ALLEE STUDENT COMPETITION AWARD

The winner of the 1987 Allee competition for the best student paper presented at the annual convention was Sylvia L. Halkin, University of Wisconsin, for the paper entitled "Song type matching by female cardinals on the nest inhibits visits by males." The runner-up was Margaret M. Symington, Princeton University. A total of 12 Allee papers were presented in competition at the Williamstown, MA meeting.

SECOND FOUNDERS' MEMORIAL AWARD

The second ABS Founders' Memorial Award for the best poster paper at the national convention was presented to Karen Tyrell, University of Illinois for the poster entitled "Use of various sensory channels by the Malay false vampire bat, Megaderma spasma." Honorable mention goes to Lucianna Honigman, Brian J. McCauley and Burnney J. LeBoeuf, University of California.

FOURTH ABS FILM FESTIVAL WINNERS

The winner of the 1987 ABS Film Award (commercial) was "Kopjies, Islands in a Sea of Grass" filmed by Alan Root and co-produced by Alan Root with Survival Anglica, LTD. Two runner-up awards were given: "Kakapo, the Night Parrot" produced by New Dimension Films; and "Leopard, A Darkness in the Grass" filmed by Hugh Miles and co-produced by Hugh Miles and Nature, WNET 13 New York. The winner of the Jack Ward Competition (non-commercial) was "Whitecoat" filmed and produced by Dr. Norman Lightfoot. The competition contained extremely well qualified films, all characterized by superb photography and production.

BALLOT ENCLOSED FOR ABS ELECTION

Biographic information is enclosed (page 5) on the candidates for Second President-Elect, Treasurer, Editor, and Member-at-Large. Biographic information for candidates for U.S.E.C.C. is on page 6. Also, information concerning constitutional amendments can be found on pages 7&8. BALLOT IS ON PAGES 7&8. Please respond. Note that two sections of the ballot deal with issues on which the entire ABS membership is eligible to vote, whereas another section of the ballot (U.S.E.C.C.) is for U.S. members only.

1988 ABS MEETINGS--MISSOULA MT -- 7-13 AUG.

Host is Donald Jenni, Dept of Zoology, Univ of Montana, Missoula MT 59812. [(406) 243-5125]. Gerry T. Baertsch is Director of Conferences and Institutes at the Univ of Montana, 125 Main Hall, Missoula, MT 59812 [(406) 245-2900]. Questions about local arrangements can be directed to either Dr. Jenni or Ms. Baertsch. SPECIAL POST CONFERENCE EXCURSION to Glacier National Park requires early reservation. We have planned an overnight hiking trip to Granite Park Wilderness Chalet. Space is limited so in order to guarantee reservations, firm commitments must be made in November. Excursion includes transportation from Missoula to Logan Pass, going to the Sun Road in Glacier NP, on Saturday, trail lunch, very gentle hike of 7 miles to Chalet, overnight accommodations at Chalet including dinner, breakfast, and trail lunch for Sunday. Hike out to Many Glacier on Sunday. Spectacular scenery, alpine wildflowers, and wildlife the whole way. Approximate all inclusive cost is $75.00 To guarantee reservation, please send $45.00 deposit for each reservation requested. Make checks payable to "University of Montana" and send to: Gerry T. Baertsch, Conferences & Institutes, Center for Continuing Education, Univ of Montana, Missoula, MT 59812. If you wish to cancel your reservation we will make every effort to sell your reservation to someone else (in which case we will be able to refund your deposit). Some space may be available later, but we cannot guarantee it. Reservations accepted in order received. There is an alternative wilderness chalet, Sperry Chalet, but the 7 mile hike is rugged and gains 3,000 feet elevation. The trail to and from Sperry Chalet is on MacDonald Creek on the west side of Glacier. Rocky mountain goats bed on the porch of Sperry Chalet every day. If you prefer Sperry, please indicate so. If you prefer Granite Park but will accept Sperry if Granite is full, please so indicate.

FIFTH ABS FILM FESTIVAL: CALL FOR FILMS

Entries for the 5th ABS Film Festival should be submitted to Bob Kull (new Chairperson of the Film Committee), Biology Dept, U. S. Air Force Academy, Colorado Springs, CO. Films should be submitted to Bob between 1 Sept. 1987 and 15 Jan 1988. The 5th ABS Film Festival will be held during the 1988 annual meeting of ABS at the Univ of Montana, Missoula.

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 use and maintenance. If you are interested in participating, please contact Janice Driscoll immediately: Dept of Psychology, Univ of Colorado-Denver, 1100 14th St, Denver, CO 80202. Phone (303) 556-2601 or (303) 556-8565.
EDUCATIONAL/PROFESSIONAL TOUR OF CHINA

Are you interested in visiting China? The tour ABS is considering is organized by China-US Exchanges to bring together U. S. scientists with their counterparts in China. Itineraries are flexible but usually include seminars, round-table discussions, one-to-one meetings, tours of research facilities, and cultural stops, such as The Great Wall. Because the tours are primarily educational/professional, there are tax benefits. Tours last from 15-18 days, leaving from San Francisco, with total cost of about $3000 per person. If interested, contact Daniel Q. Estep, Dept of Psychology, Univ of Georgia, Athens GA 30602.

ANIMAL BEHAVIOR SOCIETY DIRECTOR OF CORRESPONDENCE

ABS NEWSLETTER & general correspondence to the Society: David Chiszar, Dept of Psychology, Univ of Colorado, Boulder CO 80309

ANIMAL BEHAVIOR--Manuscripts and editorial matters: Charles Snowdon, Dept of Psychology, Univ of Wisconsin, Madison WI 53706

ANIMAL BEHAVIOR--Missing, defective, or back issues; changes of address: H. Jane Brockmann, Dept of Zoology, Univ of Florida, Gainesville FL 32611

CONTRIBUTIONS TO NEWSLETTER WELCOME

We would be pleased to receive materials for the November ABS Newsletter by 1 October 1987 and the ASZ Fall Divisional Newsletter by 1 October. Send to David Chiszar, Dept of Psychology, Univ of Colorado, Boulder CO 80309

CALL FOR ABS RESEARCH GRANT APPLICATIONS

The first Animal Behavior Society Research Grants Competition has just begun. It is open to all ABS members seeking limited funds for research in any area of animal behavior. Awards will range from $500- $1000 (U.S.), and in most cases will cover research for one year only. For more details see the notice immediately below.

Grants will be awarded on the basis of an annual competition. Those interested must request an application from the ABS Research Grants Committee Chairperson, Gail Michener.

Completed applications must be postmarked by 15 November and sent to Gail Michener, Dept of Biological Sciences, Univ of Lethbridge, Lethbridge, Alberta, Canada T1K 3MX. Proposal reviews will be completed in February, and awardees notified by letter in early March.

ABS RESEARCH GRANTS

The objective of the grants is to provide financial support for the biological study of animal behavior in the broadest sense, including studies at all levels of organization using descriptive and/or experimental methods under natural and/or controlled conditions. The Chairperson will attempt to maintain a diversity of research interests and experiences on the Research Grants Committee when appointing new members.

Only members of the ABS may apply. Current members of the Executive Committee or the Research Grant Committee are ineligible. Grant awards may not exceed $1000 (U.S.), and no individual may receive more than one award per year. Awards will not fund salaries, stipends, tuition, single items of equipment exceeding $500 (U.S.), or indirect costs. The committee may recommend funding at a level less than the amount requested and may award less than the entire amount of money allocated by the Executive Committee (Bylaws Art. IV, Sec 10b) if the proposals are deemed not to be of sufficient quality.

The following priorities will be used as guidelines by the Committee in awarding grants: 1. Graduate students, recent doctoral recipients, and postdoctoral fellows will receive priority over senior, established researchers. 2. Small projects, entire budget. a) Seed money for long-range funding by major funding source. b) Succeed projects not expected to result in long-term project. 3. Primary funding with supplemental support expected from other sources. 4. Equipment, with the expectation that it will be used in future projects. 5. Supplemental funding for a larger project.

Announcement of the availability of grant awards, where the applications and guidelines can be obtained, and the application deadline will be published in the two issues of the Newsletter preceding the application deadline. An announcement of the awards (Recipients' names, Project titles and Amount of awards) will be published in the next available issue of the Newsletter following the awards. (Policy enacted at the 1986 EC Meeting.)

WANT TO SERVE ON AN ABS COMMITTEE?

If you are interested in serving on an ABS Committee, contact Sid Gauthreaux, Jr. Department of Zoology, Clemson Univ, Clemson SC 29631, (803) 656-3584.

OPPORTUNITIES

GRADUATE AND POST-GRADUATE RESEARCH GRANTS. The Edmund Niles Huyck Preserve and Biological Research Station announces the 1988-89 competition for research grants (max. = $3,500) for biological research for investigations that utilize the resources of the Preserve. The 2000 acre Preserve is located on the Helderberg Plateau, in the towns of Rensselaerville and Berne, 30 miles southwest of Albany. Habitats include northeast hardwood-hemlock forests, conifer plantations, old fields, permanent and intermittent streams, 10 and 100 acre lakes and a 150 ft. waterfall. Facilities include a wet and dry lab, small library, and six houses/chalets for researchers. Deadline: February 1, 1988. Application material may be obtained from Dr. Richard L. Wymann, Director and Resident Biologist, E. N. Huyck Preserve and Biological Research Station, P. O. Box 188, Rensselaerville, N.Y. 12147.

GRADUATE AND POST-GRADUATE OPPORTUNITIES. Funding is anticipated for both a postdoctoral and a master's level position in the fall of 1987. The postdoctoral responsibilities would be primarily research in the area of reproductive physiology of snakes and teaching one course in pathophysiology for nurses each semester at a salary between $15,000 and $17,000. The master's program is interdisciplinary, and would involve
research only, with a nine month stipend of $5,100. Students should write to Dr. Neil Ford, Depart of Biology, The Univ of Texas at Tyler, 3900 University Blvd, Tyler, TX 75701.

RESEARCH ASSOCIATE to assist in laboratory studies of communication, cognition, and sensory processes in dolphins. May also assist in field studies of whales. Ph.D. required. Strong research skills; innovative, theoretical interests in communication, cognitive, and sensory processes in dolphins. May also assist in field studies of whales. Ph.D. required. Send letter stating interests, current vitae, representative publications, and three letters of reference to Louis Herman, KBMML, Univ of Hawaii, 1129 Ala Moana Blvd, Honolulu, HI 96814.

ANNOUNCEMENTS

NATIONAL SCIENCE FOUNDATION encourages grant applications for a number of special programs: Research Opportunities for Women (call 202/357-7734); Research Experiences for Undergraduates (202/357-9880); Research in Undergraduate Institutions (202/357-7456); Research Opportunities for Minority Scientists and Engineers (202/357-7350); and the Biological Centers Program (202/357-7652).

Target dates for proposals to the Psychobiology Program (202/357-7949) and Population Biology and Physiological Ecology Program (202/357-9728) are 15 July and 15 Jan for the former and 15 June and 15 Dec for the latter. Anyone writing a grant proposal should have the new edition (white cover) of the publication Grants for Research and Education in Science and Engineering (202/357-7861). For more information contact Fred Stollnitz, Psychobiology Program, NSF, Washington D C 20550.

FELID RESEARCH AND CONSERVATION INTEREST GROUP is being organized to share information from conferences, symposia, and ongoing research among all individuals interested in felid research and conservation. Could lead to a felid-related bibliography, periodic literature update, quarterly newsletter, and directory of interested individuals. If you are interested, please send a self-addressed, stamped envelope to Gail E. Foreman, Dept of Zoology, Ohio State Univ, Columbus OH 43210.

CONSORTIUM OF AQUARIUMS, UNIVERSITIES AND ZOOS is a fellowship created between zoo, university and aquarium professionals in Southern California in 1985. It has grown to a nation-wide network. It has just published the 1987 CAUZ directory listing 205 individuals according to their general as well as specific interests. It is an important tool in increasing the flow of information between zoo/aquarium professionals and the university community. Please submit information for the 1988 CAUZ Directory. Contact Donna FitzRoy Hardy, Dept Psychology, California State Univ, 18111 Nordhoff St, Northridge CA 91330.

ZOO AND AQUARIUM PROJECTS FOR UNDERGRADUATES is an excellent resource for teaching the basics of observational research. Available through Kinko's Publishing Group or Donna FitzRoy Hardy, California State Univ, 18111 Nordhoff St, Northridge CA 91330.

SOCIETY FOR BEHAVIORAL ECOLOGY

A. Call for interested persons to join:

"Following an International Meeting for Behavioral Ecology held in Albany, NY, USA, in October 1986, a new society for behavioral ecology is being formed. The next meeting of the fledgling society will take place in Vancouver, Canada in October 1988, and the following meeting in Uppsala, Sweden in 1990. Preceding the Vancouver meeting, members will vote by mail on a constitution, name and officers of the new society. In the meantime the society is being directed by a Council consisting of Jerram Brown (State Univ of New York at Albany), Marti Gross (Simon Fraser Univ), Donald Kramer (McGill Univ), Geoffrey Parker (Univ of Liverpool), and Larry Wolf (Syracuse Univ). To become a member of the Society send US $3.00 (International Money Order or checks drawn on a US bank only, please; payable to the Behavioral Ecology Society) to Donald L. Kramer, Dept of Biology, McGill Univ, 1205 Avenue Docteur Penfield, Montreal, Quebec, Canada H3A 1B1. (Potential members from countries with severe currency restrictions may waive the $3.00 fee.)"

B. Excerpt from a letter written by Larry L. Wolf to Dave Chiszar. This letter accompanied the "call."

"We on the council recognize that our new society overlaps to some extent with other currently active societies and we expect many of our members also to hold memberships in one or more related societies. We hope to minimize potential conflicts of society activities. Current plans are to hold one short (about 3 days) meeting every two years with every possible attempt made to avoid scheduling conflicts. Our society has been discussing the desirability of publishing a new journal. Should that happen I would guess that the only significant conflict would be with Behavioral Ecology and Sociobiology. I anticipate little conflict with your journal."

WILDLIFE CONSERVATION INTERNATIONAL SCIENTIST TO LEAD TRAVELERS ON OCTOBER PENGUIN-BANDING EXPEDITION. Penguinoologist, Dr. Dee Boersma will head a volunteer effort to census, band and weigh approximately 4,000 penguins as they come ashore to nest (27 Sept - 16 Oct 1987). Dr. Boersma's study site at Punta Tombo in Argentina's Patagonia region is a breeding colony for nearly a half million Magellanic penguins. Gathering data on the birds' habits, breeding behavior and population count will help further conservation efforts in Patagonia as well as provide information about the fascinating and little-understood Magellanic penguins. Interested travelers can call Geoff Mellor at 212/220-5085 for more information.

Wildlife Conservation International is the worldwide field program of the New York Zoological Society. WCI has 65 conservation projects underway in 33 countries and has been responsible for the creation of 50 parks and reserves worldwide.

MEETINGS


AAZPA ANNUAL CONFERENCE 20-24 Sept. Contact Jane Hartline, Washington Park Zoo, 4001 S.W. Canyon Road, Portland OR 97221.

THE SECOND INTERNATIONAL MUSKOK SYMPOSIUM 1-4 Oct, Saskatchewan. Program includes physiology and nutrition; health, disease and husbandry; systematics, evolution and archaeology; ecology and behavior; population dynamics; and a workshop on management of muskox populations. Contact Jan
TROPICAL RAINFORESTS: CONSERVATION AND DEVELOPMENT 23-26 Oct, Miami. Contact Doyle McKay, Dept of Biology, Univ of Miami, Coral Gables FL 33124.

4TH TC. SCHNEIRLA CONFERENCE 6-8 Nov, Wichita. Contact program includes: The role of the major histocompatibility complex in olfactory discrimination (Beauchamp, G.); Types of kin recognition in birds (Beecher, M.); The influence of kinship on the social behavior of non-human primates (Bernstein, I.); Kin recognition in anuran amphibian larvae: Correlations with ecology and life history (Blaustein, A.); The honey bee: Kin recognition in multiple contexts (Breed, M.D.); Kin recognition and reproductive behavior (Dewsbury, D.); Mechanisms of kin recognition: A critical review (Fletcher, D.); Recognition of nestmate and non-nestmate kin in social wasps (Polistes fuscatus) (Gamboa, G.); A review of kin recognition in sweat bees (Greenberg, L.); The effect of the T-complex on behavior in wild house mice (Lenington, S.); The ontogeny of sibling recognition in rodents: Superfamily muroidea (Porter, R.); Ground squirrel kin recognition abilities: Social and life history correlates (Schwagmeyer, P.).

Symposium: Adaptive Sex Ratios and Sex Ratio Theories organized by Nancy Burley and Patricia A. Gowaty; sponsored by the ABS and Division of Animal Behavior. All day December 30. Tentative program includes: Environmental sex determination in reptiles (Burley, N.); Sex ratios and the evolution of mating systems (Burley, N.); Facultative variation in plants (Condon, M.); Facultative sex ratio variation in birds--rare or rarely observed? (Gowaty, P.A.); Factors affecting the production of sons and daughters among house mice and other primates (Hrdy, S.B. & Small, M.); Female-biased adult sex ratios in ground-dwelling squirrels (Michener, G.R.); Seasonal sex ratios--adaptations or artifacts (Schultz, J.R.); Inclusive fitness models of sex allocation (Taylor, P.D.); Sex ratio theory and female heterogamety (Trivers, R.L.); Genetic conflict and sex ratio evolution (Werren, J.H.).

Symposium: Behavioral Neuropeptidergic modifiers: Cellular Comparative and Evolutionary Patterns organized by Charles M. Lent and Winsor Watson, III; sponsored by the Division of Comparative Physiology and Biochemistry (ASZ), and co-sponsored by ABS and the Division of Animal Behavior. All day December 27. Tentative program includes: Peptides and leeches (Calabrese, R.); Feeding modulation by predatory nudibranchs (Gillette, R.); Amines and loco feeding (Lent, C.); Amines in lobster (Harris-Warrick, R.); Egg laying hormone in Aplysia (Mayeri, E.); Protists and peptide pheromones (Michaelis, S.); Insect amines and peptides (O'Shea, M.); Snail feeding and peptides (Prior, D.); Amines in coelenterates (Spencer, A.N.); Octopamine and insect motor programs (Sombati, S.); Peptides in Limulus and nudibranchs (Watson, W.J., III); Hormones and insect behaviors (Wecks, J.).

Symposium: Adaptive Coloration in Invertebrates organized by Mary K. Wicksten; sponsored by the Division of Invertebrate Zoology (ASZ), and co-sponsored by ABS and the Division of Animal Behavior. All day December 28. Tentative program includes: Introduction (Wicksten, M.); Adaptive coloration in opisthobranch mollusks (Behrens, D.); Photoprotection by pigmentation in zooplankton (Byron, E.); The relationships between visual characteristics of butterflies, and the responses of a specialized avian predator (Chai, P.); Brittle-star bioluminescence functions as an aposematic signal to deter crustacean predators (Grober, M.); Morphological, neural, behavioral and ecological considerations in adaptive coloration of cephalopods (Hanlon, R.); Evolution of wing pigment patterns in pierine butterflies: When are correlations among characters adaptive? (Kingsolver, J.); Predators, environment, and color: Adaptive strategies of exposed, slow-moving, edible caterpillars (Schmidt, J.); Changes in the physiological coloration of Texas fiddler crabs (Uca) (Thurman, C.); The evolution of animal coloration-adaptive aspects from bionnergetics to demography (Watt, W.); Host mimicry among pontoniine shrimp (Zmarzly, D.)

Animal Behavior Division contributed oral papers are scheduled for all day on December 28. Posters may be viewed.
the morning of December 27. 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.

CANDIDATES FOR 1987 ELECTION OF ABS OFFICERS

FOR SECOND PRESIDENT-ELECT-----------------------------------------------

CHARLES SNOWDON:
Birthdate: August 8, 1941
Education:
  B.A.: 1963 Oberlin College
  M.S.: 1964 University of Pennsylvania
  Ph.D.: 1968 University of Pennsylvania
Present Position: Professor of Psychology and Zoology, University of Wisconsin, Madison
Research Interests: Auditory and chemical communication; reproductive physiology; ontogeny of behavior; captive breeding of primates.
ABS Activities: Editor 1985-88; Editorial Advisory Board 1973-78; Chair, Organizing Committee for IEC XX.

R. HAVEN WILEY:
Birthdate: June 14, 1943
Education:
  Ph.D.: 1970 Rockefeller University
Present Position: Professor of Biology, University of North Carolina, Chapel Hill, NC
Research Interests: Communication and social behavior in birds and primates; mating systems; dominance and spacing mechanisms.
ABS Activities: None.

FOR TREASURER-------------------------------------------------------------

ROBERT W. MATTHEWS:
Birthdate: February 17, 1942
Education:
  B.S.: 1963 Michigan State University
  M.S.: 1965 Michigan State University
  Ph.D. 1969 Harvard University
Present Position: Sandy Beaver Professor of Entomology, Dept of Entomology, Univ of Georgia, Athens, GA
Research Interests: Insect behavior; evolution of social insects; reproductive competition in wasps.
ABS Activities: Symposium Organizer, "Courtship in Anthropods" (1975); Education Committee 1982-Present (Chair 1982-1985).

DAVID B. MILLER
Birthdate: September 21, 1948
Education:
  B.A.: 1970 University of Florida
  M.S.: 1972 University of Miami
  Ph.D.: 1973 University of Miami
Present Position: Associate Professor of Psychology, Univ of Connecticut, Storrs, CT
Research Interests: Development of instinctive behavior, auditory communication, behavioral embryology, effects of domestication, and contextual effects on species-typical behavior.

FOR EDITOR---------------------------------------------------------------

LEE C. DRICKAMER
Birthdate: May 25, 1946
Education:
  B.A.: 1967 Oberlin College
  Ph.D.: 1970 Michigan State University
Present Position: Professor and Chair, Dept of Zoology, Southern Illinois University
Research Interests: Development of behavior, including factors affecting puberty, food habits and nest building; population biology, influences on generation time; behavioral ecology, niche separation in rodents.
ABS Activities: Program Officer 1983-1986; Local Host 1987; USECC, Secretary 1981-1985; Vice-Secretary General IEC 1982-Present.

MEREDITH WEST
Birthdate: October 31, 1946
Education:
  B.S.: 1968 Tufts University
  Ph.D.: 1975 Cornell University
Present Position: Professor of Psychology, University of North Carolina
Research Interests: Ontogeny of species-typical behavior, including communication, reproduction, parental behavior, play, perception and social learning.
ABS Activities: Ethics Committee 1987-1988

FOR MEMBER-AT-LARGE-----------------------------------------------------

GEORGE T. BARTHALMUS:
Birthdate: October 27, 1942
Education:
  B.S.: 1965 Bloomsburg State College
  M.S.: 1967 Pennsylvania State University
  Ph.D.: 1970 Pennsylvania State University
Present Position: Professor of Zoology, North Carolina State University
Research Interests: Behavioral ecology of amphibians; antipredatory role of Xenopus laevis skin peptides.
ABS Activities: Local Host 1985; Allee Competition Judge 1987.

CELIA L. MOORE
Birthdate: August 30, 1942
Education:
  B.A.: 1964 University of Texas at Austin
  Ph.D.: 1970 Rutgers - The State University of New Jersey at Newark (Institute of Animal Behavior)
Present Position: Professor of Psychology, University of Massachusetts at Boston
Research Interests: Development and causation of species-typical behavior; hormone-experience interaction; reproduction; sex differences.
ABS Activities: Allee Competition Judge 1980
CANDIDATES FOR 1987 ELECTION TO
MEMBERSHIP ON U.S.E.C.C.
(Only U.S. members of ABS may vote in this part of the election.)
Two members are to be elected (see ballot for more information).

IRWIN BERNSTEIN
Birthdate: July 11, 1933
Education:
B.A.: 1954 Cornell University
Ph.D.: 1959 University of Chicago
Present Position: Professor of Psychology, University of Georgia, Athens, GA. Chair, Biopsychology, Univ of Georgia; Research Professor, Yerkes Regional Primate Center, Emory Univ, Atlanta, GA
Research Interests: Social and ontogenetic determinants of agonistic behavior in primates; social organization of primates.
ABS and Related Professional Activities:
ABS Fellow; ABS Organization and Bylaws Committee; Past President, American Society of Primatologists; Chair, Scientific Advisory Board, Oregon Regional Primate Research Center.

PATRICIA GOWATY
Birthdate: May 6, 1945
Education:
B.A.: 1967 Tulane University
Ph.D.: 1980 Clemson University
Present Position: Visiting Associate Professor, Dept of Biological Science, Clemson University
Research Interests: Evolutionary ecology, behavior of birds, mating systems, sex allocation, and demography.
ABS and Related Professional Activities:
Allee Award Committee; ABS Animal Care Committee; ABS Ad hoc Committee on Awards; AOU Research Awards Committee (Chair).

LYNNE HOUCK
Birthdate: October 23, 1949
Education:
B.A.: 1971 University of California, Berkeley
M.A.: 1975 University of California, Berkeley
Ph.D. 1977 University of California, Berkeley
Present Position: Research Associate (Associate Professor), Dept of Biology, University of Chicago
Research Interests: Behavioral determinants of reproductive success, sexual selection, chemical communication in plethodontid salamanders.
ABS and Related Professional Activities:
Allee Awards Committee, Member, Board of Directors, ASIH, and ASIH Nominations Committee.

LEWIS ORING
Birthdate: April 18, 1938
Education:
B.S.: 1960 University of Idaho
M.S.: 1962 University of Oklahoma
Ph.D.: 1966 University of Oklahoma
Present Position: Professor of Biology, University of North Dakota
Research Interests: Social organization, especially avian mating systems. Influence of philopatry and site tenacity on social organization.
ABS and Related Professional Activities: ABS member on ASZ editorial board; AOU council; Chair, committee on the use of wild birds in research.
ABS OFFICERS

Rank the candidates for each office by placing a 1 in the blank following your first choice, a 2 in the blank following your second choice, etc.

FOR SECOND PRESIDENT-ELECT:

Charles Snowdon
R. Haven Wiley
Write in

FOR TREASURER:

Robert W. Matthews
David B. Miller
Write in

FOR EDITOR:

Lee C. Drickamer
Meredith West
Write in

FOR MEMBER-AT-LARGE:

George T. Barthlalus
Celia L. Moore
Write in

CONSTITUTIONAL AMENDMENTS

There are three Constitutional Amendments hereby submitted to the membership by mail. For a Constitutional Amendment to be approved, at least two-thirds of those returning mailed ballots must vote for the amendment.

Article 8, Section 3d. The nomination procedures for ABS Fellows were unclear. This past year the Policy Committee and Parliamentarian worked out a series of suggestions. Some of these have resulted in policy changes which can be found in items 1 and ii in the Minutes of the Business Meeting published in this Newsletter. Another suggestion was that members and members-elect of the Executive Committee not be eligible for nomination until a full year after completion of service on the Executive Committee. The reason for this Constitutional change is to minimize any unfair advantage that an officer might have due to his or her position on the Executive Committee.

Present Article 8, Section 3d:

d. Present members of the Executive Committee are not eligible for nomination.

Suggested Article 8, Section 3d:

d. Members and members-elect of the Executive Committee are not eligible for nomination until the second year after completion of their service on the Executive Committee.

Article 7 - Addition of ASZ Liaison. Two years ago the ASZ and Executive Committee of ABS began a discussion concerning the Division of Animal Behavior. There was a feeling that the Division might become more independent of ABS. A joint ASZ/ABS committee was formed. It suggested that the Division elect its own Chair (to serve as liaison between the Division and ABS), Secretary, and Program Officer. At this time officers of ABS conduct these functions. These suggestions were approved by ABS Executive Committee, the ASZ Executive Committee, and the membership of the Division of Animal Behavior. The Divisional Chair will, if approved in this Constitutional amendment, serve as a liaison with the ABS. The reason for having liaison status with the Society is to insure that the Division increase its autonomy while at the same time having the benefit of interaction with officers of ABS. See item j in Minutes of Business Meeting in this Newsletter for further information.

Present Article 7 contains the list of standing committees, ending with

j. Research
k. Ethics
l. Issues in Applied Animal Behavior

Suggested Article 7 would simply add

"ASZ Liaison" as item m.

Article 7 - Addition of Awards Committee. The Executive Committee formed an ad hoc committee to consider additional ABS awards. The Committee recommended and the Executive Committee approved three new awards: Quest, Exemplar, and Distinguished Ethologist. This Constitutional amendment would add a standing Awards Committee to oversee the awards procedures. See items m and jj in the Minutes of the Business
Meeting in this Newsletter. A brief description of the criteria for each award follows.

The **Quest Award** should go to an innovative ethologist who makes a major contribution to the field of animal behavior. One or a series of publications could be included. The work might open up new areas of research by presenting an original idea or by defining an unsolved problem. Alternatively it might entail the development of an especially effective methodology or a formal model. The stress should be on innovation and impact.

The **Exemplar Award** should go to an investigator who has published a well-executed piece of research that stands as a model for others. One or a series of publications could be involved. Ideally the research should include an empirical or descriptive basis, the formulation of explicit, insightful hypotheses, the intelligent execution of tests of the hypotheses, and a stimulating and incisive discussion of how the findings contribute to the larger picture.

The **Distinguished Ethologist Award** should go to a senior investigator, recognizing a career of accomplishment and contribution to the study of animal behavior. The focus should be on scientific contribution.

Present Article 7 contains the list of standing committees, ending with

j. Research
k. Ethics
l. Issues in Applied Animal Behavior

Suggested Article 7 would add "awards" to the list (as item n if the previous amendment is approved.

**CONSTITUTIONAL AMENDMENTS**

(PLACE A CHECK NEXT TO YOUR CHOICE)

**Article 8 Section 3d**

FOR THE PROPOSED CHANGE

AGAINST THE PROPOSED CHANGE

**Article 7 - Addition of ASZ Liaison**

FOR THE PROPOSED CHANGE

AGAINST THE PROPOSED CHANGE

**Article 7 - Addition of Awards Committee**

FOR THE PROPOSED CHANGE

AGAINST THE PROPOSED CHANGE

**MEMBERS of U.S.E.C.C.:** (Only U.S. members of ABS may vote on this section of the ballot).

IRWIN BERNSTEIN

PATRICIA GOWATY

LYNNE HOUCK

LEWIS ORING

WRITE IN

8
MINUTES OF THE ANIMAL BEHAVIOR SOCIETY ANNUAL BUSINESS MEETING -- 24 JUNE 1987 -- WILLIAMS COLLEGE, WILLIAMSTOWN MA

(Policy matters are marked*)

1. President Burghardt called the meeting to order at 0915.

2. MOTION: To approve the 1986 business meeting with item 5j corrected to read Northern Kentucky University. PASSED.

3. The President introduced the officers, executive committee members-elect, committee chairs, and nominees for office.

4. Host Drickamer noted that registration at these meetings was 478. 1988 Host Jenni gave a brief presentation concerning the Montana meetings to be held 7-12 August. 1989 Host Rambo gave a brief presentation on the Northern Kentucky University meetings. The 1990 and 1992 meetings will be held at SUNY Binghamton. Sites are desired for 1991 and 1992; contact the President interested.

5. Secretary Christensen read a summary of the major points contained in officers' and committee chairs' annual reports and action taken at the Executive Committee (EC) meeting.

The meeting was called to order by President Burghardt at 0831. Present were: Gordon Burghardt (President), Sidney Gauthreaux (First President-Elect), John Fentress (Second President-Elect), Patrick Colgan (Next Second President-Elect), Jeane Altman (Past-President), Terry Christenson (Secretary), David Chiar (Secretary-Elect), H. Jesse Brown (Treasurer), William Jones (Parliamentarian), Charles Snowden (Editor), Joan Lockard (Member-at-Large), Gail Michezer (Member-at-Large), Janet Randall (Member-at-Large), Julia Chase (Member-at-Large), Jane Doss (Animal Care Chair), Helen Estep (Education Chair), Patricia DeCourey (Film Chair), Martin Schein (Historian), Ira Perelle (Membership Chair), David Miller (Policy Chair), George Waring (Public Affairs Chair), George Barlow (Award Chair), Michael Becher (Ethics Chair), Philip Leber (Issues in Applied Animal Care Committee), Edward Barrows (AIBS Delegate), Jerry Hirsch (Section G: A A A S Representative), Lea Drickamer (Iowa), and Don Jenni (Host for 1988).

a. MOTION: To accept and approve the minutes of the 1986 EC Meeting. PASSED.

b. Past-President Altman noted that every other election for Editor will conflict with the appointment of a new editor of JCP.

c. Treasurer Brockman noted that the Society is in good financial shape. An interim accounting shows last year's beginning balance of $123,000, revenues of $82,000, expenses of $74,000 and a balance of $138,000.

d. Editor Snowdon noted a page increase in the journal of 30% in 1986 and an increase in submission rate of 30%. There is a 12 month lag between final revision and publication. 35.2% acceptance rate for regular papers and 41.1% for communications. Academic Press will be taking over publication of the journal.

e. Program Officer Riecher requests symposium proposals for the 1988 and 1989 ABS meetings; some monies can be requested by organizers.

f. The Research Grant Award is initiated this year with competition open to AIBS members. $10,000 maximum per award, but the range is likely to be $0 to $30,000. See this Newsletter for more details or contact Member-at-Large Michael.

g. Animal Care Chair Drickamer noted the need for animal behaviors to become involved in the development of new animal care committees. The Animal Care Committee will consider our role in the formation of federal laws and possibly work on a position for next year's meeting.

h. Policy Chair Miller reported that the Committee felt no positive result would come from having division within the Society. There will be no further discussion of this topic at this time.

i. Section G: A A A S Representative Hirsch indicated a reduced number of articles about animal behavior related papers published in Science. He will write a note to the editor about this problem.

j. The issue of the voting status of the ASZ Liaison on the Executive Committee was clarified. ASZ liaison should not have voting privileges. (See this Newsletter for more information on the ASZ Liaison).

MOTION: To approve the following Bylaws changes to Article IV which is to be presented for a vote at the 1988 Business Meeting. Section 13, ASZ Liaison. a. Following the nomination of two candidates by the Nominating Committee of the Animal Behavior Society, one candidate shall be elected chairperson of the Division of Animal Behavior, American Society of Zoologists by members of the Division; the President of the Animal Behavior Society shall then appoint the elected person ASZ Liaison for three years. PASSED.

MOTION: To approve the following Bylaws changes to Article IV which is to be presented at the 1988 Business Meeting. Section 13, ASZ Liaison. b. Shall represent the Division of Animal Behavior to the Executive Committee of the Animal Behavior Society, but shall not be a voting member of the Executive Committee. PASSED.

MOTION: To approve the following Bylaws changes to Article IV which is to be presented at the 1988 Business Meeting. Section 13, ASZ Liaison. c. Shall make every effort to coordinate Division programs and activities with those of the Animal Behavior Society wherever such coordination and cooperation is in the best interest of the field of animal behavior, and therefore of both the Animal Behavior Society and the American Society of Zoologists. PASSED.

MOTION: To appoint L. Drickamer as interim ASZ Liaison. PASSED.

a. MOTION: To table the question until the next EC meeting when Editor Snowdon will present a draft of a response to Slater indicating that the ABS stands behind the position that editorial decisions should be made on the basis of scientific merit and that the South African government is not the only one involved on local animal care committees. The Animal Care Committee will consider our role in the formulation of federal laws and possibly work on a position for next year's meeting.

b. Policy Chair Miller reported that the Committee felt no positive result would come from having division within the Society. There will be no further discussion of this topic at this time.

MOTION: To approve the following Bylaws changes to Article IV which is to be presented for a vote at the 1988 Business Meeting. Section 13, ASZ Liaison. a. Shall represent the Division of Animal Behavior to the Executive Committee of the Animal Behavior Society, but shall not be a voting member of the Executive Committee. PASSED.

MOTION: To approve the following Bylaws changes to Article IV which is to be presented for a vote at the 1988 Business Meeting. Section 13, ASZ Liaison. b. Shall represent the Division of Animal Behavior to the Executive Committee of the Animal Behavior Society, but shall not be a voting member of the Executive Committee. PASSED.

MOTION: To approve the following Bylaws changes to Article IV which is to be presented for a vote at the 1988 Business Meeting. Section 13, ASZ Liaison. c. Shall make every effort to coordinate Division programs and activities with those of the Animal Behavior Society wherever such coordination and cooperation is in the best interest of the field of animal behavior, and therefore of both the Animal Behavior Society and the American Society of Zoologists. PASSED.

k. The China tour looks like a reasonable opportunity. Total expense is tax deductible for members. A grant of sometime was awarded for the spouse of the chargers to a scholarship fund. An organization is needed; contact Education Chair Estep if interested.

l. The issue of Fellows nominations procedures was discussed. Our question was whether there should be a minimum years post-PhD before an individual could be nominated. The consensus was there should be no such minimum.

MOTION: Add the following to Policy: The President will distribute the list of eligible persons to all members of the Executive Committee and to all active fellows, as per the constitution, Article 8, Section 3c. See item 5j. The President will distribute to the nominators a list of Fellows and a list of current Executive Committee members, members-elect, and members who have completed service on the Executive Committee within the year. PASSED.

MOTION: To add a change in wording in Constitution Article 8 Section 3d for approval by mail ballot (this essentially cancels out the previous motion): Members and members-elect of the Executive Committee are not eligible for nomination until the second year after completion of their service on the Executive Committee. PASSED.

MOTION: To add the following to Policy: The Executive Committee shall then appoint the elected person as chairperson of the Division of Animal Behavior, American Society of Zoologists by members of the Division; the President of the ABS shall ask the nominator to submit a brief summary of the key contributions of the person to the field of animal behavior. PASSED.

MOTION: To add to Policy the following: The President will hold an election of new Fellows only if the Past President did not hold such an election. PASSED.

M. Awards Chair Barlow discussed the proposed awards: Quest, Exemplar, and Distinguished Ethologist. The use of "ethologist" is used in a broad, generic sense.

MOTION: To approve the Quest, Exemplar, and Distinguished Ethologist awards. PASSED. See item 5j.

n. The 25th anniversary of the AIBS will be celebrated in part with a new logo. See item pp.

o. MOTION: The Item is to provide each Affiliate with a banquet ticket. PASSED.

P. MOTION: To approve Bylaws changes concerning the Ethics Committee and Issues in Applied Animal Behavior. PASSED. See item 6.

q. The editor could use money to travel to Scotland/England to conduct various businesses with the ASAR editorial offices and the publisher.

MOTION: Every other year to make available a reasonable amount of money (to be determined by the Treasurer) to the editor, President, or Treasurer for travel to the British Isles to conduct business pertinent to Animal Behavior. PASSED. (two abstentions)

s. President Burghardt presented a letter from Slater of ASAB asking for our opinion concerning the protection of manuscripts submitted from scientists in South Africa. Members of the EC generally felt that editorial decisions should be made solely on scientific grounds, and that the South African government is not the only one which practices political oppression. A few EC members were persuaded by pleas of some South African scientists that strong action must be taken; perhaps, the modification of editorial procedures. In any event, South African manuscripts are the responsibility of the South office. Slater's letter noted that South African scientists are interested in forming their own society.

MOTION: To table the question until the next EC meeting when Editor Snowdon will present a draft of a response to Slater indicating that the AIBS stands firmly behind the position that editorial decisions should be made on the basis of scientific merit. PASSED.

MOTION: To add to Policy the following: The Program Officer shall communicate early with the Host so the Host can pick up the registration fees for symposium participants who are outside the area of animal behavior. PASSED.

MOTION: To add to Policy item 13 to read as follows: AIBS will support symposia that have been approved by the Executive Committee for presentation at AIBS Annual Meetings in an amount not to exceed $1000 per Annual Meeting. Such support may include travel expense up to $500 per speaker, registration fees of speakers, room and board expenses, and expenses while at the meeting. PASSED.

MOTION: To approve the following substitution to 13c (relating present subject c and d): Such support from the Animal Behavior Society may not be extended to symposium speakers who were members of the Executive Committee when the symposium was approved. PASSED.

MOTION: To approve the following symposium proposals for the San Francisco ASZ meetings: Parasites and sexual selection: Theory and data by Glenn...
Hausfater and Raney Thomhill; Significance of inbreeding in the evolution of mating and study of animal migration by Hugh Dingle and Sidney Gauthreaux, Jr. Having an Associate Editor of the journal. To be discussed at the next EC meeting. See item nn.

y. MOTION: The Animal Care and Education Committees work jointly on a statement concerning the ethical use of animals in teaching. PASSED.

The Animal Care Committee should act as a clearinghouse for information on new federal animal care guidelines. The committee shall also look into offering a symposium next year's meetings.

z. Presidents Burghardt noted the possibility of an ABS auction at the annual meeting. See item nn.

aa. MOTION: To propose to the membership at the Business Meeting the following wording change in Bylaws Article IV Section 5 a - "him" to "him or her". PASSED. See item 6.

bb. A major change to the Ethics Committee is to respond to the Editor's concerns on a number of ethical issues relating to editorial activities including fraud, failure to acknowledge previous work, plagiarism and double publication. The Ethics committee shall suggest at next year's meeting guidelines on these problems with the aim of a Policy statement, Newsletter announcement, and possibly modifications in the Instructions to Authors.

c. MOTION: To add the following to Policy: Any unauthorized use of the ABS name as express or implied endorsement or certification may be grounds for termination of membership. Such cases shall be referred to the Ethics Committee for recommendations. PASSED.

dd. MOTION: The Chair of the Research Committee shall see that there is no conflict of interest concerning the judges and the applicants. PASSED.

e. MOTION: To accept the following wording for the letter to Slater concerning South African manuscripts: "The executive Committee of the Animal Behavior Society deplores the policies of all governments that promote and maintain racial, sexual, religious, or political discrimination. However, we affirm that the purpose of scientific publication is the communication and dissemination of research results by individual scientists regardless of the policies of their countries. PASSED.

ff. The proposed budget for ABS from 1 July 1987 to 30 June 1988 includes income of $66,300 and disbursements of $66,300.

gg. $3000 will be made available to the Membership Committee to produce, in reduced format, and distribute the Membership listing in 1988. This listing will include phone numbers and BITNET addresses.

hh. The USECC election nominees are Patricia Gowaty and Lynne Houck (from EC) and Lewis Oring and Irwin Bemstein (from IEC). These names will be placed on the August ballot. U.S. members are to vote for two.

ii. Fellows nomination procedures were discussed in more detail.

MOTION: To approve the following for Policy: Nominees for Fellow must be active, regular members of ABS engaged in behavioral research. Members and Members-elect of the Executive Committee are not eligible for nominations until the second year after completion of their service on the Executive Committee. PASSED.

MOTION: To approve the following wording change for Policy: The President will, taking into account the allowed maximum, determine the outcome of the election. PASSED. (This cancels a previous motion-see item 1).

jj. Policy Committee recommendations concerning the new awards.

MOTION: To approve the following Policy: 1. A committee will be formed for generating nominations to be presented to the EC for approval. 2. Awards do not have to be given every year. 3. The committee will be divided into three subcommittees, one for each award. The subcommittee will provide nominations for their respective awards, and the committee as a whole will decide final action prior to presenting the nominations to the EC. 4. The Past President will chair the Committee and serve on each subcommittee.

5. Three Members-at-Large will serve on subcommittee - one on each. 6. A "junior" member of the Society will be appointed to each subcommittee. PASSED.

kk. Committee Chair appointments were moved by First President-elect Gauthreaux.

MOTION: Film Committee - Robert Kull. PASSED.

MOTION: Issues in Applied Animal Behavior Committee - Philip Lehrer PASSED.

MOTION: Ethics Committee - Michael Beecher. PASSED.

MOTION: Constitutional amendment for Awards Committee in Article 7.
ABS OFFICERS

PRESIDENT: Sidney 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
TREASURER: (1985-88) H. Jane Brockmann, Dept of 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. Burtt, 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, Biology Dept, San Francisco State Univ, San Francisco, CA 94132

ABS COMMITTEE MEMBERSHIP
(Year term expires in parentheses)

ANIMAL CARE:
CHAIR, Janis Driscoll (1988)
Benjamin Beck (1988)
Judith Gibber (1990)
Jennifer Mather (1989)
Thomas Rambo (1989)
Victoria Voith (1988)

EDUCATION:
CHAIR, Daniel Estep (1988)
Gordon Burghardt (ex officio)
Penny Bernstein (1989)
Patrick Colgan (ex officio)
Michael Johnson (1989)
Robert Matthews (1990)
Donna Schroeder (1988)
Lawrence Williams (1988)
1 Vacancy (1990)

FILM:
CHAIR, Robert Kull (1990)
Jay Labov (1989)
Debra Fortman Quick (1989)
Anna E. Ross (1988)
2 Vacancies (1988, 1990)

ABS HISTORIANS:
Martin Schein

MEMBERSHIP:
CHAIR, Ilia Perelle (1988)
Vickie Backus (1990)
Adrienne Massey (1988)
Helmut Mueller (1988)

Stim Wilcox (1989)

NOMINATIONS:
Jeanne Altmann
Colin Beer
Gordon Burghardt

ORGANIZATION AND BYLAWS:
CHAIR, Edward Burtt, Jr. (ex officio)
Patricia Schwagmeyer (1989)
2 Vacancies (1988, 1990)

POLICY AND PLANNING:
CHAIR, David Miller (1988)
Charles F. Blaich (1988)
Gordon Burghardt (ex officio)
Edward Burtt, Jr. (ex officio)
Patrick Colgan (ex officio)
David Duvall (1990)
L. James Shapiro (1989)
C. N. Slobodchikoff (1989)
John T. Williams (1988)

PUBLIC AFFAIRS:
CHAIR, George Waring (1989)
Peter W. Bergstrom (1988)
Dorothy M. Fragarzsy (1988)
Michael Renner (1989)
Fred Stollnitz (1989)

RESEARCH:
CHAIR, Gail Michener (1988)
Julia Chase (1990)
Warren Holmes (1989)
Martha McClinton (1988)
Janet Randall (1989)
1 Vacancy

ETICS:
CHAIR, Michael Beecher (1990)

ISSUES IN APPLIED ANIMAL BEHAVIOR:
CHAIR, Philip Lehner (1990)
Suzanne Arguello (1988)
Peter Borchelt (1990)
Amy Marder (1989)
Edward Price (1989)
George Waring (1988)
John Wright (1990)

ABS DELEGATE TO AIBS:
Edward Barrows

SECTION G - AAAS REPRESENTATIVE:
Jerry Hirsch

WANT TO SERVE ON AN ABS COMMITTEE?

By glancing at the roster above you will note that a number of committee openings are about to be filled. If you are interested in serving on an ABS Committee, contact Sid Gauthreaux, Jr., Dept Zoology, Clemson Univ, Clemson SC 29631 (803) 656-3584.
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

**********

BULK RATE
U.S. POSTAGE
PAID
Boulder, CO 80302
Permit No 879

STEVE REBACH
DEPT OF BIOLOGY
UNIV MARYLAND, EASTERN SHORE
PRINCESS ANNE, MD 21853