

September – October 2001
Issue 1

Newsletter of the IBOY

DIVERSITAS – International Biodiversity Observation Year 2001-2002

Content:

Feature Stories	1-2
Publications	3
Upcoming International Meetings and Conferences	3-5
Field Courses	5
From the Secretariat	6

Study finds wealth of new species in coastal caves

Scientists report the discovery of high numbers of new species from marine caves, in a paper to be published in the September/October 2001 issue of *Sarsia*. The authors describe fourteen new species, nine new genera and two new sub-families, from recent surveys of flooded caves along tropical and subtropical coastlines. The species are all small crustaceans called copepods, and have many special features, such as no pigment or eyes, to adapt them to their cave-dwelling life.

The rate of species discovery from these caves, called anchialine caves, is challenging the project's researchers. Marine biologist and co-leader of the project, Dr. Geoffrey Boxshall, describes lines of specimen bottles piling up in his laboratory at the Natural History Museum, London. He admits that they are struggling to keep up with the task of describing and naming the new species. They are also having to look beyond the



usual sources of inspiration for scientific species names. The new species unveiled in *Sarsia* include names based on Bifur, Bombur, Balin, Oin and Gloin; the cave-dwelling dwarves from the classic story *The Hobbit* by J.R. Tolkien. "These dwarves lived underground," explains Boxshall, "and seemed a great inspiration for names of these cave living crustaceans".

- cont. pg 2

Leading scientists summarize understanding of species relationships in international symposium

POSTPONED

Due to the tragic events of September 11, 2001, the meeting "Assembling the Tree of Life: Science, Relevance and Challenges" to have taken place at the American Museum of Natural History, New York, September 20-22, has been postponed.

The meeting has been tentatively rescheduled for May 30th - June 1st, 2002. Participants and registrants will be

contacted when a new date has been confirmed, or please check www.amnh.org for updated conference information. Confirmation of the rescheduled dates will also appear in a subsequent issue of the IBOY newsletter

The September 20 program, "Evolution," co-presented by the AMNH and WGBH in conjunction with "Assembling the Tree of Life," has been cancelled.

- cont. pg 3

New species found (cont.)



Parhippolyte sterreri - This shrimp (7-10 cm in length) was collected from Norman's Pond Cave in the Exuma Cays, Bahamas.

Joint project leader and marine biologist Dr. Thomas Iliffe, of Texas A & M University at Galveston, USA, says that these animals "represent 'missing links' that may help to explain the evolution of life within the sea". The project's research is revealing that, despite the geographic isolation of the caves from one another, the species that inhabit them share a common origin. Iliffe and Boxshall believe the animals have descended from ancestors which, more than 100 million years ago, colonized caves around the coastline of a long-vanished sea, the Tethys Sea, which separated Northern and Southern super continents before the opening of the Atlantic Ocean.

Cave diving has been referred to as "the most dangerous science." Iliffe describes threats to cave diving scientists that include problems associated with depth, disorientation, getting stuck and losing air supply. Yet, vast unexplored caverns with clear waters, spectacular rock formations, and new forms of life offer potential for

discovery of animals no one has ever seen.

The rate at which these new cave-dwelling species are being found, shows that nature still offers abundant opportunities for discovery, even in today's overcrowded and well-traveled world. In fact, while science has described approximately 1.7 million species so far, taxonomists estimate that there are in the region of 12 million species still to be discovered.

Publication: Fosshagen, A., G.A. Boxshall, T.M. Iliffe. 2001. The Epacteriscidae, a cave-living family of calanoid copepods. *Sarsia* 86.

More information on the IBOY Project *Exploration and Conservation of Anchialine Cave Faunas* see <http://www.cavebiology.com/> and <http://www.nrel.colostate.edu/IBOY/whatandwhere.html#anchialine>

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Namibian schoolchildren to help Smithsonian update records of insects

Postponed

In light of the tragic events of September 11, 2001 a trip by six young Namibian scholars to Washington DC, that was to start on September 22, has been postponed. The trip will be rescheduled for later in the year or early 2002, when the students, winners of Insect@thon 2000, a unique national school contest in Namibia, will help the Smithsonian's National Museum of Natural History computerize information on the insects of their home country. Confirmation of the rescheduled dates will appear in a subsequent issue of the IBOY newsletter.



Insect@thon mascot

More information on the IBOY Project *Insect@thon* see <http://www.schoolnet.na> , <http://www.natmus.cul.na.newindex.html> and <http://www.nrel.colostate.edu/IBOY/whatandwhere.html#insect>

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Tree of Life symposium (cont.)

More information on the symposium, including registration, see: http://www.amnh.org/programs/conference/tree_of_life/

More information on the IBOY Project *Assembling the Tree of Life* see <http://www.nrel.colostate.edu/IBOY/whatandwhere.html#treeoflife>

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Publications

Fosshagen, A., G.A. Boxshall, T.M. Iliffe. 2001. The Epacteriscidae, a cave-living family of calanoid copepods. *Sarsia* 86.

See story on page 1, *Study finds wealth of new species in coastal caves.*

OUTREACH launches new website and kids' magazine

In September 2001, the IBOY project OUTREACH will launch its new website at www.outreachworldwide.org. The site will feature an on-line kids' magazine on environmental and health issues called Youth – Take Action. The theme of the first issue of the magazine is on soils. OUTREACH packs for educators and communicators will also be downloadable free-of-charge from the website. The first ones available are three packs on Genetic Diversity and Food Crops.

In the coming months OUTREACH, in association with WWF-UK and GEF, will produce learning materials on soil erosion, land degradation, forests and climate change. These materials will be directed at primary level educators and communicators working in developing countries,

though the resources will have more widespread application. OUTREACH has enlisted the support of students in the Communication Arts Department of Cornell University, Ithaca, New York, to help in the research and development of some of these materials, as well in the production of educational resources on AIDS.

More information on the IBOY Project *OUTREACH: Biodiversity Series* see <http://www.outreachworldwide.org> and http://www.nrel.colostate.edu/IBOY/goods_services.html#outreach

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Upcoming International Meetings and Conferences

Postponed, American Museum of Natural History, New York, USA: Assembling the Tree of Life: Science, relevance and challenges

See story on page 1, *Leading scientists summarize current understanding of species relationships in international symposium.*

September 19-22, 2001, Barcelona, Spain:

International meeting to examine impacts of invasive species

Ever-increasing international trade and travel is accelerating rates of species invasions into new ecosystems, disrupting the ecology of native species. International experts on invasive species will come together to share and analyze data on invasive species in order to develop a more comprehensive picture of the global impact of terrestrial invasive species. The workshop "*Impacts of biotic invasions in terrestrial ecosystems: spatial assessment, base rates and consequences*" has been sponsored by the European Science Foundation and will contribute to the Global Change and Terrestrial Ecosystems (GCTE) project of the International Geosphere-Biosphere Program (IGBP) and to the Global Invasive Species Program (GISP).

More information on the IBOY Project *Impacts of Biological Invasions* see http://www.nrel.colostate.edu/IBOY/how_changing.html#invasions.

Hear Project Leader Dr. Mark Lonsdale talk about the impacts of invasive species on the radio show [Pulse of the Planet](http://www.pulseplanet.com), on October 22-26, 2001 <http://www.pulseplanet.com>

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October 8–11, 2001, Cape Town, South Africa

Second technical design meeting of the Millennium Ecosystem Assessment

The Millennium Ecosystem Assessment (MEA) is a program to assess the capacity of the world's ecosystems to continue to provide goods and services needed by society. The first year of this unprecedented 'health-check' for the planet is the design year, in which goals, approaches and workplans of the MEA's four working groups will be finalized. This meeting reflects an important stage in the design process and will draw on the expertise of scientists from around the world.

More information on the IBOY Project the *Millennium Ecosystem Assessment* see <http://www.ma-secretariat.org/> and http://www.nrel.colostate.edu/IBOY/goods_services.html#millenium

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October 23–27, 2001, Franciscan Center for International Dialogue, Assisi, Italy:

Meeting of religious leaders and foresters to develop the WWF-ARC program to put religiously owned forests into sustainable management

WWF-ARC will bring together religious owners of European and North American forests to establish a program designed to help them develop environmentally sustainable management programs. The faith groups will be asked to commit to a plan, which would assure that 80% of their forests will enter a Forest Stewardship Council or similar scheme.

companies working in the private sector will demonstrate how environmentally sustainable schemes can be applied and why companies consider these schemes beneficial from both an ecological and economical point of view.

More information on the meeting see <http://www.religionsandconservation.org>

In Assisi, the planning group will bring together the crucial faith group leaders who have already committed to having a sustainable management scheme (Lutherans, Church of England, Jews, Methodists). In this preliminary meeting, participants will work to establish a set of core principles and templates, which they will then present to their broader faith groups. Representatives from

More information on the IBOY Project *Sacred Gifts For a Living Planet* of the World Wide Fund for Nature (WWF) and the Alliance of Religion and Conservation (ARC), see http://panda.org/livingplanet/sacred_gifts/ and http://www.nrel.colostate.edu/IBOY/how_conserve.html#sacred

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October 30–31, 2001, Palma de Mallorca, Spain: BIOMARE Steering Committee Meeting
November 2-3, 2001, Palma de Mallorca, Spain: BIOMARE Workshop
Marine scientists to meet to build capacity for Europe-wide marine research and conservation

BIOMARE is a collaboration of European marine scientists to implement and network large-scale, long-term marine biodiversity research in Europe.

At an international workshop, BIOMARE's scientists will review assessments, developed over the past year, of existing capacity to conduct continental-scale biodiversity research and monitoring. They will then use the review to launch the next phase of BIOMARE, which will develop recommendations for implementing Europe-wide marine biodiversity research. The workshop will consider the location and research requirements for a network of sites to provide comprehensive information on the state of Europe's marine biodiversity and ecosystems, and how to provide information needed by stake-holders

including European Union policy-makers, commercial fisheries and international conventions. A Meeting of the BIOMARE Steering Committee will immediately precede the Workshop.

More information on the IBOY Project BIOMARE see <http://www.biomareweb.org> and http://www.nrel.colostate.edu/IBOY/how_changing.html#feral

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Field Courses

August 29 - September 30, 2001, Pasoh Forest Reserve, Malaysia:
International field biology course of DIVERSITAS in Asia and Western Pacific DIWPA - IBOY

DIWPA-IBOY is conducting an enormous biodiversity assessment across Asia and the Western Pacific, from Siberia to New Zealand. The field course, held in the Pasoh Forest Reserve, Malaysia, will provide an introduction to different aspects of the study of ecology in a tropical forest. The course will give students hands-on experience in a variety of forest habitats in the region, and also provide training ranging from plant and insect sampling to modern chemical and molecular techniques. Also, the course will provide training in standardized biodiversity inventory methods. Students from Southeast Asia and around the

world will participate and course instructors will be drawn from the large body of experienced scientists from the Forestry Research Institute of Malaysia (FRIM), the Center for Tropical Forest Science (CTFS), and DIWPA.

More information on *DIWPA-IBOY* see <http://ecology.kyoto-u.ac.jp/~gaku/iboyindex.htm> and http://www.nrel.colostate.edu/IBOY/how_changing.html#greenblue

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From the Secretariat

**September 21, 2001, Denver Museum of Nature and Science, USA:
Free Day to celebrate IBOY and biodiversity**

On September 21, admission to the Denver Museum of Nature and Science will be free, as it celebrates the IBOY. The IBOY Secretariat will host displays and activities to provide general information about biodiversity and the IBOY. Scientists from Colorado State University's Natural Resource Ecology Laboratory (NREL) will also be at the museum to help celebrate the IBOY. Using interactive displays and demonstrations, NREL's scientists and students working on ecosystems ranging from Colorado lakes and prairies to African Savannahs and Antarctic deserts will be on hand to explain how state of the art

science is being used to help understand biodiversity. Visitors to the Biodiversity Day will be able to compare NREL's contemporary biodiversity research with historical biodiversity research featured in the exhibition "Voyages of Discovery," which is visiting from The Natural History Museum, London.

More information on museum hours and directions see <http://www.DMNS.org/visplan.htm>

**October 1 – 26, 2001
Radio stories from IBOY Projects to be broadcast world-wide**

During October, the radio show *Pulse of the Planet*, broadcast over 300 stations around the world, will broadcast the first in a series of programs on IBOY's projects. On October 1–5, five programs on *Inventory of Caterpillars*, led Dr. Daniel Janzen, will be broadcast. On October 22-26, five programs on *Impact of Biological Invasions* led by Drs. Mark Lonsdale, Montserrat Vila and Richard Mack will be broadcast. Jim Metzner, host of *Pulse of the Planet*, recorded these interviews with IBOY project leaders at the meeting "Building Bridges for Biodiversity: The first meeting of IBOY project leaders" which took place at the US Fish and Wildlife Service's National Wildlife Visitor Center, Maryland, USA, June 14 – 16, 2001. Watch for more stories about IBOY Projects on *Pulse of the Planet* during 2001 and 2002.

More information on *Pulse of the Planet* see <http://www.pulseplanet.com>

More information on the IBOY Project Inventory of Caterpillars see <http://janzen.sas.upenn.edu/> and <http://www.nrel.colostate.edu/IBOY/whatandwhere.html#cater>

More information on the IBOY Project *Impacts of Biological Invasions* see http://www.nrel.colostate.edu/IBOY/how_changing.html#invasions and meeting announcement (pg. 4)

Contact: For more information on these and other activities of the IBOY Secretariat, Gina Adams, Program Director, DIVERSITAS-IBOY, Natural Resource Ecology Laboratory, Colorado State University, Fort Collins, CO 80523-1499, USA. Tel: (+1) 970 491 1984, Fax: (+1) 970 491 3945, Email: gadams@nrel.colostate.edu

About the DIVERSITAS - International Biodiversity Observation Year 2001-2002



The International Biodiversity Observation Year (IBOY) taking place during 2001 and 2002, is a grassroots effort of the international scientific community to raise science-based understanding of biodiversity and its connection to human societies, among a broad audience.

International (CI), International Group of Funding Agencies (IGFA), DIVERSITAS, and two anonymous private foundations.

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