



# NEWSLETTER

## Animal Behavior Society

Vol. 32, No. 4  
November, 1987  
A quarterly publication

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### ABS ELECTION RESULTS

A total of 302 members voted (12.0% of the membership) compared to 10.2% in 1986 and 11.3% in 1985. The three constitutional amendments passed. The first of these stipulates that "members and members-elect of the Executive Committee are not eligible for nomination (as ABS Fellows) until the second year after completion of their service on the Executive Committee." The second adds "ASZ Liaison" to the list of standing committees. The third adds an Awards Committee to the list of standing committees. This Awards Committee is to oversee the procedures involved in bestowing the Quest, Exemplar and Distinguished Ethologist Awards. Four ABS officers were elected; they will take office 13 Aug 1988.

Second President-Elect: Charles Snowdon  
Treasurer: Robert W. Matthews  
Editor: Lee C. Drickamer  
Member-at-Large: George T. Barthalmus

Two persons were elected to the U.S.E.C.C., effective Aug. 1987:

Member of U.S.E.C.C. and delegate to I.E.C. Council:  
Irwin Bernstein

Member of U.S.E.C.C. and alternate to I.E.C. Council (in the event the delegate is unable to attend): Patricia Gowaty

### 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

ANIMAL BEHAVIOUR--Manuscripts and editorial matters:

Charles Snowdon, Dept of Psychology,  
Univ of Wisconsin, Madison WI 53706

ANIMAL BEHAVIOUR--Missing, defective, or back issues;  
changes of address:

H. Jane Brockmann, Dept of Zoology,  
Univ of Florida, Gainesville FL 32611

### PRINTING COSTS SOARING

Because of substantial increases in printing costs, we are trying to save the ABS some money by using ordinary newsprint instead of higher quality paper. This newsletter cost about half of what the August Newsletter cost. Nevertheless, your officers will remain responsive to the membership on this

matter. Let the secretary know your reactions to the use of newsprint.

### ABS OFFICERS

PRESIDENT: Sydney Gauthreaux, Jr., Dept of Zoology,  
Clemson Univ Clemson, SC 29631  
1st PRESIDENT-ELECT: John Fentress, Depts of  
Psychology and Biology, Dalhousie Univ Halifax,  
Nova Scotia B3H 4J1 Canada  
2nd PRESIDENT-ELECT: Patrick Colgan, Biology Dept,  
Queen's Univ Halifax, Nova Scotia Canada B3H 4J1  
PAST-PRESIDENT: Gordon Burghardt, Dept of Psych,  
Univ of Tennessee Knoxville TN 37916  
SECRETARY: (1987-1990) David Chiszar, Dept Psych,  
Univ of Colorado Boulder CO 80309  
TREASURER: (1985-88) H. Jane Brockmann, Dept  
Zoology, Univ of Florida Gainesville FL 32611  
PROGRAM OFFICER: (1986-89) Susan Riechert, Dept  
Zoology, Univ of Tennessee Knoxville, TN 37916  
PARLIAMENTARIAN: (1986-89) Edward H. Burt, Jr.,  
Dept Zoology, Ohio Wesleyan Univ Delaware OH 43015  
EDITOR: (1985-88) Charles Snowdon, Dept  
Psychology, Univ of Wisconsin Madison WI 53706  
MEMBER-AT-LARGE: (1985-88) Gail Michener, Dept  
Biol Sci, Univ of Lethbridge Lethbridge, Alberta,  
Canada T1K 3M4  
MEMBER-AT-LARGE: (1986-89) Jan Randall, Biol Dept,  
San Francisco State Univ San Francisco CA 94132  
MEMBER-AT-LARGE: (1987-90) Julia Chase, Biol Dept,  
Barnard College Columbia Univ, New York NY 10027

### 1988 ABS NATIONAL CONVENTION

This newsletter includes registration forms and abstract transmittal forms for the 1988 meetings to be held at the University of Montana, Missoula MT. Host is Donald Jenni, Dept of Zoology, Univ Montana, Missoula, MT 59812 [(406) 243-5123]. Gerry T. Baertsch is Director of Conferences and Institutes at the Univ Montana, 125 Main Hall, Missoula, MT 59812 [(406) 245-2900]. Questions about local arrangements can be directed to Dr. Jenni or to Ms. Baertsch.

### ANIMAL CARE PAPER SESSION AT THE 1988 MEETING

The ABS Animal Care Committee is planning an invited paper session for the 1988 meeting in Montana. We will be concerned with: (1) understanding current regulations and agencies, (2) establishing and using institutional animal care

committees, and (3) developing new and better techniques for animal care and maintenance. If you are interested in participating, please contact Janice Driscoll immediately: Dept of Psych, Univ of Colorado-Denver, 1100 14th St, Denver CO 80202. Phone (303) 556-2601 or (303) 556-8565. Persons who have set up or served on institutional animal care committees are especially needed.

### ASZ

The Executive Office of the American Society of Zoologists has changed from California Lutheran University, Thousand Oaks, CA 91360 to:

American Society of Zoologists, 104 Sirius Circle  
Thousand Oaks, CA 91360

The telephone number remains the same: (805) 492-3585. ASZ will continue to maintain a Post Office Box in Moorpark for submission of dues, questionnaires and ballots, but all general correspondence should go to the above address.

### OPPORTUNITIES

**DATA AVAILABLE-** When Ed Banks died, he was in the midst of a long-term study of maternal behavior of spiny mice, tundra voles, and lemmings. His work involved making numerous films (16 mm) of mothers and their litters, and there are many complete-unedited-records from the time of birth to weaning. Four boxes of films (50-100 films per box) are available to anyone who could use them. Contact Michael Salmon, Dept Ecology, Ethology and Evolution, Univ of Illinois at Urbana-Champaign, Champaign, IL 61820. Phone (217) 333-4329.

**GRADUATE POSITION(S)-** leading to Ph.D. An outstanding opportunity to take advantage of modern steroid analysis in conjunction with avian social systems research. Laboratory and field experience desirable, but applicants need not have had any previous training in hormone analysis. Applications, information on current research, and graduate program literature available from: Dr. Lewis W. Oring or Dr. Albert J. Fivizzani, Dept Biol, Univ of North Dakota, Grand Forks, ND 58202. Respond ASAP but no later than 15 Jan 1988.

**FIELD RESEARCH ASSISTANTS-** Four field assistants needed for studies on the breeding biology of polyandrous birds (phalaropes and spotted sandpipers). Excellent opportunity to learn behavioral and field endocrinological techniques. Two field sites, one in northern Minnesota, the other in Saskatchewan. Research extends from early May to mid-July (phalaropes) or mid-May to late July (sandpipers). Comfortable housing provided but conditions are isolated and physically taxing at times. Salary \$600-\$700 per month depending on experience. Send resume, statement of career goals, times when available, and three letters of recommendation to: Dr. Lewis W. Oring, Dept Biol, Univ of North Dakota, Grand Forks, ND 58202. Respond ASAP but no later than 15 Jan.

**RESEARCH ASSISTANTSHIPS (MS/PhD)-** are available for Spring semester (Jan 1988) to study the behavior and

ecophysiology of migratory passerines. Field sites are located in southwest (coastal) Louisiana and on Mississippi Gulf Coast barrier islands, where migrants are studied during stopover following trans-gulf flight 1 March through 20 May. Some experience with passerine migrants desirable. Send resume, names, addresses and telephone numbers of two references as well as requests for further information to Dr. Frank R. Moore, Dept Biol Sciences, Box 5018, Univ of Southern Mississippi, Hattiesburg, MS 39406.

**FIELD RESEARCH VOLUNTEERS-** to study migratory passerines, Spring 1988 from 1-March through 20 May. Field sites located in southwest (coastal) Louisiana and on Mississippi Gulf Coast barrier islands (Gulf Islands National Seashore), where migrants are studied during stopover following trans-gulf flight. Field work involves mist-netting/markings birds, foliage invertebrate sampling, and some behavioral observations. Some experience with passerine migrants desirable. Research supported by the National Park Service and the National Geographic Society. Per diem available through the National Park Service for work on the barrier islands. Write to Dr. Frank R. Moore, Dept Biol Sci, Box 5018, Univ of Southern MS, Hattiesburg, MS 39406.

**RESEARCH ASSISTANT-** needed for graduate student study of sexual selection in the yellow-knobbed curassow (*Aves: Cracidae*) in the Venezuelan llanos. March-June 1988. Some field experience necessary, knowledge of tropics and Spanish helpful. Airfare and room/board provided (conditional on funding). For more information send CV and cover letter to Richard Buchholz, Dept Zool, 223 Bartram Hall, Univ of Florida, Gainesville, FL 32611.

**ONE FIELD ASSISTANT-** (contingent upon funding) Feb - April 1988 (approx 3 mos.) for study of sexual selection in Sage Grouse, to include capturing, releasing and observing behavior of free-ranging birds. The proposed position will involve full-time field work. A wage (approx \$4/hr) and/or living expense will be provided. Previous field experience helpful but not necessary; however, candidate must be capable of working under extreme winter conditions. Send resume summarizing qualifications, and 2 letters of reference to Mark S. Boyce, Dept Zoology & Physiology, Univ Wyoming, Univ Station Box 3166, Laramie, WY 82071.

**DOCTORAL FELLOWSHIPS-** The Dept of Biol at USL will offer three doctoral fellowships for students entering the doctoral program in August 1988. One or more of these fellowships can be used to support students in the field of amphibian behavioral ecology. Each fellowship has a life-span of three years (for students entering with a Master's Degree) or four years (for students with a Bachelor's Degree), and each carries a stipend of \$12,000/yr to \$15,000/yr. In addition, each fellow will receive \$500/yr for travel to scientific meetings and \$2,000/yr for research expenses (in addition to research funds provided by the Dept Biol, the Graduate Student Organization, and faculty grants). There are no teaching or other obligations, so Fellows can devote full time to course work and research. Current research in this dept emphasizes pheromonal communication in salamanders and territorial behavior of anurans and salamanders. For further information and application forms, write to Dr. Robert Jaeger, Dept Biol, Univ

of Southwestern Louisiana, Lafayette, LA 70504, or phone (318) 231-6748.

**FIELD BIOLOGY TRAINING PROGRAM-** will begin offering a full semester of college credit in 1988. Students participate in ongoing environmental studies of tropical forests and avian migrants in Belize, Central America; migration and breeding ecology of landbirds on the Gaspé Peninsula, Quebec; colonial bird ecology; marine mammal distributions in the Northwest Atlantic; and others. Transfer credit through our affiliates. Financial aid available. Write: Field Biology Training Program, Manomet Bird Observatory, P. O. Box 936, Manomet, MA 02345; phone (617) 224-6521.

**RESEARCH APPRENTICESHIPS-** (2-4 mo) in ongoing research in avian, marine mammal, estuarine, and tropical forest ecology. Available year-round. \$250/mo and room provided. Apprenticeships are designed for beginning biologists with some field experience. Write for project details to: Research Apprentice Program, Manomet Bird Observatory, P. O. Box 936, Manomet, MA, 02345; phone (617) 224-6521.

**FOUR FIELD RESEARCH ASSISTANTS NEEDED-** Summer 1988. The project, in its 4th year, addresses questions dealing with behavioral ecology and conservation of isolated populations. Theme is concerned with the genetic consequences of mating systems using bisons in Badlands National Park (South Dakota). Workers should have some familiarity with behavior, be in good physical condition, and be willing to live (at least part of the summer) in tents. The salary will be about \$750. For further details contact: Dr Joel Berger or Carol Cunningham, Dept RWF, Univ Nevada, Reno, NV 89512; phone (702) 784-4314. Deadline: 1 March 1988.

**MS GRADUATE STUDENT POSITION-** studying White Ibis ecology and physiology will be available beginning spring 1988 to work on an ongoing study of a large colony along South Carolina coast. Field work will involve detailed observations of birds at the colony site, and radio-tracking birds to and from feeding sites. Send resume, transcripts, GRE scores and 3 letters of recommendation to Keith L. Bildstein, Dept Biol, Winthrop College, Rock Hill, SC 29733; phone (803) 323-2111.

**SEVERAL WHITE IBIS INTERNSHIPS-** will be available (May-August) for students desiring 10-12 weeks field experience involving studies of behavioral and physiological ecology of a large population of White Ibises. Experience not necessary, but serious interest in avian ecology is absolutely essential. The study site is a pristine 3000 hectare salt marsh on the historic Hobcaw Barony near Georgetown, SC, home of the Belle W. Baruch Institute for Marine Biology and Coastal Research (an NSF long-term ecological research site). Field work will involve observations of the feeding and breeding behavior of free-ranging adult ibises using radio-telemetry, as well as observations and, possibly, hand-rearing of nestling ibises. This study, now in its 8th yr, offers the opportunity of collaborative research for advanced students. A stipend of \$1,000 (and possibly housing) will be provided. Send letter of interest along with resume and names of 2 references to Keith L. Bildstein, Dept Biology, Winthrop College, Rock Hill, SC 29733; phone (803) 323-2111.

**GRADUATE AND/OR FIELD ASSISTANT OPPORTUNITIES-** Spring or Summer 1988. Studies involve the migration of barren-ground caribou and the behavioural ecology of wolves in northern Labrador. Funding is anticipated but certainly not guaranteed. Volunteers are welcome and some travel/subsistence costs can be defrayed. Study site is very remote and poorly accessible; thus experience with and love of wilderness solitude handy (as is a good sense of humour). For more details, contact Fred H. Harrington, Mount Saint Vincent Univ, Halifax, Nova Scotia, B3M 2J6.

**FIELD RESEARCH ASSISTANTS-** 1 March through June 15 1988. Two people to assist with long-term ecological/behavioral study of blackbirds. Assistants will be responsible for monitoring the breeding behavior of individual birds, trapping and banding, helping with behavioral experiments, and for taking blood samples. Ongoing experiments include ones relating to site selection, territoriality, and vocalizations. Study site is located at the Columbia National Wildlife Refuge in eastern Washington state. Modern living conditions in nearby town. A salary will be provided that will more than cover living expenses. People with some field experience or experience with taking animal blood samples may be given preference. Send resume and 1 or 2 letters of recommendation to Les Beletsky, Dept Zoology, NJ-15, Univ of Washington, Seattle, WA 98195; phone (206) 543-1812.

**ANIMAL BEHAVIORIST -** August 1988. The Dept Psych, Univ of Wisconsin-Madison, anticipates making a faculty appointment at the Assistant Professor level in the area of animal behavior. We are seeking candidates with strong research records and will consider individuals in any area of animal behavior. While the candidate's degrees can be in a field other than psychology, it is essential that he or she be able to teach core courses in psychology. Applicants should submit a curriculum vita and have 3 letters of recommendation sent to: New Personnel Committee, Dept Psych, Univ of Wisconsin-Madison, Madison, WI 53706. Applications received after 1 Dec 1987 may not receive full consideration. The Univ Wisconsin is an equal opportunity/affirmative action employer.

**ASSISTANT OR ASSOCIATE PROFESSOR-** tenure track position in neuroscience or psychobiology (broadly defined) (9 mos/yr) available 1 Aug 1988. The successful candidate will contribute to development of an interdisciplinary neuroscience program with the Dept Biol. Applicants at the Assistant Professor level should have 2-3 yrs postdoctoral experience and demonstrate outstanding potential for independent research. Applicants at the Associate Professor level should have established a successful program of research supported by extramural funding. All candidates should show evidence of a serious commitment to quality in both graduate and undergraduate teaching. Deadline for applications is 15 Jan 1988. Applicants should send vita, no more than 4 recent reprints or preprints, and 3 letters of reference to: Dr. M. Russell Harter, Neuroscience/Psychobiol Search, Dept Psych, Univ North Carolina at Greensboro, Greensboro, NC 27412-5001. The Univ of NC is an equal opportunity/affirmative action employer. Applications from women and members of minority groups are especially encouraged.

**VOLUNTEER POSITIONS-** (approx 20) Spring/Summer/Fall 1988 at the Southwestern Research Station of the American Museum of Natural History in Portal, Arizona. The volunteer program offers students in the biological sciences outstanding opportunities to become involved with scientists doing field research.. Food and lodging at the Station are provided to Volunteers in exchange for four hours per day of routine work chores, leaving other time free for research activities. Faculty knowing of promising undergraduate or graduate students should alert them to this possibility for professional experience toward, development of, and evaluation of their career goals. For application forms, contact: Resident Director, Southwestern Research Station of the American Museum of Natural History, Portal, Arizona 85632; phone (602) 558-2396.

**POSTDOCTORAL POSITION-** March 1988, available in the area of comparative neurobiology of vision in fishes. Research program involves behavioral, psychophysical and electrophysiological examinations of ultraviolet-polarized light sensitivity in salmonids. Experience with single-unit recording and/or fish behavior experimentation would be an asset. Salary will be at the NSERC rate of \$19,200/yr. Send curriculum vita, reprints and 3 letters of reference to: C. W. Hawryshyn, Dept Psych, McMaster Univ, Hamilton, Ontario, Canada, L8S 4K1. Closing date 29 Jan 1988.

**DESERT RESEARCH OPPORTUNITY-** There are diverse opportunities at the Mitrani Center for Desert Research for any person nearing completion of a Ph.D., and in particular, persons interested in behavioral ecology of desert arachnids. For further details, write: Yael D. Lubin, Mitrani Center for Desert Ecology, Blaustein Institute for Desert Research, 84990 Sede Boger, Israel (BITNET address: DCAN100 at BGUNOS).

**FIELD ASSISTANTS-** late April to mid-Aug 1988. (3-4) are needed for a study on foraging efficiency and social dominance in juvenile yellow-eyed juncos in the Chiricahua Mountains of Southeastern Arizona. Room and board at the Southwestern Research Station and a \$50/week stipend will be provided. Assistants must be able to use binoculars, read colored leg bands, drive a standard transmission auto, and also be willing to use a computer and get up before dawn. Responsibilities will include finding nests, mistnetting, banding, conducting censuses, collecting time-budget, foraging and dominance data, maintaining continuous observations of focal birds and record keeping. Send resume and the names and phone numbers of 2 references to: Kim Sullivan, Dept Life Sciences, Indiana State Univ, Terre Haute IN 47809. Phone (812) 237-2421.

### ANNOUNCEMENTS

**NSF REGULATIONS ON RESEARCH MISCONDUCT-**  
The National Science Foundation has issued final regulations establishing what the NSF and its staff should do if they learn of possible misconduct under an NSF Award as well as if they find actual misconduct under an NSF award. Responsibilities of grantee institutions, which play a major role in handling misconduct cases, are also covered. The final

regulations are published in the 1 July 1987 issue of the *Federal Register* [52(126): 24466-24470].

Although NSF has received relatively few allegations of misconduct or fraud occurring in NSF-supported research, or in proposals for the support of research, allegations of this nature are serious enough to warrant establishing formal policies and procedures to handle them. NSF believes that grantee institutions bear primary responsibility for preventing and detecting misconduct. The new regulations set forth the role and responsibilities that institutions are expected to follow. The regulations, in establishing policies and internal NSF procedures for handling allegations of misconduct, provide for interim administrative actions, final actions, and appeals procedures. The regulations are similar to misconduct policies and procedures of the Public Health Service of the Dept of Health and Human Services. --Report submitted by George H. Waring, Chair, Public Affairs Committee.

### **NEW BILLS REGARDING ANIMAL WELFARE-**

Legislation on animal welfare continues to be introduced during the 100th Congress. As of early fall, little or no action has taken place on these bills; however, they continue to gain cosponsors. Among the bills are:

**H.R. 778-** introduced by Rep. Robert J. Mrazek (D-NY) on 27 Jan 1987. This "Pet Protection Act" would prohibit anyone who obtains or uses for any research purpose any animals acquired from any animal shelter to be eligible to receive any grant or research protocol of the NIH.

**H.R. 1770-** introduced by Rep. Charles Rose (D-NC) on 24 March 1987. This bill would amend the Animal Welfare Act to allow anyone to sue the federal government on his/her own behalf or on behalf of any animal to compel enforcement of the Act.

**H.R. 2593-** introduced by Rep. Edolphus Towns (D-NY) on 30 June 1987. The purpose of this bill is to amend the Animal Welfare Act to protect farm animals used in non-agricultural research.

**S. 1457-** introduced by Sen. Wendell Ford (D-KY) on 30 June 1987. Like H.R. 778, this bill would prevent the use of pound animals by any recipient of NIH funds. However, the Ford bill would additionally prohibit any person who obtained or used "for any research purpose any animal acquired directly or indirectly from individuals who have not bred and raised such animal on their own premises" from receiving federal funds under any grant or research protocol of the NIH. This bill would, therefore, end most donations of animals to research facilities and require NIH grantees to obtain all research animals from breeders.

Single copies of congressional bills can be obtained at no charge by writing:

1) For Senate document orders---Senate Document Room, B-04 Hart Bldg., Washington, D.C. 20510.

2) For House document orders---House Document Room, H-226 Capitol Bldg., Washington, D.C. 20515

--Report submitted by George H. Waring, Chair, Public Affairs Committee.

## WESTERN COMPARATIVE PSYCHOLOGY ASSOCIATION-

At the urging of APA's Division 6 Committee on the Status of Comparative Psychology, regional comparative psychology associations are being formed. The goals of these regional associations, of course, include the fostering of comparative psychology and its place within the discipline, but also making the regional psychological associations and their conventions more appealing to psychologists and others interested in animal behavior.

Plans are being made to schedule an organizational meeting at the 1988 convention of the Western Psychological Association. If you are interested in helping plan the meeting, have agenda items, or have any other suggestions, contact: Dan Moriarty, Dept Psych, Univ of San Diego, San Diego CA 92110; phone (619) 260-4600.

## NEW PUBLICATION-

The Scientists Center for Animal Welfare has published a new book *Effective Animal Care and Use Committees*, Editors: F. Barbara Orlans, Richard C. Simmonds, and W. Jean Dodds. This publication contains material on procedures for the review of animal experimentation at the institutional level by Animal Care and Use Committees (ACUC). It also deals with training of laboratory staff and provides guidelines for animal care and handling. The list price of this hard-cover, 178-page volume is \$45; discounts are available. To place an order or for more information, contact: The Scientists Center for Animal Welfare, 4805 St. Elmo Ave, Bethesda MD 20814; phone (301) 654-639.

## READINGS FROM THE 19th I.E.C.-

Nine volumes are available from the publisher. The volumes are: 1. Relevance of models and theories in ethology; 2. Ethology and psychology; 3. Quantitative models in ethology; 4. Behavioral ecology and population biology; 5. The individual and society; 6. Genetic approaches to behavior; 7. Orientation in space; 8. Behavioural rhythms, and 9. Ethology of domestic animals. The cost is 98 FF per volume or 750 FF for all nine volumes. For additional information write to: PRIVAT, 14 rue des Arts, 31068 Toulouse Cedex, France.

## ASZ 1987 ANNUAL MEETING IN NEW ORLEANS

December 27-30, Hyatt Regency Hotel, New Orleans, LA. The Animal Behavior Society meets with the American Microscopical Society, the Crustacean Society, International Association of Astacology, and the Society of Systematic Zoology.

**Symposium: Kin recognition in animals: Empirical evidence and conceptual issues** (organized by Andrew R. Blaustein and Richard H. Porter; sponsored by ABS/DAB). All day 29 Dec. Tentative program includes: The role of the major histocompatibility complex in olfactory discrimination (Beauchamp); Types of kin recognition in birds (Beecher); The influence of kinship on the social behavior of non-human primates (Bernstein); Kin recognition in anuran amphibian larvae: Correlations with ecology and life history (Blaustein); The honey bee: Kin recognition in multiple contexts (Breed);

Kin recognition and reproductive behavior (Dewsbury); Mechanisms of kin recognition: A critical review (Fletcher); Recognition of nestmate and non-nestmate kin in social wasps (*Polistes fuscatus*) (Gamboa); A review of kin recognition in sweat bees (Greenberg); The effect of the T-complex on behavior in wild house mice (Lenington); The ontogeny of sibling recognition in rodents: Superfamily muroidea (Porter); Ground squirrel kin recognition abilities: Social and life history correlates (Schwagmeyer).

**Symposium: Facultative sex ratios and sex ratio theory:** (organized by Nancy Burley and Patricia A. Gowaty; sponsored by ABS/DAB). All day 30 Dec. Tentative program includes: Environmental sex determination in reptiles (Bull); Sex ratios and the evolution of mating systems (Burley); Facultative variation in plants (Condon); Facultative sex ratio variation in birds--rare or rarely observed? (Gowaty); Factors affecting the production and survival of sons and daughters among macaques and other primates (Hrady & Small); Female-biased adult sex ratios in ground-dwelling squirrels (Michener); Seasonal sex ratios--adaptations or artifacts (Schultz); Inclusive fitness models of sex allocation (Taylor); Sex-ratio theory and female heterogamety (Trivers); Genetic conflict and sex ratio evolution (Werren).

**Symposium: Behavioral neuromodulators: Cellular comparative and evolutionary patterns** (organized by Charles M. Lent and Winsor Watson, III; sponsored by DCPB [ASZ]; co-sponsored by ABS/DAB). Afternoon 28 Dec; morning 29 Dec; afternoon 30 Dec. Tentative program includes: Peptides and leeches (Calabrese); Feeding modulation by predatory nudibranchs (Gillette); Amines and leech feeding (Lent); Amines in lobster (Harris-Warrick); Egg laying hormone in *Aplysia* (Mayeri); Protists and peptide pheromones (Michaelis); Insect amines and peptides (O'Shea); Snail feeding and peptides (Prior); Amines in coelenterates (Spencer); Octopamine and insect motor programs (Sombati); Peptides in *Limulus* and nudibranchs (Watson); Hormones and insect behaviors (Weeks).

**Symposium: Adaptive coloration in invertebrates:** (organized by Mary K. Wicksten; sponsored by DIZ [ASZ]; co-sponsored by ABS/DAB). All day 28 Dec. Tentative program includes: Introduction (Wicksten); Adaptive coloration in opisthobranch mollusks (Behrens); Photoprotection by pigmentation in zooplankton (Byron); The relationships between visual characteristics of butterflies, and the responses of a specialized avian predator (Chai); Brittle-star bioluminescence functions as an aposematic signal to deter crustacean predators (Grober); morphological, neural, behavioral and ecological considerations in adaptive coloration of cephalopods (Hanlon); Evolution of wing pigment patterns in pierine butterflies: When are correlations among characters adaptive? (Kingsolver); Predators, environment, and color: Adaptive strategies of exposed, slow-moving, edible caterpillars (Schmidt); Changes in the physiological coloration of Texas fiddler crabs (*Uca*) (Thurman); The evolution of animal coloration--adaptive aspects from bioenergetics to demography (Watt); Host mimicry among pontonine shrimp (Zmarzly).

Animal Behavior Division contributed oral papers are scheduled for all day on 28 Dec. Posters may be viewed the morning of 27 Dec. Abstracts will be published in the *American Zoologist* 27 (4). For further information contact Mary Adams-Wiley, ASZ, Box 2739 California Lutheran College, Thousand Oaks, CA 91360.

## **ANNUAL MEETING - ANIMAL BEHAVIOR SOCIETY - 7-13 AUG 1988 UNIVERSITY OF MONTANA, Missoula, Montana**

Missoula, Montana is located at the crossroads of U.S. Interstate 90, U.S. Highways 12 and 93, and Montana Highway 200. Missoula, with its unique and beautiful location, is the hub of five valleys and offers a variety of vacation activities. Sightseeing, sports, shopping, culture and just plain relaxation are all at hand in Missoula. Come to Missoula for the 1988 Animal Behavior Society Meeting, look around and enjoy the friendly Big Sky hospitality.

### **Missoula and the UM Campus**

Surrounded by mountain peaks ranging from 7,600 to 9,075 feet elevation, the University is nestled in a high valley (3,205 ft.) within the city of Missoula. During the Pleistocene, the valley was filled repeatedly by Lake Missoula and as many as 34 benches can be found on the surrounding slopes.

The urban population of Missoula is 68,000. The city is noted for its spectacular scenery and accessible recreational opportunities. For instance, within five miles of the campus is the Rattlesnake Recreational Area and Wilderness. There are approximately 450 miles of fishing streams and rivers and more than 10 small lakes in the area. Thousands of acres of surrounding wilderness and national forest lands offer exceptional opportunities for hiking and camping.

Fifty miles north of Missoula the National Bison Range supports a herd of approximately 300 bison. Flathead Lake, the largest natural freshwater lake west of the Mississippi River, is only 67 miles north of the city, and Glacier and Yellowstone Parks are 150 miles to the north and 269 miles to the south, respectively.

The climate of western Montana can be variable in August. The long-term averages for Missoula for August 7-13 suggest warm days and cool nights. The average high is 84.5 degrees F. and the low is 49.5 degrees F. Relative humidity is 20-30% during the afternoon and reaches 60-70% at night. Rainfall averages less than one inch for the entire month, mostly by thundershowers. These are averages and the variance is large; be prepared for 10 degrees difference in any direction.

### **Transportation**

Missoula is served by Northwest, Continental, Delta Airlines, and Alaska Airlines; by Greyhound and Intermountain buslines; and by automobile on Interstate Highway 90 from the east or west, U.S. Highway 93 from the north or south, and U.S. Highway 12 from the southwest.

**A first for ABS!! Two officially designated air carriers: Delta and Northwest.**

Special reduced rates have been negotiated on both airlines by Mr. Tom Schmidt, General Manager of Missoula's largest travel company, Ask Mr. Foster Budget and Global Travel Agencies. Tom Schmidt has installed a special nationwide toll free number for the ABS Conference:

**1-800-346-7680**

Mr. Tom Schmidt will handle conference arrangements personally. To get a minimum of 5% off even the cheapest fares, call Tom. There are eight major flights and a large number of commuter flights into Missoula every day. However, the number of seats available at the special "super saver" rates are always limited, so it is important to book as early as possible.

Car rentals require advance registration; the number of rentals is limited. Our official travel agent has special arrangements with local renters and will coordinate automobile rentals for ABS. Use the same toll free number: 1-800-346-7680.

Twenty-four hour taxi service from the airport to the university is available. Shuttle van service will be arranged to meet airline arrivals.

The University has ample parking on campus. During the summer, parking permits are not required for legal parking spaces in open lots.

## **Accommodations**

### **Residence Halls**

Jesse Hall and Knowles Hall will be set aside for use by members and guests of the Animal Behavior Society. Both residence halls are within a five-minute walk of the University Center dining facilities and all campus buildings and meeting rooms.

Accommodations will be made in clean, comfortable dormitory rooms. Each room is equipped with a telephone. Bedding includes mattress pad, pillow, one woolen blanket, sheets, pillow case and towels. Soap and cups are provided in each room. Closet space is ample and lavatory facilities are conveniently located on each floor. Room and outside door keys are provided. Each dormitory has a fully equipped laundry room with coin-operated washers and dryers. Ironing facilities are also available and a limited number of irons will be available at each hall desk.

**The daily rate per person is as follows:**

Singles--\$14.66 per night (includes all applicable state taxes)

Doubles--\$10.50 per night (includes all applicable state taxes)

Children--will be housed at the regular rates in rooms adjacent to their parents. Children are not permitted to sleep in sleeping bags on the floor of their parents' room. Cribs and cots are not available.

Arrangements can be made for participants arriving before the conference or remaining after the conference. "After hours" arrivals will be accommodated by the dorm Head Resident.

### **Off-Campus Housing**

For those who do not request on-campus housing, a complete Missoula Accommodations Guide will be mailed with your registration confirmation. Please make your reservations directly with the hotel/motel of your choice.

### **Food Services**

A breakfast, lunch and dinner meal plan will be provided exclusively to ABS by the Gold Oak Dining Room in the University Center. The price of the meal plan is \$16 per day for breakfast, lunch and dinner. Meals are available to ABS registrants, whether you are staying on- or off-campus. The cafeteria-style service offers a large variety of individual choices with unlimited seconds. Beer and wine will be available for purchase at all lunches and dinners.

The Copper Commons dining room in the University Center has available grilled sandwiches and snacks.

A list of private restaurants in the area offering diverse cuisines will be provided at registration.

### **Campers and Camping**

While attending the Animal Behavior Society Meeting on campus, large campers may be parked in lot Z-1 on the east side of the UM Fieldhouse; however, camper living is not permitted on the University of Montana campus. Camping information will be mailed to registrants who do not request on-campus housing.

## **Outdoor Recreation**

Missoula has many of our nation's finest wilderness areas within a short drive. Altogether there are eight wilderness areas in the region, each offering unique opportunities to see spectacular country undisturbed by development. The UM Campus Recreation Outdoor Program is staffed by avid hikers and backpackers who can advise you whether you want a day hike or a longer trip. Montana trails offer a wide variety of outdoor experiences.

Western Montana is also a fisherman's dream, with an astounding variety of rivers near Missoula. Within 50 miles there are more than 200 miles of floatable river, hundreds of miles of creeks and streams, and scores for fishable lakes. Waiting to take your fly or lure are Rainbow, Cutthroat, Brown Trout, Brook Trout, Dolley Vardin, Kokanee Salmon, Whitefish, Bass, Northern Pike and others. License and regulations, including season dates and fees are available through sporting goods stores throughout Montana or through the Montana Fish, Wildlife and Parks Department, 3201 Spurgin Road, Missoula, MT 59801, (406) 542-5500.

## Optional Activities

### Bison Range Tour- (Sun., August 7: 5:30 am-noon: \$10.00)

The National Bison Range is home to one of the largest remaining herds of American buffalo. Approximately 300 bison roam over nearly 19,000 acres of grassy parklands and patches of forest. Whitetail and mule deer, elk, bighorn sheep, mountain goats, pronghorn antelope and coyotes also live here. (NOTE: The Bison Range is open 7 days a week and those with private transportation can visit the range at their convenience. Brochures and maps will be available at the registration desk.)

### Whitewater Raft Trip- (Sun., August 7: 8:00 am-4:30 pm: \$24.00)

This whitewater paddle raft trip will run through the Alberton Gorge on the Clark Fork River. Children must be at least 10 years old and accompanied by a parent or guardian. Minimum: 10, Maximum: 30. Cost including transportation, float trip and lunch is \$24.00 per person

### Aerial Fire Depot Smokejumper Center Tour- (Tues., August 9: 2:30-4:30 pm: \$2.00)

The USDA Forest Service Aerial Fire Depot (better known in Missoula as the Smokejumper Center) is the largest of eight smokejumper training centers in the United States. It was founded in 1939 with the first jump taking place in 1940. Displays at the Smokejumper Center portray the human drama associated with forest fire detection and suppression. You will view pictures, murals, exhibits of man against wildfire. During the visit, active smokejumper operations will be taking place.

### Riverfront Summer Theatre- (Wed., August 10: 8:00 pm: \$6.00)

The play is presented in the unique and festive atmosphere of a giant circus tent. The production is played with the audience seated cabaret-style on all four sides of an arena style stage. Cocktails and appetizers are available all evening. What could be more pleasant than an evening of live theatre next to the Clark Fork River on a warm summer night!

### Whitewater Raft Trip- (Sat., August 13: 8:00 am-4:30 pm: \$24.00)

This whitewater paddle raft trip will run through the Alberton Gorge on the Clark Fork River. Children must be at least 10 years old and accompanied by a parent or guardian. Minimum: 10, Maximum: 30. Cost includes transportation, float trip and lunch.

### Sperry Wilderness Chalet in Glacier National Park-

Many people think Sperry Chalet is best. It is rugged, remote and very picturesque. Mountain goats bed on the grounds daily. Excursion includes transportation from Missoula to Logan Pass, Going to the Sun Road in Glacier National Park, and trail lunch on Saturday, hike of seven miles gaining 3,000 feet in elevation from MacDonald Creek to Sperry, dinner, overnight accommodations, breakfast and trail lunch for Sunday and transportation back to Missoula. Approximate all inclusive cost is \$75. To guarantee reservations, send \$45 deposit per person before December 15. (The Granite Park Chalet trip described in the August newsletter is fully booked. So, if you are going to Sperry but would prefer Granite Park, you will be placed on a wait list.)

### Pre- and Post-Conference Independent Touring-

Mr. Tom Schmidt (see travel arrangements above) can provide brochures and information for all activities in Montana. All ABS members will receive an announcement of the August meeting in late January or early February. It will include a beautiful state travel brochure featuring vacation opportunities in Montana. You will also receive information and special ABS discount prices for accommodations in Glacier National Park's historic hotels and motels. These discounts will apply to either pre- or post-conference travel.



**Meals and Special Events**

Sunday Evening Barbecue: \_\_\_\_\_ tickets x \$10.00 = \$ \_\_\_\_\_  
 Thursday Evening Banquet: \_\_\_\_\_ tickets x \$12.00 = \$ \_\_\_\_\_  
 Friday Evening BBQ & Dance: \_\_\_\_\_ tickets x \$15.00 = \$ \_\_\_\_\_

MEAL PLAN: (Indicate number of tickets requested)

Monday	Breakfast (\$3.75)	x _____ = \$ _____
	Lunch (\$4.75)	x _____ = \$ _____
	Dinner (\$7.50)	x _____ = \$ _____
Tuesday	Breakfast (\$3.75)	x _____ = \$ _____
	Lunch (\$4.75)	x _____ = \$ _____
	Dinner (\$7.50)	x _____ = \$ _____
Wednesday	Breakfast (\$3.75)	x _____ = \$ _____
	Lunch (\$4.75)	x _____ = \$ _____
	Dinner (\$7.50)	x _____ = \$ _____
Thursday	Breakfast (\$3.75)	x _____ = \$ _____
	Lunch (\$4.75)	x _____ = \$ _____
Friday	Breakfast (\$3.75)	x _____ = \$ _____
	Lunch (\$4.75)	x _____ = \$ _____
Saturday	Breakfast (\$3.75)	x _____ = \$ _____

Please indicate if you would like to request vegetarian meals.

(The cost for all meals is \$105.75)

Food Subtotal: \$ \_\_\_\_\_

**Optional Activities**

Bison Range Tour (8/7) \_\_\_\_\_ tickets x \$10.00 = \$ \_\_\_\_\_  
 Whitewater River Raft Trip (8/7) \_\_\_\_\_ tickets x \$24.00 = \$ \_\_\_\_\_  
 Smokejumper Center Tour (8/9) \_\_\_\_\_ tickets x \$ 2.00 = \$ \_\_\_\_\_  
 Riverfront Theatre (8/10) \_\_\_\_\_ tickets x \$ 6.00 = \$ \_\_\_\_\_  
 Whitewater River Raft Trip (8/13) \_\_\_\_\_ tickets x \$24.00 = \$ \_\_\_\_\_  
 Granite Park Chalet Excursion (8/13-14) Fully booked since October 25.  
 (\$75 -\$45 deposit = \$30 balance) \_\_\_\_\_ tickets x \$30 balance = \$ \_\_\_\_\_  
 Sperry Chalet Excursion (8/13-14) \_\_\_\_\_ tickets x \$30 balance = \$ \_\_\_\_\_  
 (\$75 - \$45 deposit = \$30 balance)

Activities Subtotal: \$ \_\_\_\_\_

**T-Shirts (sizes S,M,L,XL; 50% cotton/50% polyester, non-shrinking)**

Size of T-Shirt supplied at registration: Size \_\_\_\_\_  
 Additional T-Shirt(s) at \$5 each: Quantity \_\_\_\_\_ Size \_\_\_\_\_  
 Quantity \_\_\_\_\_ Size \_\_\_\_\_

T-Shirt Subtotal: \$ \_\_\_\_\_

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

**Total Amount Enclosed: \$ \_\_\_\_\_**

Make check payable to *University of Montana* and mail to:  
 1988 ABS Meeting, Center for Continuing Education, 125 Main Hall,  
 University of Montana, Missoula, MT 59812.

Payment of the registration fee must accompany your registration form. Payment for lodging, meals, tours and activities may accompany your registration form if you wish. Payment in full must be received by July 15, 1988.

1988 ANNUAL MEETING OF THE ANIMAL BEHAVIOR  
SOCIETY  
7 - 13 AUG 1988, UNIVERSITY OF MONTANA,  
MISSOULA MONTANA

**CALL FOR PAPERS:** A Transmittal Form for contributed papers is included here. There are three types of contributed papers: 20 min (15 min for presentation and 5 min for discussion), 5 min papers and poster papers. ABS members may present or sponsor only one contributed paper at an Annual Meeting. When a member co-authors 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. It is expected that the research reported at an Annual Meeting complies 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, Susan E. Riechert, Zoology Dept, Univ of Tennessee, Knoxville, TN 37996-0810.

**DEADLINE FOR RECEIPT OF ABSTRACTS --- 25 MARCH 1988 - FIRM!** ONLY SUBMISSIONS ON THE PROPER TRANSMITTAL FORM WILL BE ACCEPTED. NOTE ALSO THAT IN ACCORDANCE WITH THE PRACTICES OF OTHER SOCIETIES, ABS NOW REQUIRES THAT INDIVIDUALS PREREGISTER AT THE TIME OF SUBMITTING AN ABSTRACT. The registration forms are included in this issue of the Newsletter and should be sent directly to the local host, Dr. Donald Jenni, Zoology Dept, Univ of Montana, Missoula MT 59812.

**POSTER PAPERS** are highly recommended. Poster papers can facilitate more discussion, perusal of data and one-to-one exchanges of ideas. We will continue the evening format for the poster paper sessions in Missoula. The ABS now sponsors a competition for the FOUNDERS AWARD FOR POSTER PAPERS. If you are planning a poster paper submission and wish to be considered for the 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 what makes a good poster paper 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 1988 Annual Meeting. Any independent student research that is unpublished at the time of submission for the competition is eligible for this cash award so long as the student has not competed before and has not had the final defense of the doctoral dissertation prior to the preceding ABS Annual Meeting. All papers must be single authored. To compete send the Transmittal Form and Abstract to the Program Officer by 25 March 1988 and four copies of a written version of the paper to Dr. Patrick Colgan, Biology Dept, Queen's College, Kingston Ontario K7L 3N6 Canada. The written manuscript must not exceed 7 pages of double-spaced typewritten text; it may include no more than 4 tables and figures and should be completed in the *Animal Behaviour*

format. **DEADLINE FOR RECEIPT OF WRITTEN TEXT IS 1 MAY 1988. BE SURE TO CHECK THE ALLEE COMPETITION BOX ON YOUR ABSTRACT TRANSMITTAL FORM.**

**INVITED PAPER SESSIONS:** The deadline for submission of proposals for both invited paper sessions and symposia is 1 November 1988. Contact the Program Officer for additional information.

**ADVANCED WARNING:** At the request of many who have attended the past several ABS Meetings, it is the intention of the Program Office to enforce the original rule regarding 20 min contributed papers. Namely, 15 min are for the paper presentation and 5 min are for discussion. **PLEASE PLAN ACCORDINGLY FOR THE 1988 MEETING!** We were quite successful with this rule for the last three years and hope to keep it this way since the program is getting longer and more complex each year.

**ABSTRACT PREPARATION:**

1. Abstracts will be photographed just as you submit them; you must follow the suggested format.
2. Abstracts, including title and author(s), should be typed in a 3" x 7" space. Letters should not touch the lines. Single space all typing, leaving no top or left margins.
3. 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. Be very wary of abstracts printed by dot matrix printers - they often do not reproduce well.
4. Your abstract should be organized as follows:
  - a. **Title** - use CAP's; check to make certain that Transmittal Form and Abstract titles match; when using a Latin name, please include the common name also; see example below.
  - 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.**
  - g. **Acknowledgments or References** - as desired.
5. On page 12 we provide examples of a title and byline. **DO NOT** type your Abstract on page 12! Newsprint provides an inappropriate photographic background. Use plain bond.

SEND **TWO** COPIES OF THE ABSTRACT AND ONE COPY OF THE TRANSMITTAL FORM TO THE PROGRAM OFFICER.

DEADLINE FOR **ALL** ABSTRACTS IS 25 MARCH 1988 !!!

Ex. of title lines (follow this format):

DISPERSAL PATTERNS IN THE DWARF MONGOOSE (*Helogale parvula*)  
Jon P. Rood, Smithsonian Conservation and Research Center, Front Royal, Virginia

[PLEASE TYPE YOUR ABSTRACTS IN A 3" x 7" SPACE ON PLAIN  
BOND PAPER, BEING SURE TO REPRODUCE (AND SIGN)  
THE STATEMENT BELOW.]

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

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**ABSTRACT TRANSMITTAL FORM: ANNUAL MEETING OF THE ANIMAL BEHAVIOR SOCIETY, 7 - 13  
AUG 1988, UNIVERSITY OF MONTANA, MISSOULA MONTANA**

Return to: Susan E. Riechert, Zoology Dept, Univ of Tennessee, Knoxville, Tennessee 37996-0810. Please type or print where appropriate on following form.

Title of Paper:

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Author(s):

First Name    Middle    Last Name    Institutional Affiliation  
                  Initial

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Mailing Address of presenting author:    Telephone Numbers:

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

ABS Membership of Presenting Author:

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

Nonmember \_\_\_\_\_ Sponsored by \_\_\_\_\_

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

Category of Paper to be presented -

(ABSTRACT REQUIRED OF ALL CATEGORIES)

20 minute paper \_\_\_\_\_ Symposium Paper \_\_\_\_\_

5 minute paper \_\_\_\_\_ Invited Paper Session \_\_\_\_\_

Poster Paper \_\_\_\_\_ Founders Award for Poster Papers \_\_\_\_\_

Allee Award Competition \_\_\_\_\_

WOULD YOU LIKE TO CHAIR A SESSION?    Yes \_\_\_\_\_ No \_\_\_\_\_

Please identify your paper according to animal group and principal subject by circling the appropriate categories on page 14. These are used by the Program Officer to assist in arranging the program.

<u>Animal Group:</u>	Humans	Carnivores	Crustaceans	Arachnids
	Ungulates	Rodents	Amphibia	Insects
	Other Mammals	Marine Mammals	Reptiles	Other Invertebrates
	Non-human Primates	Birds	Fishes	Molluscs

<u>Subject:</u> Applied ethology	Genetics	Social Behavior:
Behavioral ecology	Learning	Agonistic
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
		Parent-offspring relations
		Play behavior
		Territoriality

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 \_\_\_\_\_

VISUAL AIDS - A 2" x 2" slide projector is provided for each session. What special equipment would you like to use (subject to availability)?

overhead projector \_\_\_\_\_

16 mm movie projector \_\_\_\_\_

other (be very specific) \_\_\_\_\_

## MEETINGS

ANNUAL MEETING OF WESTERN SECTION OF THE WILDLIFE SOCIETY- 10-13 Feb 1988, The Nanihoa Hotel, Hilo Hawaii. Theme: "Conservation Biology's Role in Wildlife Management: Issues, Concerns, and Opportunities." Contact: John G. Kie, Program Chair, Forestry Sciences Laboratory, 2081 E. Sierra Ave., Fresno, CA 93710; phone (209) 487-5589.

AAAS 1988 MEETING- 11-16 Feb, Boston MA.

CONFERENCE ON REPRODUCTIVE BEHAVIOR (CRB)- 11-14 June 1988, Omaha NE. Contact Jeffrey A. French, Dept Psych, Univ Nebraska, Omaha NE 68182-0274.

12th ANNUAL LARVAL FISH CONFERENCE (Special Session) and ANNUAL MEETING OF THE EARLY LIFE HISTORY SECTION, American Fisheries Society to be held in conjunction with the ANNUAL MEETING OF THE AMERICAN SOCIETY OF ICHTHYOLOGISTS AND HERPETOLOGISTS- 24-28 June 1988 Central Campus, University of Michigan, Ann Arbor MI- to present original research (and/or timely reviews) concerned with the anatomical, physiological and neurobiological-neuroethological development of sensory systems in fish, and the coincident acquisition of behaviors based upon them. Studies that address the interaction between sensory systems and behavioral ontogeny would be of particular interest, though papers concerned with any single sub-discipline will also be considered. ABSTRACT DEADLINE: 1 April 1988. Please direct Abstracts, or Inquiries to: Howard I. Browman, Dept of Systematics and Ecology, The Univ of Kansas, Lawrence KS 66045; phone (913) 864-4375.

SYMPOSIUM OF ASIAN PACIFIC MAMMOLOGY- 26-30 July 1988, Kunming, Yunnan Province, People's Republic of China. Sponsored by the ASM and the Mammological Society of China. Focus will be on the mammology of eastern Asia and the Pacific basin. Contact Andrew T. Smith, Dept Zool, Arizona State Univ, Tempe AZ 85287 or Wang Sung, 7 Zhongguancun Lu, Haidian, Beijing, People's Republic of China.

INTERNATIONAL CONFERENCE ON UNGULATE BEHAVIOR AND MANAGEMENT 16-22 May 1988 at Texas A & M Univ, College Station TX, sponsored by the Dept of Wildlife & Fisheries Sciences. This is a follow-up to a 1971 symposium held in Calgary, Canada, on the behavior of ungulates and its relation to management (published by IUCN in a two-vol set edited by Drs. V. Geist and F. Walther). The May conference is being organized as a tribute honoring Dr. Fritz Walther, now retired, whose life's work as well as professional devotion has centered on ungulates. Papers and poster presentations on any aspect of ungulate behavior and management are invited. One-page abstracts are due by 1 Jan 1988. Persons interested in attending or contributing a presentation should contact: Dr. Elizabeth Cary Mungall, 342 Double Tree Drive, Lewisville TX 75067.

ANIMAL BEHAVIOR SOCIETY- 8-13 Aug 1988, Missoula MT. Contact Don Jenni, Dept Zool, Univ of Montana, Missoula MT 59812.

THE INTERNATIONAL SOCIETY FOR COMPARATIVE PSYCHOLOGY (Fourth Congress) in conjunction with THE AUSTRALIAN ANIMAL BEHAVIOUR SOCIETY 26-28 Aug 1988 Sydney, Australia. This Congress is coordinated with the XXIVth International Congress of Psychology, meeting from 28 Aug - 3 Sept 1988, also in Sydney. For details on the ISCP Congress, write: Dr. Gary Greenberg, Dept Psych, Wichita State Univ, Wichita KS 67208. For information on XXIVth ICP, contact: Secretary, GPO Box 2609, Sydney, NSW 2001 Australia.

SECOND INTERNATIONAL CONFERENCE ON BEHAVIOURAL ECOLOGY- 6-10 Oct 1988, Simon Fraser Univ, Vancouver, Canada. Contact Conferences Services, Continuing Studies, Simon Fraser Univ, Burnaby, B.C., Canada V5A 1S6. (Phone 604-291-3649).

ABS EDUCATION COMMITTEE: Book Lists- This committee has compiled several lists of books. For example, See *Newsletter*, 1987, Vol. 32, No. 1 (Feb), pp. 9-13 for "Recent Books in Animal Behavior: 1983-1986." There is also a list of books appropriate for primary school children and a list for middle school children (grade or reading level is indicated in parentheses for each entry). Another list is for high school and college students. As space permits, we will print these bibliographies in the Newsletter. However, it is entirely possible that some ABS members might want these materials now in order to make recommendations to local elementary or high schools. You can obtain a copy of each list at no charge by writing to Daniel Q. Estep, Dept of Psychology, Univ of Georgia, Athens GA 30602.

**APPLICATION FOR MEMBERSHIP: ANIMAL BEHAVIOR SOCIETY**

Name in full \_\_\_\_\_ Degrees \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_ Phone \_\_\_\_\_

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

- \_\_\_\_\_ Member- \$32 (U.S.) Receive Animal Behaviour and Newsletter
- \_\_\_\_\_ Student Member- \$18 Receive Animal Behaviour and Newsletter
- \_\_\_\_\_ Spouse Member- \$14 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:

H Jane Brockmann, ABS Treasurer, Dept of Zoology, Univ of Florida, Gainesville FL 32611

\*\*\*\*\*

David Chiszar  
Dept of Psychology  
Campus Box 345  
University of Colorado  
Boulder, Colorado 80309

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