# Tropinet

ATB THE ASSOCIATION FOR TROPICAL BIOLOGY INC.

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OTS Organization for Tropical Studies
Organización para Estudios Tropicales

## DR. IRA RUBINOFF HONORED BY THE ASSOCIATION FOR TROPICAL BIOLOGY

In recognition of his many contributions to tropical biology and conservation, Dr. Ira Rubinoff, Director of the Smithsonian Tropical Research Institute, was honored with an award for Distinguished Service at the Association for Tropical Biology meeting in Panamá in August 2002. In making the presentation, ATB President Nalini Nadkarni cited Dr. Rubinoff's many contributions to research, administration, fundraising, and conservation in tropical biology.

Nalini Nadkarni, President of ATB, presents Dr. Ira Rubinoff with a Citation for Exceptional Service to Tropical Biology in August 2002, in Panamá City.

Dr. Rubinoff was trained as a marine evolutionary biologist, receiving his Ph.D. from Harvard University in 1963 under the direction of Ernst Mayr and T.H. Hamilton. His research on fish populations, and in particular, his assessment of the potential impact of the interoceanic faunal exchange which would be engendered by a sea-level canal, established his reputation as a consummate research scientist who also applied his work to issues of conservation and development. Rubinoff is best known as the Director of STRI, where since assuming this post in 1973, he has overseen a 4-fold increase in staff, ongoing improvements in physical and research facilities, and establishment of a $14 million dollar endowment. Under his directorship, STRI has been at the forefront of research in the Neotropics, promoting innovations in canopy science, pioneered by the late Alan Smith, and establishing the Center for Tropical Forest Science (CTFS), which coordinates monitoring of tropical forest inventory plots in 14 countries on 4 continents.

Dr. Rubinoff has been recognized as a Fellow of the American Academy of Arts and Sciences, the American Association for the Advancement of Science, the Linnean Society of London, and the Marine Biological Association of India. In addition to his numerous awards, he serves on a variety of directorates, fostering conservation and research in Panamá and throughout the world. In welcoming the ATB to Panamá City for their annual meeting, co-sponsored by STRI, Dr. Rubinoff outlined an agenda for tropical research into the future that epitomizes his broad concerns for tropical biology. His welcoming remarks, printed below, are a fitting summary of the myriad concerns which have characterized Dr. Rubinoff as a person who has made distinguished contributions to tropical science.

## WELCOMING REMARKS TO THE PARTICIPANTS OF THE ANNUAL CONFERENCE OF THE ASSOCIATION FOR TROPICAL BIOLOGY, PANAMÁ, 29 JULY 2002

*Dr. Ira Rubinoff, Director,*
*Smithsonian Tropical Research Institute [STRI]*

On behalf of my colleagues at STRI it is my pleasure to welcome you to Panamá and to STRI for this conference, "Tropical Forests: Past, Present, and Future." This conference also serves as the annual meeting of the Association of Tropical Biology, which in this instance, is being cosponsored by the Organization of Tropical Studies as well as by STRI and its Center for Tropical Forest Science.

We are meeting in Panamá on the eve of its Centenary as a nation. The founding of Panamá as an independent Republic in 1903 provided the opportunity not only to construct an inter-oceanic canal, but it also laid the groundwork for the development of research endeavors based upon its unique geography. Since that time, Panamá has been a crossroad for commerce as well as for tropical research. It has contributed significantly to what we understand about the evolution of biological diversity, the mechanisms for the interactions of life in the tropics, and hopefully, at least a start in our ability to predict the future status of the diversity of life on the planet.

We have come a long way in tropical biology. However, when you consider the significance of tropical biology and this distinguished audience — which clearly does understand the significance of the tropics — then the only conclusion I can draw is that, as a group, biologists have failed to persuade society of the importance of our work so as to garner the financial support commensurate with this importance.

In 1988 Robert May, now Lord May, published an article in *Nature* entitled "How many species are there on Earth? He pointed out that less than 2 million species have been classified and that there was a good deal of uncertainty about how many more species inhabited the planet with us. There was no single catalog of those species already classified, although one existed for the several million books in the Library of Congress. He went on to say that a catalog of information about the habitat, distribution and abundance of the known species, all the information collected with the specimens, would not be less important than the human genome project.

Although a number of proposals for large-scale inventories have been proposed [summarized in *Nature* last week], fourteen years later, we are still debating the numbers of species, and we are far from increasing our capacity to classify new ones. Certainly I am unaware of comprehensive programs to train new taxonomists, and if my colleagues are any indication, the current group is getting rather long in tooth.

The loss of habitats and extinctions of species continue as our numbers climb from their current 6 billion, at least a quarter of which are living at what the World Bank defines as absolute poverty, or less than $1/day. And we are struggling both scientifically and politically to determine how the enormous developments associated with this magnitude of human activity are changing the planet and the biological systems that keep us alive.

Many have called for more programs to encourage people to think about the non-sustainable use of the earth's resources. As Peter Raven put it so well in a recent talk to the Association of Zoos and Aquariums: "We need to help build conservation and educational capacity in countries around the world … Conservation will be practiced … only when there are enough citizens of those countries who can advise their governments accurately about the importance of

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*Tropinet* is accessible on the ATB Website at address: <<www.atbio.org>> and is administered by Martin Barker (m.barker@abdn.ac.uk) and Michelle Pinard (m.a.pinard@abdn.ac.uk).

Production Editor: **Carol Mozell,** OTS
Design by **Steve Scott**

both conservation and sustainable development, and who understand the linkages between the two."

Raven went on to point out that only one in ten of the world's scientists and engineers live in developing countries, which have about 80% of the human population and an equivalent amount of the world's biological diversity. "Most of these [scientists] are concentrated in Mexico, Brazil, India and China, so that more than 150 countries, a great majority of all the member states of the United Nations, have virtually no scientists or engineers active in the scientific or technical fields." He continued, "Partnerships are of enormous importance in encouraging development in this area, lasting partnerships based upon mutual respect-and there is much that zoos, botanical gardens, aquaria, and natural history museums can do in this area."

I would add that there is much more that the developed world's universities, those in the United States, Europe and Japan, can do in building genuine partnerships with developing world institutions. This must include a good deal more than just training. We need to think about bricks and mortar, joint programs for long-term ecological research, modern laboratories where research can be conducted in partnerships that will address concerns about intellectual and genetic property rights. We need to foster Institutions to provide jobs for professionals in the developing world to continue their research. Modern communication and information technology make the successful pursuit of world-class research feasible in what have hitherto been considered remote areas. All that is necessary is money.

So as tropical scientists, most of whom work from a University base, I suggest that part of the solution to our problem lies with our chairpersons, Deans, Provosts, Chancellors and Presidents. Our universities have an extended role to play beyond Berkeley, Austin, the Cambridges or Tokyo. If we believe that sound conservation policy requires a scientific base as well as an educated public and a political will, then we must work to broaden our research base.

The developed world provided leadership in the industrial age, the atomic age, the space age, the information age and the molecular age. As a group we must do all that is possible to insure that the beginning of this century is labeled the "age of biodiversity". And this is one age that cannot be led by the developed world in isolation from the developing world.

## TIM WHITMORE — RECALLING A GIANT

*by Robin L. Chazdon, David Burslem, and Ian Turner*

The passing of Dr. Timothy C. Whitmore in February 2002 marked the loss of the most preeminent tropical forest ecologist of our time. For nearly thirty years, Tim Whitmore has been widely known and highly respected as a world authority on tropical rain forests. He traveled extensively in both tropical and non-tropical regions of the world as a consultant on tropical forest management, ecology, silviculture, and conservation. Whitmore was the sole author of 126 papers and 7 books, editor of 4 books, co-author of 62 papers and co-editor of 23 books, including *Foundations of Tropical Forest Biology: Classic Papers with Commentaries*, recently published in association with ATB. During the past 3 years, Tim worked unflaggingly on this book, despite struggles with health and mobility.

T.C. Whitmore was born in 1935 in Middlesex, England. He began his studies of botany as an honors student at Cambridge University, completing his B.A. in 1956. In 1957, he made his first visit to the eastern tropics. His mentor, the well-known botanist E. J. H. Corner, taught him to "think big", and to search for broad patterns and principles. This is precisely what Whitmore has done for the last 40 years. His studies and syntheses of tropical rain forests have not only advanced our knowledge of fundamental ecological processes in forests worldwide, but have broadened and challenged our views about these forests and their utilization. Working first as a taxonomist, then as a forest ecologist with a focus on forest structure, light and nutrient relations, and responses to disturbance, Whitmore blended basic and applied research in a way unsurpassed by any tropical biologist. Tim saw no distinction between the way an ecologist and a forester should view and study the forest. Through his taxonomic, evolutionary, and floristic studies of Asian trees, Whitmore enriched the study of silviculture as well as ecology. He understood plants, their evolution and their geography as well as he understood plant assemblages, their variations and their management.

Young Whitmore returned to Cambridge to complete his M.A. (1960) and Ph.D. (1961) degrees. Following his doctoral research, he returned to the eastern tropics, this time as a forest botanist in the Solomon Islands, where he conducted the first systematic studies of the tree flora and established permanent observations plots on the island of Kolombangara. Whitmore then crossed Wallace's Line westward to the Forest Research Institute in Peninsular Malaysia, where he ran a team to write a Tree Flora, trained local botanists, and doubled the size of the herbarium. In 1972 he returned to St. John's College, Cambridge and the Overseas Development Ministry to write up the results of his ecological research. In 1974 Whitmore was appointed a University Senior Research Officer at the Oxford Forestry Institute where he worked until 1989. During this 15-year interval he continued research and teaching on tropical moist forest ecology, silviculture, management, and conservation. In 1990, Whitmore returned to Cambridge University as a Visiting Scholar and Lecturer in the Geography Department, where he worked until the time of his death. Tim was the founding secretary of the British Ecological Society's tropical group in 1960-2, president of the Malayan Nature Society 1971-2, and served on many international editorial and scientific advisory committees.

*Tim Whitmore in conversation with a Vatica sp. at Konudo in south Sumatra. The photo was taken by his long time forester colleague Peter F. Burgess, with whom he was collaborating (together with Mark Newman) on the series of field Manuals of Dipterocarps for Foresters in the early 1990s.* *Photo courtesy of Suzanne Koptur*

Among all of his scholarly contributions, Whitmore is best known for his eleven authoritative, sole-authored books. Three of these books have been published as second editions. *Tropical Rain Forests of the Far East* has been translated into Malay (1991), and *An Introduction to Tropical Rain Forests* has been translated into German (1992) and Japanese (1993). Whitmore is also well known for his contributions to the study of biogeography and the effects of geological history on plant distributions. In 1981 he edited and contributed chapters in a volume on *Wallace's Line and Plate Tectonics*, and in 1987 he edited *Biogeographical Evolution of the Malay Archipelago*. Whitmore co-edited a major book, *Biogeography and Quaternary History in Tropical America*, that same year. Whitmore's studies of forest dynamics and responses to cyclone disturbance on Kolombangara, Solomon Islands reawakened ecologists to the importance of tropical forest dynamics, a field in which Whitmore has made major contributions. At the time of his death he had returned to plant taxonomy in an effort to complete a taxonomic revision of the genus Macaranga. He worked on this monograph until the very end of his life.

From his early experiences in the cyclone-prone environment of the Solomon Islands, Whitmore was very much aware of the importance of large-scale disturbance events in shaping the structure and dynamics of tropical forests. He was also an advocate for sustained, long-term observations that are required to understand vegetation processes. The thirty-year span of data collection on his forest plots in the Solomon Islands has contributed one of the most detailed long-term records of tree community dynamics for a tropical forest anywhere, and is a tribute to Whitmore's strength of personality and the quality of his relationship with local Forest Department staff.

Whitmore was committed to training and advising botanists and forest ecologists in tropical countries throughout the world, who sought ways to promote sustainable forestry practices. He taught and advised researchers in tropical forest ecology in Brazil, China, Indonesia, Ghana, Malaysia, Costa Rica, Puerto Rico, and Australia. His legacy also includes many former graduate students, postdoctoral associates and close collaborators who remain active in tropical forest ecology. Those who had the good fortune to work with him recall his enthusiasm for field research, his skill as a botanist and his incisive comments on manuscripts. Whitmore was invited to give guest lectures in 12 different countries, a testimony to his well-established international reputation.

During the last ten years, Whitmore made substantial and lasting contributions in the realm of conservation and fragmentation of tropical forests. His co-edited book, *Tropical Deforestation and Species Extinction* (1992), provided the first synthetic overview of the problems and challenges imposed by widespread logging and development in the tropics. Whitmore's experience with both ecology and forestry provides a sound and holistic viewpoint on forest utilization, sustainability, management, and conservation. He wrote numerous articles on rates of deforestation and on the challenge of sustainable development in the tropics. Throughout his career he received tremendous support from his wife Wendy.

T. C. Whitmore's breadth of experience, firsthand knowledge, and extensive writings are without compare. He has single-handedly advanced our understanding of tropical forests globally more than any other individual in the 20th century. May his life inspire the rest of us to work towards understanding and conserving the world's tropical forests.

## NEWS FROM THE ASSOCIATION FOR TROPICAL BIOLOGY (ATB)

### BIOTROPICA ENCOURAGES SUBMISSIONS ON NATURAL HISTORY AND CONSERVATION

*Robert J. Marquis, Editor*

***Biotropica*** encourages submission of manuscripts in all areas of tropical biology from throughout the tropics. We are interested in articles dealing with both tropical natural history and with the conservation of tropical systems. A new format for the table of contents, beginning with the first issue of Volume 34 (March 2002), groups together articles on Tropical Conservation. A new cover design will appear for Volume 35, reflecting ATB's renewed commitment to conservation efforts in the Tropics.

Time from submission of a manuscript to a decision letter is approximately 4 months. Time to publication from the date of acceptance is less than 6 months. Please see the inside cover of recent issues for *information for authors*, and the ATB website (www.atbio.org) for more detailed information on journal format. Abstracts of published articles for current issues, starting with June 2002, are now available at the ATB website and will be added shortly for past issues. In addition, current issues of ***Biotropica*** are available online from BioOne as .pdf files. Publications in older issues of the journal can be retrieved from JSTORE. These electronic means of disseminating the research in ***Biotropica*** will, we hope, make research results widely available to the international community of tropical biologists.

### THE JOYS OF ATB MEMBERSHIP

*by Nalini M. Nadkarni, President, ATB*

Most biologists think of their ATB membership largely as providing them with four colorfully-covered issues of *Biotropica* each year. Indeed, joining ATB, the professional organization that unites tropical biologists worldwide, provides its members with access to the most current research results in tropical zoology, botany, systematics, natural history, ecosystem ecology, and conservation. But membership in ATB means more than just getting *Biotropica*. Joining also means that you receive *Tropinet*, our quarterly newsletter, which is soon expanding from 4 to 8 pages per issue. *Tropinet* carries reports on breaking news in research, education, and conservation in the tropics, book reviews, and alerts on upcoming meetings, relevant websites, and new publications.

If you are an active researcher who wishes to publish in a venue that will be read by more researchers than any other tropical biology journal in the world, keep in mind that, as a member, you are entitled to ten free pages, with no page charges, in *Biotropica* each year. Our Board of Editors maintains high standards for the journal, with a 20% acceptance rate. The journal now has a speedy review time of only five months from submission to notification of manuscript status. This has ensured high-quality articles that disseminate the best tropical research from all parts of the world.

In addition to these direct benefits of membership, the ATB also provides indirect support for its members by organizing and implementing projects that can have far-reaching effects on our research community. In 2001, the ATB Council initiated a three-year program to help establish research priorities in tropical biology. This has taken the form of workshops at the past two annual meetings. The final report will be tailored to provide relevant information to researchers, conservation NGOs, policy-makers, funding institutions, and the general public. No single researcher acting alone could have the collective effects that our organization can have on the future of tropical research and conservation.

For many tropical biologists, especially those living where libraries have limited funds for subscriptions, membership in ATB is a critical link to the larger academic world. Students in tropical countries use articles in *Biotropica* as models for their own studies and papers. A gift membership to a colleague or student across the hall, across the country, or across the ocean is an excellent way to open a portal to the expanding and exciting world of tropical research and conservation.

Joining ATB is simple. Go to our website (www.atbio.org) and click on the "membership" box. ATB offers a variety of membership categories for individuals, students, and institutions in various countries. The Executive Director of ATB, John Kress (john_kress@si.edu) administers the Clifford Evans Fund that supports those who cannot pay the full costs of membership. Welcome aboard!

### ANNUAL MEETING IN PANAMÁ DRAWS 600 PARTICIPANTS

The ATB convened a very successful Annual Meeting in Panamá City, Panamá, from July 29-August 2, 2002. The theme of the 4-day conference was *Tropical Forests: Past, Present, and Future*. Under the sponsorship of the ATB, the Smithsonian Tropical Research Institute (STRI), the Organization for Tropical Studies (OTS) and the Center for Tropical Forest Science (CTFS), the meeting comprised four full days of interactions between 602 tropical biologists from at least 26 different countries. Executive Program Coordinator **Joe Wright** (STRI) compiled a diverse program of 21 symposia and a variety of contributed paper sessions. The traditional OTS mixer and the ATB banquet provided social occasions in which participants could mingle and share memories, data and personal experiences. At the banquet, ATB President **Nalini Nadkarni** presented her Presidential Address. **Ira Rubinoff**, the long-time Director of STRI, was presented with a special service citation by the ATB, and **Dan Janzen** was honored as an ATB Honorary Fellow.

The meeting was particularly successful, because it provided many students from Latin American countries with the opportunity to present their work to other tropical biologists. The ATB provided travel funding to 22 students, mostly from developing countries, to attend the Panamá meetings. In addition, STRI supported the attendance of 24 Panamánian students at the meeting, and the Organizing Committee for ATB2002 helped to finance the attendance of an additional 12 students and delegates. Student presentations were evaluated competitively for the **Alwyn Gentry Award** for the best student papers (see article below).

On Saturday, August 3, following the scheduled sessions, the ATB leadership led 60 dedicated participants in a one-day workshop to discuss priorities in tropical research. The workshop, funded in part by a grant from the US National Science Foundation, followed on the heels of a similar workshop last year at the ATB meeting in Bangalore, India. The third and final workshop will be held next year at the ATB meeting in Aberdeen, Scotland, and will result in a series of communiqués, directed at a variety of different audiences in the policy, funding, research, and education communities.

### RPSL MEETS WITH ATB IN PANAMÁ CITY

*Francis E. Putz, President and C.E.O., Royal Philosophical Society of Lianologists <fep@botany.ufl.edu>.*

Departing from a long-standing tradition of holding free-standing meetings, the Royal Philosophical Society of Lianologists (RPSL) met in Panamá City in August 2002 in conjunction with ATB. During the meeting, scholarly papers on vine ecology based on research on three continents were presented by nine speakers representing five countries. The C.E.O. reminded those interested in climbing plants that the vine bibliography compiled in 1896 by former President C.R. Darwin has been substantially updated and is now available in searchable form at: <<http://www.foresttrust.org>>. Additional citations should be sent to the C.E.O. or to D. Perez-Salicrup, V.P. for Recreational Vine Cutting or to Stefan Schnitzer, V.P. for Liana Relations. Applications for offices in this exclusive society, accompanied by substantial handling fees, should be sent directly to the C.E.O.

### GENTRY POSTER AND PAPER AWARDS PRESENTED TO OUTSTANDING STUDENT RESEARCH IN PANAMÁ

At the ATB Annual Meeting in Panamá in July 2002, judges evaluated student presentations and posters for the Alwyn Gentry Award for the Best Student Paper. This is an award given each year in memory of this outstanding tropical biologist, and recognizing significant student research achievements. The winner for the best oral presentation was **Elizabeth Arnold** of the University of Arizona and the Smithsonian Tropical Research Institute for a presentation, *"Ubiquitous fungal endophytes protect leaves against a foliar pathogen: Evidence and Implications."* The runner-up was **Zoraida Calle** of Fundacion CIPAV, Colombia for a talk, *"Variation in the reproductive phenology of Montanoa quadragularis in the western Andes of Colombia."*

The winner for the best poster presentation was **Elma Kay** of St. Louis University in Missouri, for a presentation titled *"Evolution of vertebrate pollination in Passiflora sp. of the Greater Antilles."* **Sheri Foley**, of the University of Alberta, was the poster runner-up, for her presentation *"Canopy and leaf reflectance of tropical tree species."*

***Congratulations to all these students for their excellent research!***

## MEETINGS

### 2002

**LAND USE, NATURE CONSERVATION, AND THE STABILITY OF RAINFOREST MARGINS IN SOUTHEAST ASIA,** 29 September-3 October 2002, Bogor, Indonesia. The symposium is organized in relation to a large scale research program on the "Stability of Rainforest Margins in Indonesia" (STORMA), jointly conducted by the Universities of Göttingen and Kassel and the Institut Pertanian Bogor and Universitas Tadulako (Indonesia). The research program is financed by the German Research Association (DFG). This program, which started in July 2000, focuses particularly on the margin areas of the Lore Lindu National Park in Central Sulawesi. More info on the research program can be found at http://www.storma.de. For information, contact SFB 552 - Symposium 2002, Institute for Geography, Goldschmidtstr. 5, D-37077 Göttingen, Germany; E-mail: symp2002@gwdg.de.

**INTERNATIONAL CONFERENCE ON NEOTROPICAL RAPTORS AND HARPY EAGLE SYMPOSIUM**. 24-27 October 2002. Panamá City, Panamá. Sponsored by The Peregrine Fund and Fondo Peregrino-Panamá. For further information contact: Neotropical Raptor Conference, The Peregrine Fund, 5668 West Flying Hawk Lane, Boise, ID 8370 USA or go to www.peregrinefund.org/nrconference.html.

**BIOLOGICAL INVASIONS IN TERRESTRIAL ECOSYSTEMS: AN EVOLUTIONARY PERSPECTIVE**. 30 September-3 October 2002. Halle, Germany The workshop is funded by the European Science Foundation (ESF). Besides the invited speakers, there is room for some 15 young scientists working in the field. Unfortunately, ESF funding is for European applicants only. For more information please visit the workshop pages at www.hdg.ufz.de/index.php?en=1026.

**BRINGING BACK THE FORESTS**: Policies and Practices for Degraded Lands and Forests. 7-10 October 2002, Kuala Lumpur, Malaysia. The conference is sponsored by the Asia Pacific Association of Forestry Research Institutions (APAFRI), FAO, Forest Research Institute Malaysia and IUFRO. For more information, or to register, see the web site at: www.apafri.upm.edu.my1reconf/index.html.

**VIII CONGRESO LATINOAMERICANO DE BOTANICA AND II CONGRESO COLOMBIANO DE BOTANICA**. 13-18 October 2002, Centro de Convenciones, Cartagena de Indias, Colombia. For more information, email to: congrbot@ciencias.unal.edu.co.

**SYMPOSIUM ON EFFECTS OF FISHING ACTIVITIES ON BENTHIC HABITATS: LINKING GEOLOGY, BIOLOGY, SOCIOECONOMICS, AND MANAGEMENT**. 12-14 November 2002, Tampa, FL. The Ecological Society of America is collaborating with the National Oceanic and Atmospheric Administration, the U.S. Geological Survey, and the American Fisheries Society to this symposium . For more information including program and registration, visit the web page at http://walrus.wr.usgs.gov/bh2002. If you have questions, please send an email to benthic@esa.org.

**SYMPOSIUM ON CONSERVATION, RESTORATION AND MANAGEMENT OF AQUATIC ECOSYSTEMS – LAKE 2002**. 9-13 December 2002. Bangalore, India. Organized by Centre for Ecological Sciences, IISc, Bangalore, Karnataka Environment Research Foundation, Bangalore, and Commonwealth of Learning, Canada. For information about program, registration, and submission of manuscripts, go to http://ces.iisc.ernet.in/energy/water20/Lake2002.html.

## 2003

**THIRD INTERNATIONAL CONFERENCE ON THE COMPARATIVE BIOLOGY OF THE MONOCOTYLEDONS AND FOURTH INTERNATIONAL SYMPOSIUM ON GRASS SYSTEMATICS AND EVOLUTION**. 30 March-5 April 2003, Rancho Santa Ana B otanic Garden, Claremont, CA. Visit www.monocots3.org for conference details; or write Monocots III, Rancho Santa Ana Botanic Garden, 1500 North College Avenue, Claremont, California 91711-3157 U.S.A.; E-mail: info@monocots3.org; Fax (909) 626-7670; Tel (909) 625-8767 ext. 333. Co-sponsors include the American Society of Plant Taxonomists, Botanical Society of America, and the International Association for Plant Taxonomy.

**ASSOCIATION FOR TROPICAL BIOLOGY (ATB)/ BRITISH ECOLOGICAL SOCIETY (BES)** Joint Meeting and Symposium on *'Biotic Interactions in the Tropics'*, 7-10 July 2003, University of Aberdeen, Scotland. The three-day meeting will comprise morning plenary sessions on Biotic Interactions and afternoon sessions for contributed papers. A fourth day will be dedicated to a workshop on Research Priorities in Tropical Biology. For more information, contact David Burslem (d.burslem@abdn.ac.uk), Michelle Pinard (m.a.pinard@abdn.ac.uk), or Mike Swaine (m.swaine@abdn.ac.uk)

**24TH ANNUAL CONFERENCE OF THE SOCIETY OF WETLAND SCIENTISTS**, 8-13 June 2003, New Orleans, Louisiana, USA. The conference will address interdisciplinary, innovative approaches and technologies that are currently being applied to sustaining wetlands across diverse environments and spatial scales of the world. Deadline for symposia and workshop proposals is September 30, 2002. For detailed information, please see the website http://www.sws.org/neworleans/ or contact Dr. Robert R. Twilley, Program Co-chair, Center for Ecology and Environmental Technology, University of Louisiana at Lafayette, PO Box 42451, Lafayette, LA 70504 USA; E-mail: ceet@louisiana.edu; Phone: (337) 262-1776; Fax: (337) 262-1866.

## RESOURCES

***ConserveOnline***, created and maintained by The Nature Conservancy in partnership with *NatureServe*, The Society for Conservation Biology, US Forest Service, and the American Museum of Natural History, makes conservation tools, techniques, and experience available to a broad community of conservation practitioners. The site is intended to provide information and support to anyone making conservation-related decisions. ConserveOnline is an open forum for sharing successes and failures, and for connecting scientific research with field-based conservation practice. It provides a comprehensive online library, making the knowledge and experience of The Nature Conservancy field staff and other conservation practitioners available and searchable online at http://www.conservonlin.org.

**A new atlas of biodiversity has been released by the UNEP World Conservation Monitoring Centre**. For full text and graphics visit: http://ensnews.com/ens/aug2002/2002-08-01.asp. Interactive maps from the atlas are available online at: http://stort.unep-wcmc.org/imaps/gb2002/book/viewer.htm.

**The following Web Resources come from The NSDL Scout Report for the Life Sciences**. Copyright Internet Scout Project 1994-2002. http://scout.cs.wisc.edu/:

http://www.wcrl.ars.usda.gov/cec/h.htm

This Web site by Dr. John Byers of the US Department of Agriculture provides a plethora of information and resources on the chemical ecology of insects. The site provides databases and compilations of scientific research papers that cover various aspects of insect ecology. The site also includes downloadable software. Although the site has many tools for researchers, some resources have an educational focus that make them applicable to a more general audience.

http://www.botany.wisc.edu/virtual.html

This Web site hosts five different image collections from the University of Wisconsin-Madison's Botany Department. The largest is the Plant Systematics Teaching Collection, which contains over 4,000 images organized taxonomically. The Vegetation of Wisconsin collection is an interesting collection, although much smaller; its images are arranged into groupings found in various Wisconsin habitats. All five collections are easy to navigate through expanding menus based on scientific name.

http://www.jobis.org/

Ocean Biogeographic Information System (OBIS) is "a user-friendly, web-based provider of global geo-referenced information on accurately identified marine species" developed by the international research program Census of Marine Life. OBIS can be used to integrate information from a host of stand-alone databases including biological, physical, and chemical oceanographic data on a selected species and geographic range of interest.


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ATB is an international society that promotes tropical biology in its broadest sense. ATB publishes the quarterly journal *BIOTROPICA* and sponsors frequent symposia. Information: W. John Kress, ATB Executive Director, Smithsonian Institution, US National Herbarium, Department of Botany, NBH 166, Washington, DC 20560.

OTS is a non-profit consortium of 65 academic and research institutions in the United States, Australia and Latin America. Its mission is to provide leadership in education, research and the responsible use of natural resources in the tropics. Graduate undergraduate and professional training and research facilities are provided at three field stations in Costa Rica. Information on OTS and *Tropinet* contributions: OTS, Box 90630, Durham, NC 27708-0630 USA.


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