use same choices as above)

_____ 5. Percent of time teaching (training students)

_____ 6. Percent of doing research (possible overlap with #5)

_____ 7. Number students currently training

_____ 8. Current position (Academic; Industry or Business; Government, Zoo or Conservation group; None; Other)

_____ 9. Rank (Post Doc.; Instructor; Asst. Prof.; Assoc. Prof.; Prof.; Technicial; Division or Department Head; Manager; Other)

_____ 10. Where do you suggest to your students to look for jobs (please use job categories listed below as reference.

_____ 11. If you hire animal behaviorists, in what positions do you see the greatest need for qualified people?

_____ 12. If you have an animal behavior program (or equivalent) do you expect to hire anyone soon?

II. Student Information (summarize students into categories)

Please give the current position of students you have graduated. List the students under their degree category.

	Last 5 Years (85-89)			Previous 5 Years (80-84)		
Current Position	BA/BS	MA/MS	PhD/DSc/ DVM	BA/BS	MA/MS	PhD/DSc/ DVM
Addition Training						
Academic Jobs						
Industry or Business						
Government						
Zoo/Conserv Grp.						
None						

III. Detailed Student Information (please give as much information as you can)

This section requests more detailed information so that we can look for trends in employment over the past 10 years. If you have a large number of students that have traveled similar paths, summarize them into one column. Please provide information on each student you have graduated and their job history to the best of your knowledge. If you are a recent graduate please include yourself as student #1. Include graduate or post doctoral work as a job. Continue on separate sheet if necessary.

Student #	1	2	3	4	5
Year Grad.					
Degree					
1st Position					
2nd Position					
3rd position					
4th position					

General Comments:

SNAKES GUARDING ILLEGAL SUBSTANCES: A REQUEST FOR INFORMATION FROM THE ETHOLOGICAL COMMUNITY

HOBART M. SMITH

On Friday, 9 March 1990, I responded to a request from the Department of Environmental Health (Denver, CO) to identify and remove two snakes that had been confiscated during a police raid on a "crack house". The snakes turned out to be a western diamondback rattlesnake (*Crotalus atrox*) and an Asiatic pit viper (*Trimeresurus* sp.), respectively. Although I cannot be certain what role these animals played at the "crack house," it is suspected that they may have been used as temporary guards of drug packets placed into their cages. This is the second time in my experience that snakes have been taken during police raids on Colorado drug dealerships; the first incident occurred about a decade ago and involved a mixture of venomous and nonvenomous species.

I wonder if colleagues around the country have had similar encounters or are aware of similar incidents. Accordingly, I invite correspondence on this subject. In particular, I would much appreciate receiving the following information.

1. In what city and state did the incident(s) occur?

2. Were local police involved (or state police or federal agents)?

3. Approximate date(s) - i.e., month, year - of the incident(s)?

4. What species were involved?

5. How were the snakes or other herps used by the persons from whom they were confiscated (insofar as this is known)?

6. What illegal substance(s) or activities were involved?

7. Were the arresting officers able to identify the animals correctly (at least as to venomous vs. nonvenomous status)?

8. Were the officers or others endangered by the presence of the animals?

9. Did officers remove the animals or did they seek help from others?

10. Were the animals in good condition at the time of confiscation?

11. Did the owners evince any interest in the fate of their animals?

12. What was the fate of the animals?

I would appreciate a response even if you cannot answer all of these questions. Naturally, I will also appreciate whatever additional comments you can provide on incidents in your experience. I will treat your response as confidential in the sense that your name will not be used in eventual summaries of this information. Finally I will provide all respondents with a summary of the findings.

Kindly mail your response to:

H. M. Smith
Department of E.P.O. Biology
Campus Box 334
University of Colorado
Boulder, CO 80309

APPLICATION FOR MEMBERSHIP: ANIMAL BEHAVIOR SOCIETY

Name in full _____ Degrees _____

Address _____

_____ Phone _____

Position _____ Institution _____

_____ Member- $36 (U.S.) Receive Animal Behaviour and Newsletter
_____ Student Member- $18 Receive Animal Behaviour and Newsletter
_____ Spouse Member- $15 Receive Newsletter

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

Name _____ Signature _____

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

Mastercard # _____ or VISA # _____

Card Holder's Signature _____) to:

SEND THE APPLICATION TO:

Robert Matthews, ABS Treasurer, Dept of Entomology, Univ of Georgia, Athens, GA 30602

****

David Chiszar
Dept of Psychology
Campus Box 345
University of Colorado
Boulder, Colorado 80303

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