

Systematics Priorities Initiative

Syst. Zool. 40(4):520–523, 1991

Systematics Agenda 2000: Integrating Biological Diversity and Societal Needs¹

The American Society of Plant Taxonomists, the Society of Systematic Biologists, and the Willi Hennig Society have formed a steering committee to organize an initiative to document research trends and priorities within systematics, to be called "Systematics Agenda 2000: Integrating Biological Diversity and Societal Needs." Systematics Agenda 2000 will have as its major themes the role of systematics in the analysis of biodiversity, the integrative role of systematics in comparative biology, and the importance of systematics in human affairs. The initiative is charged with (1) identifying important research trends and questions and establishing priorities among them, (2) assessing the status of current infrastructures supporting systematics research and evaluating future needs, and (3) documenting the broad role that systematics plays in human affairs and evaluating its future contributions and needs in those endeavors.

For many years the systematics community has failed to speak with a unified voice and define the future of its discipline. There is a critical need for systematists to come together, document the importance of systematic biology, and describe its agenda for the next decade. Budgetary constraints are placing intense pressures on scientists to identify their disciplinary and funding priorities. Researchers in other disciplines, most recently the ecologists, with their "Sustainable Biosphere Initiative" (1991, *Ecology* 72: 371–412), and astronomers, with "The Decade of Discovery in Astronomy and Astrophysics" (1991, *Science* 251:1412–1413, 1429–1430), have undertaken such evaluations, and these are having a significant impact on policy makers, not only within the National Science Foundation but within other sectors of the government as well.

Systematics faces additional challenges. Because the discipline has not been unified, the promotion of systematics has suffered with respect to funding of systematic research and to career opportunities at universities and public institutions. The importance of systematics has been underappreciated, and its intellectual vigor over the last decade, although growing more influential within evolutionary biology in gen-

eral, has not had a sufficient impact on biology as a whole. A major goal of the initiative is to address these issues. Just as importantly, it is critical that the systematic community join with other disciplines, particularly with the ecological sciences, to initiate coordinated efforts that can lead to solutions to the problems of environmental deterioration and the global loss of biodiversity.

Organization of Systematics Agenda 2000

To undertake a comprehensive survey of the discipline of systematics, the Steering Committee, in consultation with a number of other systematists, has established a series of standing committees. Each committee will have two cochairpersons and its membership will be appointed by the cochairpersons and the Steering Committee. Each committee has the responsibility to produce a report addressing a general set of questions directed to research trends and priorities within systematics in general, as well as a more narrowly circumscribed series of questions restricted to the specific subject matter of the committee.

The Steering Committee and the cochairpersons plan to assemble committee reports and summarize their findings in a document that will have as its audience professional systematists as well as governmental agencies whose mission it is to support systematic research. Material contained in that document will also serve as the basis for one or more additional documents whose primary focus will be to educate those in policy-making positions, including elected governmental officials and university administrators, as well as the general public about the significance and role of systematics within biology and human affairs. A first draft of the document reflecting the deliberations of the committees should be completed by late 1992.

Charge to the Committees

Each committee is being asked to provide information that will eventually be required for preparing documents that integrate across the discipline. To facilitate this goal, the Steering Committee has prepared a list of general questions for each committee. It is important to emphasize, however, that these will not be the only questions and issues that the com-

¹ This announcement is to appear simultaneously in *Cladistics*, *Systematic Botany*, and *Systematic Zoology*.

mittees will be investigating. Each committee is being asked to look to the future and attempt to define the content, importance, and needs of the discipline a decade from now. Some general questions being addressed by each committee include:

- What are the key research topics or needs relevant to the subject of your committee?
- What are the most important research questions that can be identified for each of these research topics?
- Can you establish a series of research priorities based on the research topics and questions that you have identified? What criteria have you used to establish these priorities?
- Can you relate the topics, questions, and priorities you have identified to the major themes of Systematics Agenda 2000, namely, the study and preservation of biodiversity, the central position of systematics within comparative biology, and the role of systematics in human affairs?
- What is the significance of the research topics and questions you have identified within the larger framework of systematics as a whole?
- Can you identify the major governmental or non-governmental agencies or organizations that provide financial support for the research topics and questions you have identified?
- How do you perceive the adequacy of funding with respect to the needs for the future, and how do you relate the priorities you have identified with the expected limitations on funding for systematic research?
- Can you identify any anticipated major funding needs developing within the next decade with respect to new technologies, new infrastructures to support research, or new initiatives to enlarge our systematic data base?
- Can you document the role that systematics plays within the field of interest of your committee? Can you provide specific examples where systematic research has played a crucial role (some "key exemplars") in an applied area that would be understood by the general public?
- Can you document the extent to which systematists engaged in applied research make use of systematic collections, data bases, etc.?

STEERING COMMITTEE

Cochairpersons.—Dr. Melinda Denton, Department of Botany, University of Washington KB-15, Seattle, Washington 98195, 206-543-8850, FAX: 206-685-1728; Dr. Joel Cracraft, Department of Anatomy and Cell Biology, University of Illinois, P.O. Box 6998, Chicago, Illinois 60680, 312-996-4955, FAX: 312-413-0354, e-mail: U45215@UICVM; Dr. Norman I. Platnick, Department of Entomology, American Museum of Natural History, Central Park West at 79th St., New York, New York 10024, 212-769-5612, FAX: 212-769-5233, e-mail: 72737.3624@compuserve.com; Dr. Hardy Eshbaugh, Department of Botany, Miami University, Oxford, Ohio 45056, 513-529-4212, FAX: 513-529-4243; Dr. Michael Novacek, Office of the Vice-President for

Research, American Museum of Natural History, Central Park West at 79th St., New York, New York 10024, 212-769-5000, FAX: 212-769-5495.

Additional members.—Dr. Rita Colwell, Maryland Biotechnology Institute, 1123 Microbiology Building, College Park, Maryland 20742, 301-405-5189, FAX: 301-454-8123; Dr. Michael Donoghue, Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, Arizona 85721, 602-621-7515, FAX: 602-621-9190; Dr. William Fink, Museum of Zoology, University of Michigan, Ann Arbor, Michigan 48109, 313-764-9928; Dr. Frank Gill, Office of the Vice-President for Research, Academy of Natural Sciences, 19th and the Parkway, Philadelphia, Pennsylvania 19103, 215-299-1023, FAX: 215-977-8737; Dr. Elaine Hoagland, Association of Systematic Collections, 730 11th St. NW, Washington, D.C. 20001, 202-347-2850, FAX: 202-347-0072; Dr. Douglas Miller, Systematic Entomology Laboratory, Building 046, BARC-W, Beltsville, Maryland 20705, 301-504-5183, FAX: 301-504-6482; Dr. Brent Mishler, Department of Botany, Duke University, Durham, North Carolina 27706, 919-684-4314, FAX: 919-684-5412; Dr. Peter Raven, Missouri Botanical Garden, P.O. Box 299, St. Louis, Missouri 63166, 314-577-5111, FAX: 314-577-9595; Dr. Amy Rossman, Room 304, Building 011A, BARC-W, Beltsville, Maryland 20705, 301-504-5364, FAX: 301-504-5435; Dr. Jay Savage, Department of Biology, University of Miami, Miami, Florida 33124, 305-284-2130, FAX: 305-284-3039; Dr. Beryl Simpson, Department of Botany, University of Texas, Austin, Texas 78713, 512-471-7335, FAX: 512-471-3878; Dr. Quentin Wheeler, Department of Entomology, Cornell University, Ithaca, New York 14853, 607-255-7723, FAX: 607-255-0939.

ADVISORY BOARD

Dr. Wesley M. Brown, Department of Biology, University of Michigan, Ann Arbor, Michigan 48109, 313-763-0497, FAX: 313-747-0884; Dr. Michael T. Clegg, Department of Botany and Plant Sciences, University of California, Riverside, California 92521, 714-787-4672; Dr. Walter Fitch, Department of Ecology and Evolutionary Biology, University of California, Irvine, California 92717, 714-725-2337, FAX: 714-725-2181; Dr. Charles Heiser, Department of Biology, Indiana University, Bloomington, Indiana 47405, 812-855-5822, FAX: 812-855-6705; Dr. Patricia Holmgren, New York Botanical Garden, Bronx, New York 10458, 212-220-8626, FAX: 212-220-6504; Dr. James King, Office of the Director, Carnegie Museum of Natural History, 4400 Forbes Ave., Pittsburgh, Pennsylvania 15213, 412-622-3241, FAX: 412-622-8837; Dr. Gareth Nelson, Department of Ichthyology and Herpetology, American Museum of Natural History, Central Park West at 79th St., New York, New York 10024, 212-769-5436, FAX: 212-769-5031; Dr. William Stern, Department of Botany, University of Florida, Gainesville, Florida 32611, 904-392-2159, FAX: 904-392-3993; Dr. Warren H. Wagner, Jr., Department of Biology, University of Michigan, Ann Arbor, Michigan 48109, 313-764-1484, FAX: 313-747-0884; Dr. David Wake, Museum of Vertebrate Zoology, University of Cali-

fornia, Berkeley, California 94720, 415-642-3567, FAX: 415-643-8238; Dr. E. O. Wilson, Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts 02138, 617-495-2315, FAX: 617-495-5667.

STANDING COMMITTEE COCHAIRPERSONS

Committees for Research Trends and Priorities

Molecular systematics and evolution.—Dr. Jeff Doyle, L. H. Bailey Horatorium, 467 Mann Library, Cornell University, Ithaca, New York 14853, 607-255-7972, FAX: 607-255-7979; Dr. Rodney Honeycutt, Department of Wildlife and Fisheries, Texas A&M University, College Station, Texas 77843, 409-847-9462, FAX: 409-845-3786.

Biogeography.—Dr. Lynne Parenti, Division of Fishes, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560, 202-357-3313, FAX: 202-357-1896; Dr. James Liebherr, Department of Entomology, Cornell University, Ithaca, New York 14853, 607-255-4507, FAX: 607-255-3075.

Phylogenetic analysis.—Dr. Michael Donoghue, Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, Arizona 85721, 602-621-7515, FAX: 602-621-9190; Dr. Quentin Wheeler, Department of Entomology, Cornell University, Ithaca, New York 14853, 602-255-7723, FAX: 602-255-3075.

Speciation and evolutionary analysis.—Dr. Brent Mishler, Department of Botany, Duke University, Durham, North Carolina 27706, 919-684-4314, FAX: 919-684-5412; Dr. E. O. Wiley, Museum of Natural History, University of Kansas, Lawrence, Kansas 66045, 913-864-4038, FAX: 913-864-5335.

Quantitative and evolutionary morphology.—Dr. Richard Jensen, Department of Biology, Saint Mary's College, Notre Dame, Indiana 46556, 219-284-4674, FAX: 219-284-4716, e-mail: FNPFR3@IRISHMVS; Dr. George Lauder, Department of Ecology and Evolution, University of California, Irvine, California 92717, 714-856-4332, FAX: 714-856-7407.

Integrative role of systematics in ecology.—Dr. Steve Weller, Department of Ecology and Evolutionary Biology, University of California, Irvine, California 92717, 714-856-6006, FAX: 714-725-2181; Dr. Daniel Brooks, Department of Zoology, University of Toronto, Toronto, Ontario M5S 1A1, Canada, 416-978-3139, FAX: 416-978-8532.

Integrative role of systematics in behavior.—Dr. Jonathan Coddington, Department of Entomology, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560, 202-357-4148, FAX: 202-786-2894, e-mail: MNHEN008@SIVM; Dr. James Carpenter, Department of Entomology, American Museum of Natural History, Central Park West at 79th St., New York, New York 10024, 212-769-5611, FAX: 212-769-5233.

Integrative role of systematics in development.—Dr. William Fink, Museum of Zoology, University of Michigan, Ann Arbor, Michigan 48109, 313-764-9928;

Dr. Shirley Tucker, Department of Botany, Louisiana State University, Baton Rouge, Louisiana 70803, 504-388-8552, FAX: 504-388-8459.

Integrative role of systematics in physiology and biochemistry.—Dr. Raymond Huey, Department of Zoology, University of Washington, Seattle, Washington 98195, 206-543-1505, FAX: 206-543-3041; Dr. Russell K. Monson, Department of EPO Biology, University of Colorado, Boulder, Colorado 80309, 303-492-6319, FAX: 303-492-8699.

Earth history and global change.—Dr. William DiMichele, Department of Paleobiology, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560, 202-257-4480, FAX: 202-786-2832; Dr. John Flynn, Department of Geology, Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, Chicago, Illinois 60605, 312-922-9410, FAX: 312-427-7269.

Education.—Dr. Wayne Elisens, Department of Botany and Microbiology, University of Oklahoma, Norman, Oklahoma 73019, 405-325-5923, FAX: 405-325-7619; Dr. Hugh Iltis, Department of Botany, University of Wisconsin, Madison, Wisconsin 53706, 608-262-2792, FAX: 608-262-7509.

Human resources.—Dr. Carl Gans, Department of Biology, University of Michigan, Ann Arbor, Michigan 48109, 313-763-4254; Dr. Jane Gallagher, Department of Biology, CUNY, Covent Avenue at 138th St., New York, New York 10031, 212-650-8507, FAX: 212-650-8585, e-mail: JCGCC@CUNYVM.

Surveys and inventories.—Dr. Douglas Stevens, Missouri Botanical Garden, P.O. Box 299, St. Louis, Missouri 63166, 314-577-5103, FAX: 314-577-9596; Dr. Allen Allison, Department of Zoology, B. P. Bishop Museum, Box 19000-A, Honolulu, Hawaii 96814, 808-848-4145, FAX: 808-841-8968, e-mail: Allison@UHUNI.

Collections and data bases.—Dr. Kevin Nixon, L. H. Bailey Horatorium, 467 Mann Library, Cornell University, Ithaca, New York 14853; Dr. Scott Miller, Department of Entomology, B. P. Bishop Museum, Box 19000-A, Honolulu, Hawaii 96814, 808-848-4193, FAX: 808-841-8968.

Monographs and classification.—Dr. Richard Brusca, San Diego Museum of Natural History, San Diego, California 92112, 619-696-6969, FAX: 619-232-0248; Dr. William R. Anderson, Herbarium, North University Building, University of Michigan, Ann Arbor, Michigan 48109, 313-764-2432, FAX: 313-763-0369.

Ethnobiology.—Dr. Hugh Wilson, Department of Biology, Texas A&M University, College Station, Texas 77843, 409-845-3354, FAX: 409-845-2891, e-mail: R551HW@TAMVM1; Dr. Michael Balick, Institute of Economic Botany, New York Botanical Garden, Bronx, New York 10458, 212-220-8763, FAX: 212-220-6504.

Conservation biology.—Dr. George Barrowclough, Department of Ornithology, American Museum of Natural History, Central Park West at 79th St., New York, New York, 10024, 212-769-5785, FAX: 212-769-5759; Dr. Bruce A. Stein, The Nature Conservancy, 1815 N. Lynn St., Arlington, Virginia 22209, 703-841-2711, FAX: 703-841-1283.

*Committees for the Role of
Systematics in Human Affairs*

Biotechnology.—Dr. Rita Colwell, Maryland Biotechnology Institute, 1123 Microbiology Building, College Park, Maryland 20742, 301-405-5189, FAX: 301-454-8123; Dr. Diana Lipscomb, Department of Biological Sciences, George Washington University, Washington, D.C. 20052, 202-994-5804, FAX: 202-994-6100.

Genetic resources.—Dr. Kent Holsinger, Department of Ecology and Evolutionary Biology, University of Connecticut, Storrs, Connecticut 06269, 203-486-4059, FAX: 203-486-6364; Dr. Robert Zink, Museum of Zoology, Louisiana State University, Baton Rouge, Louisiana 504-388-2887, FAX: 504-388-6400.

Agriculture and forestry.—Dr. Douglas Miller, Systematic Entomology Laboratory, Building 046, BARC-W, Beltsville, Maryland 20705, 301-504-5183, FAX: 301-504-6482; Dr. Amy Rossman, Room 304, Building 011A, BARC-W, Beltsville, Maryland 20705, 301-504-5364, FAX: 301-504-5435.

Fisheries.—Dr. Bruce Collette, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560, 202-357-2524, FAX: 202-357-1896; Dr. Michael Vecchione, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560, 202-357-4990, FAX: 202-357-1896.

Natural resources management.—Dr. Roy McDiarmid, U.S. Fish and Wildlife Service, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560, 202-357-2780, FAX: 202-357-1932; Dr. John Kress, Department of Botany, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560, 202-357-3392.

Biodiversity crisis and conservation issues.—Dr. Norton Miller, Biological Survey, New York State Museum, Albany, New York 12230, 518-474-5812, FAX: 518-

473-8496; Dr. Jay Savage, Department of Biology, University of Miami, Miami, Florida 33124, 305-284-2130, FAX: 305-284-3039.

International programs.—Dr. Vicki Funk, Department of Botany, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560, 202-357-2560; Dr. Michael Mares, Oklahoma Museum of Natural History, University of Oklahoma, Norman, Oklahoma 73019, 405-325-4712, FAX: 405-325-7699.

Environmental ethics.—Dr. Brian Boom, New York Botanical Garden, Bronx, New York 10458, 212-220-8628, FAX: 212-220-6504; Dr. Margaret Bolick, University Museum, University of Nebraska, Lincoln, Nebraska 68588, 402-472-2613, FAX: 402-472-8949.

Public health.—Dr. George Davis, Academy of Natural Sciences, 19th and the Parkway, Philadelphia, Pennsylvania 19103, 215-299-1132, FAX: 215-299-1170; Dr. George B. Craig, Jr., Department of Biology, University of Notre Dame, Notre Dame, Indiana 46556, 219-239-7366; Dr. James Oliver, Department of Biology, Georgia Southern University, Statesboro, Georgia 30460, 912-681-5564, FAX: 912-681-0559.

Public education.—Dr. Thomas Antonio, Chicago Botanic Garden, P.O. Box 400, Glencoe, Illinois 60022, 708-835-8268, FAX: 708-835-4484; Dr. Jacques Gauthier, Department of Herpetology, California Academy of Sciences, San Francisco, California 94118, 415-750-7041, FAX: 415-750-7346.

A CALL FOR PARTICIPATION

So that Systematics Agenda 2000 can achieve the broadest participation possible from the systematic community, we invite any systematist who may have comments to make on the questions and issues raised above to contact the cochairpersons of the pertinent standing committees.