September-October 2002 Issue 7

Newsletter of the IBOY

DIVERSITAS – International Biodiversity Observation Year 2001-2002

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New Information On Structure and Evolution of Deep Sea Sediment Communities

By Wolfgang Wägele

The first results from the expedition DIVA-1 to the deep sea of the Angola Basin, which took place between July and August 2000, will be published in the series *Meteor Forschungsberichte*. The report provides new information on the structure of deep sea sediment communities and ecosystems, including sediment parameters, hydrography, protozoology, observations on benthic Foraminifera, meiofauna, Macro- and Megafauna, and meteorological observations.

Key findings reported include:

The sediments of the Angola basin were well oxygenated.

Protists:

- o several protists could be cultured from sediment samples, including representatives of 14 genera of heterotrophic flagellates, an undetermined heteromastigophoran, an euglenoid, and a nanocilate. These are the first taxonomic studies of nanoprotists from bepths below 4500 m.
- Direct counts revealed on average about 2.6 individuals per square cm.
 These are the lowest protist densities ever recorded for natural sediments.

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Giant-Screen Film *Ocean Oasis* Impacts Education in Baja California, Mexico

Ocean Oasis, a giant-screen film about the fragile ecosystems and enormous biological diversity of the Baja California peninsula and Sea of Cortés, will be used to teach 720,000 children about the environment and conservation in Baja California, Mexico.

Recent legislation passed in Baja California Sur mandates the teaching of environmental education to public school students there. To help meet this requirement the makers of *Ocean Oasis* - the San Diego Natural History Museum, PRONATURA A.C. (Mexico's oldest and largest non-profit environmental organization), and Summerhays Films - are collaborating with more than a dozen binational organizations to increase informed environmental stewardship in



Screenshot of Ocean Oasis website http://www.oceanoasis.org

the greater Baja California peninsula and Sea of Cortés. Over the next three years \$750,000 in private donations will be

- cont. pg 2

Workshop about 'Stickleback Parasites' Launches Plans for On-Line Databases

By David Marcogliese

A workshop for the IBOY core project "Survey of Stickleback Parasites" was held in Vancouver on August 5, 2002, during the International Congress of Parasitology. This was the first time participants in the project have been able to assemble to discuss the project. Over a dozen participants from The US, Canada, Scotland, Germany, Iceland, and Iran were able to attend. In addition, the workshop attracted a number of curious visitors and a few new participants were recruited.

Being the first gathering for the project, the workshop consisted of discussion and verification of logistical details, including fish collecting and processing, specimen preparation and identification, and data formatting. Extensive discussion ensued on data management and analysis. Other topics covered include publication and authorship, deposition of voucher specimens, funding, products and product development (including web pages and a web site), and planning for future workshops.

As a result of the workshop, important activities were

identified and prioritized in addition to the accumulation of stickleback parasite data and its analysis. These include the synthesis of a host-parasite checklist, a parasite bibliography for sticklebacks, and a list of museum collections of stickleback parasites. In addition, the scope of the project was expanded to accept all parasitology data for sticklebacks, including those dealing only with select parasite groups. One accessory benefit from this project for the scientific community at large is that it can provide both fish and parasite tissues from around the world for colleagues studying this widespread and important group of fishes.

More Information on the IBOY project Survey of Stickleback Parasites

http://www.nrel.colostate.edu/iboy/whatandwhere.html#stickleback

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Ocean Oasis (cont.)

invested to deliver environmental education to 550 schools throughout both states of Baja California.

One of the most notable activities being undertaken is development of the film's educational curriculum for use in Mexican schools. Support for educational outreach components has come from a variety of sources, including the film's international sponsor, Sempra Energy, the Walton Family Foundation, the California Environmental Protection Agency, U.S. Fish and Wildlife Service, Fundación La Puerta, and Wells Fargo Bank.

The education curriculum of *Ocean Oasis* will teach children about the biological diversity and ecological importance of their homeland. Activities include distribution of video copies of the film, complementary curriculum guides with hands-on learning projects for children, and in-depth teacher training on how to effectively implement this innovative curriculum in the classroom.

These activities will benefit more than 12,000 teachers and 720,000 students over the next three years. They will also produce long-term benefits of fostering environmental stewardship in the region, and factoring the need for

conservation of natural resources in the Baja California peninsula in economic development decision-making.

Additional educational outreach that will be conducted includes partnering with small local museums throughout the region to show the video version of the film and teach local residents and tourists about the need to conserve the Sea of Cortés from environmental degradation. In Bahia de Los Angeles, a small fishing village of 750 people, project funding is supporting the addition of a \$40,000 environmental education center at the local natural history museum. This center will use the film and its supporting curriculum to educate children and adults about the nearby mid-rift islands, which are crucial to successful long-term conservation efforts in the Sea of Cortés.

More Information on the IBOY Project *Ocean Oasis* can be found on http://www.oceanoasis.org/ and http://www.nrel.colostate.edu/IBOY/whatandwhere.html#oasis

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Deep Sea Sediment (cont.)

- o Many taxa have a world-wide distribution.
- Most Formainifera were calcareous forms, with a low proportion of agglutinated species.

Meiofauna

- o Meiofauna proved to be very species-rich.
- Some interesting findings are species of Kinorhyncha and Loricifera, some Bryozoa that were recovered alive, a high diversity of Harpacticoida including some primitive Pseudotachidiidae.

Macrofauna and megafauna

- The presence and abundance of families and genera of the Porifera, Polychaeta, Sipuncula, Mollusca, Ostracoda, Amphipoda, Isopoda, Cumacea, Tanaidacea were recorded.
- o The number of new species is high.
- The most abundant taxa of the macrofauna are the Bivalvia, Polychaeta and Peracarida, while the megafauna was dominated by Bivalvia, Actiniaria, Decapoda, and echinoderms.
- o Ongoing molecular analysis confirms that the deep-

sea Isopoda of the taxon Asellota have several roots within the shallow-water Janiridae, meaning that invasions of the deep-sea occurred several times independently and that the taxon Janiridae of the traditional classification is not monophyletic.

The evaluation of the species-rich samples from this expedition to the abyssal plains of the South Atlantic is ongoing, but some single publications are already in press. The German Science Foundation just granted funds for further taxonomic study.

Publication: Balzer,W., Alheit, J., Emeis, K. - C., Lass, U., Tuerkay, M. (eds.) 2003. Southeast-Atlantic 2000, Cruise No. 48, 6 July - 3 November 2000. *METEOR-Berichte* Universitaet Hamburg (in press)

More Information on *DIVA* see http://www.ruhr-uni-bochum.de/spezzoo/diva1.html and http://www.nrel.colostate.edu/IBOY/whatandwhere.html#DIVA

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Publications and Presentations

August 26 - September 4, 2002, Johannesburg, South Africa

OUTREACH Education Packs Launched at the World Summit for Sustainable Development

OUTREACH/TVE in association with the GEF (Global Environment Facility) and World Wide Fund for Nature (WWF-UK) launched a series of environmental education publications at the World Summit on Sustainable Development, Johannesburg, South Africa, August 26 -September 4, 2002. Each pack contains student activity guides with teachers' notes as well as teaching aids in the form of radio scripts (as questions and answers), posters, stories, games and puzzles. These publications include: an Introductory Pack Understanding Soils, Issue Packs Soil Erosion and Soil Degredation, and Solution Packs Five Principles for Improving and Maintaining Tropical Soil Fertility and Trees for Soil and People. The packs will be available for downloading from the OUTREACH website at http://www.outreachworldwide.org by the end of September 2002.

More information on the project OUTREACH-*Biodiversity Series: Information for Educators and Communicators* http://www.outreachworldwide.org/ and http://www.nrel.colostate.edu/iboy/goods_services.html#outreach

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August 31, 2002. World Summit on Sustainable Development, Johannesburg, South Africa

October 2002. UN General Assembly, New York, USA

Presenting *Biodiversity: Its Importance to Human Health* to International Policy Makers

The project *Biodiversity: Its importance to Human Health* was presented to the World Summit on Sustainable Development by Dr. Jeffrey McNeely of the World Conservation Union (IUCN). The project, led by Dr. Eric Chivian of the Center for Health and the Global Environment at the Harvard Medical School, under the auspices of the World Health Organization (WHO) and the United Nations Environment Program (UNEP), is compiling what is known about the implications for human health from biodiversity loss into the most comprehensive report yet produced.

In October, the Interim Executive Summary of the Project will be presented to the UN General Assembly, at a side event convened in cooperation with the Convention on Biological Diversity.

More Information on the project *Biodiversity: Its importance to Human Health* see http://www.nrel.colostate.edu/IBOY/goods_services.html #who

Contact: Dr. Eric Chivian, Director, Center for Health and the Global Environment, Harvard Medical School, 260 Longwood Avenue, Room 262A, Boston, MA 02115, USA. Tel: (1) 617 432 0493, Fax: (1) 617 432 2595; Email eric_chivian@hms.harvard.edu

September 6-7, 2002. Quintana Roo Speleological Survey Convention, Playa del Carmen. Mexico

Endangered Caves and Cave Animals of the Yucatan Peninsula

Dr. Tom Iliffe of Texas A&M University at Galveston will give a presentation on "Endangered Caves and Cave Animals of the Yucatan Peninsula."

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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Migratory Species Fact Sheets Published by GROMS

The Global Register of Migratory Species (GROMS), directed by Dr. Klaus Reide from the University of Bonn has published new species fact sheets on migratory birds and small whales, which can be downloaded from http://www.biologie.unifreiburg.de/data/zoology/riede/groms/Species HTMLs/Notes.html

The fact sheets were generated using the GROMS database and GIS maps, and provide a printable global distribution map, information on migration, scientific names with authority and synonyms, vernacular names, protection status under CMS and its agreements, and threat status according to

the international Red-List categories and CITES appendices.

More information on the IBOY Project Global Register of Migratory Species (GROMS) see

http://www.biologie.uni-freiburg.de/data/riede/groms.html and

http://www.nrel.colostate.edu/IBOY/how_changing.html#groms

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Upcoming Meetings

September 6, 2002, Gwalior, India

Workshop on Sustainable Utilization and Conservation of Biodiversity in North Madhya Pradesh

During IBOY researchers from The Biodiversity Forum at the Jiwaji University, Gwalior, Madhya Pradesh, led by Professor R. J. Rao, evaluated biodiversity and wildlife habitats at the heart of Madhya Pradesh as part of a proposal to establish the Amarkantak Biosphere Reserve. As part of on-going efforts to develop a regional biodiversity action plan, they have been commissioned by the Madhya Pradesh Council of Science and Technology (MPCST), Bhopal to prepare a report on the status and conservation of Biodiversity in Madhya Pradesh. Information on floral and faunal species diversity has been collected from Northern Madhya Pradesh comprising five districts namely, Gwalior, Bhind, Morena, Datia and Shivpuri, and there is now a need for collaboration among environmentalists, conservationists and managers to prepare an action plan for biodiversity utilisation and conservation in this region. To prepare this action plan, approximately 50 experts from multiple sectors concerned with land and natural resource use will participate in a

one-day Workshop on Sustainable Utilisation and Conservation of Biodiversity in North Madhya Pradesh, September 6, at Jiwaji University. Participants include scientists from various Schools of Studies in Jiwaji University and Jawaharlal Agriculture University, scientists from Government Departments of Forests, Agriculture, Horticulture, Fisheries, representatives from local NGOs and commercial farmers. The workshop will compile and discuss information to prepare final report for publication by MPCST.

More information on the IBOY Project *Evaluation of Wild Life Habitats in the Proposed Amarkantak Bioshpere Reserve* http://www.nrel.colostate.edu/projects/iboy/asia_ap.html#abr and http://www.amarkantak.com

Contact: Dr. R.J. Rao, Conservation Biology Unit, School of Studies in Zoology, Jiwaji University, Gwalior, Madhya Pradesh 474 011, India. Tel: (91) 751346782; Fax: (91) 751341450; Email: jaganath@sancharnet.in

September 8 – 11 2002, Tromsø, Norway Final Meeting of BIOMARE

Participants in BIOMARE, will convene in Tromsø, Norway to report the new information and products the project has produced. Over 2001-2002, BIOMARE, led by Prof. Carlo Heip of the Netherlands Institute of Ecology, has networked scientists and research sites across Europe to build capacity to monitor biodiversity over large scales and the long-term, and provide vital information on global change and the sustainability of fisheries. Presentations and discussions will focus on the new network of EMBiFs (European Marine Biodiversity Flagship and Focal Sites), standardized protocols for bioindicators, new dissemination tools including databases, brochures and newsletters, opportunities for developing linkages with other initiatives, and special issues of journals that will be published in 2003 and 2004 to report BIOMARE's findings. Future research to build on the strengthened capacity for Europe-wide marine biodiversity research that has resulted from BIOMARE will also be discussed. This research will primarily be conducted as part of a new

project called MARBENA, that has been funded for 2003-2005 by the European Commission (EC). MARBENA will be devoted to strengthening the scientific base of marine biodiversity research, enlarging the network to Eastern Europe, and continuing public outreach by a series of workshops, conferences and publications, and by specific research proposals to the European Science Foundation and the EC.

More information on the IBOY Project *BIOMARE - Implementation and Networking of Large-Scale, Long-Term Marine Biodiversity Research in Europe* see http://www.biomareweb.org/ and http://www.nrel.colostate.edu/IBOY/how_changing.html#feral

Contact: Dr. Carlo Heip, NIOO-CEMO Netherlands Institute of Ecology - Center for Estuarine and Coastal Ecology, Korringaweg 7, 4401 NT Yerseke, The Netherlands. Tel: (31) 113 577300; Fax: (31) 113 573616; Email: heip@cemo.nioo.knaw.nl

Dr. Herman Hummel, NIOO-CEMO Netherlands Institute of Ecology - Center for Estuarine and Coastal Ecology, Korringaweg 7, 4401 NT Yerseke, The Netherlands. Tel: (31) 113 577300; Fax: (31) 113 573616; Email: hummel@cemo.nioo.knaw.nl

September 20-21, 2002. Bonn, Germany

GROMS GIS and Database Training Workshop

Dr. Klaus Reid, Director of the Global Register of Migratory Species (GROMS) at the University of Bonn, Germany, is organizing a variety of informational activities on the GROMS for the Seventh Meeting of the Conference of the Parties (COP7) of the Convention on the Conservation of Migratory Species of Wild Animals (CMS), taking place September 18 – 24, 2002, Bonn, Germany.

Bioinformatics plays an increasing role in conservation. Databases and Geographical Information Systems (GIS) are particularly helpful tools for monitoring migratory animals which move through space and time. GROMS supports the goals of CMS by summarizing the present state of knowledge about migratory species in a relational database connected to a GIS System. The database provides fully referenced basic information on migratory species, GIS maps and range state list for 545 species, a bibliography, scientific names with authority and synonyms, vernacular names, protection status under CMS and its agreements, threat status according to the international Red-List categories and CITES appendices. All this information can be retrieved according to the users needs.

During COP7 GROMS will offer a general public lecture and demonstration about using the databases. On September 20-21 they will also offer a more specialized workshop aimed at experienced users with a keen interest in GIS and databases. The workshop will take place at the Center for Development Research, University of Bonn and is supported by the Federal Environment Ministry (BMU) and the Federal Agency for Nature Conservation (BfN). More information on the workshop can be found at http://www.biologie.uni-freiburg.de/data/riede/gromsnews.html

More information on the IBOY Project *Global Register of Migratory Species (GROMS)* see http://www.biologie.uni-freiburg.de/data/riede/groms.html and http://www.nrel.colostate.edu/IBOY/how_changing.html#groms

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October 7-11, 2002. Bangkok, Thailand

Second Meeting of Millennium Assessment Scenarios Working Group

The Scenarios Working Group of the Millennium Ecosystem Assessment will hold their second meeting of Convening Lead Authors in Bangkok, Thailand. This working group is developing a range of plausible scenarios for how the quantity and quality of ecosystem goods and services may change in coming decades in different regions of the world and how this will affect human health and economic development. At this second meeting, participants will be focusing on identifying the

drivers for the scenarios and developing storylines for the Assessment.

More information on the IBOY Project *Millennium Ecosystem*Assessment http://www.millenniumassessment.org and http://www.nrel.colostate.edu/IBOY/goods_services.html#millenium

Contact: Ms. Valerie Thompson, Millennium Assessment Secretariat – WRI Office, 10 G Street N.E., Washington, DC 20002, USA. Tel: (+1) 202 729 7794, Fax: (+1) 202 729 7610; Email info@millenniumassessment.org

Visit the IBOY website http://www.nrel.colostate.edu/iboy

Courses

Fall 2002

Lecture Course on Declining Amphibian Populations

The leaders of two IBOY Projects are collaborating to teach a lecture and seminar course on declining amphibian populations. Biodiversity in Crisis: Worldwide Amphibian Declines and Extinctions will be taught at Harvard University, USA by Dr. James Hanken, Harvard University and Chair of the Board of Directors of the Declining Amphibian Population Task Force (DAPTF), and Dr. David Wake, University of California at Berkeley and Director of AmphibiaWeb. The course topics will include scientific and policy issues, public perception, bioinformatics and conservation.

More information about the IBOY Project Declining Amphibian Population Task Force (DAPTF) see

http://www.open.ac.uk/daptf/index.htm and http://www.nrel.colostate.edu/IBOY/how changing.html#daptf More information about the IBOY Project AmphibiaWeb see http://www.amphibiaweb.org and

http://www.nrel.colostate.edu/iboy/how_changing.html#amphibiaweb

Contact for DAPTF: Dr. Jim Hanken, Harvard University, Museum of Comparative Zoology, 26 Oxford Street, Cambridge, MA 02138, USA. Tel: (1) 617 496 8538; Fax: (1) 617 495 5667; Email: hanken@oeb.harvard.edu

Dr. Timothy Halliday, The Open University, Biology Department, Walton Hall, Milton Keynes, MK7 6AA, UK. Tel: (44) 1908 653831; Fax: (44) 1908 654167; Email: T.R.Halliday@open.ac.uk

Contact for AmphibiaWeb: Dr. David Wake, Museum of Vertebrate Zoology, 3101 Valley Life Sciences Building, University of California, Berkeley, CA, USA. 94720-3160, USA. Tel: (1) 510 642 3567; Fax: (1) 510 643 8238; Email: wakelab@uclink4.berkeley.edu

From the Secretariat

Contributions for the Next and Final IBOY Newsletter

next issue of the **IBOY** (November/December 2002) will be the final issue in achievements during IBOY, we would welcome which we hope to showcase the most exciting achievements of your projects. We would like to encourage IBOY Project Leaders to make the most of this new networks and avenues of communication generated last chance to share information with the IBOY community. We will be calling for contributions for the final

Newsletter IBOY Newsletter in October, and in addition to reports on information about on-going activities related to your IBOY project, in particular those activities that will build on the during IBOY.

September 27, 2002, Rio de Janeiro, Brazil

IBOY presentation to International Council for Science

IBOY has been invited to give a presentation to the 27th General Assembly of the International Council for Science (ICSU), taking place in Rio de Janeiro September 24-28, 2002. Dr. Diana Wall. Chair of IBOY, will highlight some of IBOY's projects and describe the add-on value that IBOY

has provided through its networking and communication activities. She will also suggest ways in which the IBOY legacy may contribute to and support on-going programs in biodiversity and science-base sustainable development.

E-conference for IBOY Project Leaders

The Secretariat is developing an e-conference for Project Leaders and other IBOY partners, to take place in Fall/Winter 2002. By surveying IBOY's international research and education community, the e-conference seeks to identify the most successful achievements of IBOY and how they should be continued. It will identify remaining gaps and needs for capacity building and communication of biodiversity science.

We will be providing more information on this econference to IBOY Project Leaders over the next few weeks, but if you have any comments or suggestions of

topics that should be included in the conference please contact Dr. Diana Wall or Dr. Gina Adams at the IBOY Secretariat.

Contact: For more information on this 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 IBOY



The IBOY is an initiative of DIVERSITAS. Intellectual sponsorship is provided by the International Union of Biological Sciences (IUBS), International Union of Microbiological Societies (IUMS), Scientific Committee on Problems of the Environment (SCOPE), and the United Nations Educational, Scientific and Cultural Organization (UNESCO). IBOY has been endorsed by the Sixteenth International Botanical Congress (IBC) and the Second World Conservation Congress of the World Conservation Union (IUCN). The Fifth Conference of the Parties to the Convention of Biological Diversity (CBD) invited parties to participate in the IBOY. Financial sponsorship of IBOY is provided by the US National Science Foundation (NSF) (under Grant No. DEB-0122141), the International Council for Science (ICSU), Center for Applied Biodiversity Science at Conservation International (CABS), the International Group of Funding Agencies (IGFA), DIVERSITAS, and two anonymous US foundations. We acknowledge the support of the US National Committee for DIVERSITAS and the Board on International Scientific Organizations of the National Research Council.







