



# *Caribbean Marine Science*

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## *Association News*

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### **Notes from the Editors**

We would like to extend our thanks to the Institute of Marine Affairs (IMA) of Trinidad and Tobago and the members of the Executive Board for a successful 31<sup>st</sup> Scientific Meeting in Port of Spain, Trinidad and Tobago. During the meeting, the Association recognized three long-time collaborators and friends of the AMLC, Ernest and Lucy Williams and Ivan Goodbody. The Executive Board established awards in their names for the best verbal presentation and best poster presented by students.

The program was punctuated by a meeting of the Executive Board members all day Sunday the 13<sup>th</sup>. The welcoming and Opening Cocktail Reception was well attended on Monday evening after the day's sessions. Participants from the USA including Hawaii and Puerto Rico, the wider Caribbean including

Jamaica, Curacao, Turks and Caicos, Belize, Costa Rica, Grenada, Venezuela, and as far away as The Netherlands, interacted with fellow researchers and students of IMA, Board members, and other specially invited guests. The poster session was opened Tuesday afternoon, after the day's oral presentations and was followed by a cocktail reception in the evening. On Wednesday, most participants went on a field trip to a Natural Reserve, a coastal town and a sea turtle nesting beach on the north coast of Trinidad. The Award and Closing Banquet was on Thursday evening.

### **New Institutional Members**

The Executive Board of the Association voted unanimously to welcome five (5) new institutional members to the ALMC – the Center for Marine Resource Studies of the Turks and Caicos, The Wildlife Conservation Society's Glover's Reef Atoll Marine Research Station in Belize, and the Coastal Zone Management Institute of Belize, the Curacao Sea Aquarium, and the National Coral Reef Institute of Florida (Nova Southeastern University). Overall, the AMLC has 170 current active individual members and 30 institutional members.

### **Meeting recap**

The AMLC 31<sup>st</sup> Scientific Meeting started Monday July 14<sup>th</sup> 2003 with a brief Opening Ceremony. Dr Steve LeGore, Executive Director of the AMLC and Ms Hazel McShine, Director of IMA and President of the AMLC for 2002/03 welcomed the audience of researchers, guests and observers. The Honorable Minister of Public Utilities and the Environment, Rennie Dumas, formally opened the 5-day Meeting and delivered the feature address. Prior to the start of the oral presentations, William J. Brennan, Deputy Assistant Secretary of Commerce and International

Affairs, NOAA, addressed the audience on Caribbean Issues of Interest to NOAA including the new and exciting White Water to Blue Water Initiative.

Oral presentations followed the *themes* of the Meeting, beginning with Diseases of Coral Reef Organisms, Fisheries and Aquaculture, Oceanography and Coastal Processes, on the first day. Pollution and Anthropogenic Issues, Coral Reef – Ecology and Biology were the themes on the second day. After an all-day field trip on Wednesday, the Program continued on Day 4<sup>th</sup> with Biodiversity, MPAs, and Conversation; Ornamental Marine Organisms and Fisheries; and finally, Remote Sensing and GIS in the Wider Caribbean. The final day of the meeting saw presentations on Mangroves and Seagrass Beds, General Caribbean Marine Sciences, and Public Awareness and Education.

The meeting had a total 92 registered participants of whom three did not attend for diverse causes. An eruption of the volcano in Montserrat delayed several flights preventing some participants from arriving on time and forcing others to cancel their travel. There were 50 oral presentations, three of which were by students, and 42 posters, 11 of which were by students.

### **Achievement Awards**

Lifetime AMLC Awards were presented to Professors Ivan Goodbody, and Ernest and Lucy Williams for their many years of nurturing service to our organization. Without their efforts, AMLC might not even exist today.

The winner of the Bert and Lucy Williams Student Achievement Award for the *best student verbal research* presentation was Jill L. Borger, a student of RSMAS at the University of Miami. Her paper was titled “The Ultrastructural pathology of Black Band Disease and White Plague Type II”. Jill was awarded a Certificate of Achievement and a cash award of \$500. The Ivan Goodbody Student Achievement Award for the *best student poster presentation* was shared by two poster presentations: (1) “Estandarización de un protocolo para la estimación del estatus poblacional de *Acropora palmata*” (“Standardization of a protocol to estimate the population status of the coral *Acropora palmata*”)

presented by Ainhoa Zubillaga, Carolina Bastidas and A.Croquer, students from La Universidad Simón Bolívar in Caracas, Venezuela.(2) Coral (Scleractinia) disease and bleaching in the Dominican Republic by Kathleen M. Hurley of Western Washington University in Bellingham, Washington, USA. Each of the poster presenters received a Certificate of Achievement, and the winners split a cash award of \$250.

The field trip on the third day gave the participants an opportunity to experience the beauty of the Trinidadian landscape, its flora, fauna and a taste of ‘trini’ culinary delights. The Asa Wright Nature Centre and its unique bird life, followed by a walk along the nature trail and lunch. We continued our trek by bus along the Northern Range to the coastal village of Blanchisseuse where we were treated to a mini-exhibition of art, crafts and confectionery. Next a visit to Maracas Bay, a popular bathing spot and a taste of the finger-licking ‘bake and shark’ – participants experimenting with the variety of picante (Hot) condiments. The highlight of the trip for many! A brief stop at the ‘Look-out Point’ with its breathtaking vista was ‘photo heaven’ for those with cameras, bringing an end to a satisfying day for all.

Dr Steve LeGore, Executive Director of the AMLC acted as host at the Awards Banquet on day four. The evening began with a brief but informative presentation by Fernando Bretos, Project Manager, on the mission and activities of the Ocean Conservancy. Plaques and cash awards were presented to the best of the student presentations, as well the Lifetime Awards. Plaques of Appreciation were also presented to Ms Hazel McShine, Director of the IMA and President for the year 2002/03, and Ms Denise Williams Dummett, IMA meeting coordinator.

The 31<sup>st</sup> Scientific Meeting of the AMLC ended on Friday 18<sup>th</sup> July 2003.

### **New AMLC List Servers**

We now have two list servers dedicated to our members. The first one is for all AMLC members (including graduate students) and the second is only for AMLC student members. The purpose of these list servers is to facilitate communication and foster collaboration between and among our members. We

hope that students will take advantage of this new capability. We would like to especially thank Laurie Richardson and all other people involved in getting these important communication capabilities established. The list server addresses are:

[amlcmembers@clio.fiu.edu](mailto:amlcmembers@clio.fiu.edu) (all members)

[amlcstudents@clio.fiu.edu](mailto:amlcstudents@clio.fiu.edu) (Only student members)

Only AMLC members who are on the list can post to the list. Any posting is first routed to the host computer at Florida International University. If it is not from a subscribed member it will not be sent to the list. Current members are automatically subscribed, and new members are added when they join AMLC. The newsletter will be now circulated electronically through our list server, which insures delivery and that only paid members are in our mailing list.

### **Proceedings of the Puerto Rico Meeting**

The proceeding from our previous meeting in Puerto Rico been mailed to all paid registered participants to the Puerto Rico meeting and all the institutional members. Extra copies are available from Karen Burns and Dr. E. Weil if anyone wants more copies or knows of other colleagues who might want to purchase copies.

### **Future Meetings of the AMLC**

One of our new Institutional members, the Department of Marine Biology at St. George's University in Grenada, has graciously and enthusiastically agreed to host our next AMLC Executive Board Meeting in 2004. Dates will be announced soon. One of our oldest member, the Bermuda Biological Station for Research, has agreed with equal grace and enthusiasm to host the 2006 Executive Board Meeting. The Curacao Sea Aquarium offered to host the next Scientific Meeting in 2005.

**Web site address:** <http://amlc.uvi.edu>

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## ***Profiles***

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### **Department of Marine Biology, St. George's University, Grenada, West Indies.**

#### **University Background**

St. George's University is located in the parish of St. George's in the southern part of the island of Grenada. St. George's University consists of three schools: a School of Medicine, a School of Arts & Sciences and a School of Veterinary Medicine (established 1976, 1994 and 1998 respectively). St. George's University (SGU) has a student population of approximately 2000 individuals from a wide range of backgrounds and countries. SGU employs approximately 350 staff and 140 full time faculty. Specialist Visiting Professors attend SGU each semester to contribute to the diverse courses offered by the three schools. The School of Arts & Sciences is an undergraduate school, which offers a range of degree programs and two pre-professional programs that prepare students for entry into Veterinary or Medical School. St. George's University medical students spend their 5<sup>th</sup> and 6<sup>th</sup> terms in St. Vincent. Both medical and veterinary students move on to affiliated institutions in the UK and USA to complete their professional training. A Graduate Studies Program is run by the Medical School and a popular Masters of Public Health is offered as a free standing degree (MPH) or as a dual MD/MPH or DVM/MPH program. High academic standards are required from all students at SGU and we pride ourselves on an extensive range of student support services provided by staff and faculty. Reduced tuition rates are in place for CARICOM nationals and undergraduate scholarships are available to Grenadian students. The Windward Island Research and Education Foundation (WINDREF) is based at the SGU's True Blue campus. WINDREF seeks to advance health and environmental development through multi-disciplinary research and education programs. The Founders Library, located on the True Blue campus houses a diversity of books, journals and provides students with computers and study space. The main True Blue campus in Grenada is modern with state-of-the-art academic, administrative and residential support space that has expanded significantly in the

past five years. Further information is available at [www.sgu.edu](http://www.sgu.edu).

## **Grenada**

Grenada (pronounced Gre-nay-da) is a Tri-Island state located in the south of the Caribbean island chain. As a result of the agricultural output of the islands, the islands are commonly known as the Spice Isles. Grenada is by far the largest of the three sister isles (at 18 km wide and 34 km long): its 440 sq. km are mountainous, volcanic terrain, reaching heights of over 840 meters at Mount St. Catherine. Average temperatures range from 24C/75F to 30C/87F, tempered by the steady and cooling trade winds. The lowest temperatures occur between November and February; the driest season is between January and May. Grenada's population numbers about 100,000, comprising citizens of African, East-Indian, and European descent.

The islands' rich marine resources include extensive coral reefs, seagrass meadows and mangrove forests. Grenada has numerous healthy, well-preserved and diverse reefs offering boundless diving opportunities. These resources are readily accessible and amenable as educational study areas and research sites. Two Marine Protected Areas have recently been established through the governments Fisheries Division and many more are planned in the region. In addition to the abundant and diverse marine natural resources and spectacular sandy beaches, Grenada affords a diverse array of tropical terrestrial study sites. These include lush tropical rain forest and elfin woodland, fringing and lagoon mangrove systems, volcanic crater lakes, rivers, streams and sulphur springs.

## **Marine Biology at St. George's University**

Marine biology began at St. George's University in August 1998 with the arrival of Dr. Geoffrey Wigham. Dr. Wigham was loaned to SGU from the University of Plymouth (UK) where he had an excellent track record of setting up an array of Marine Biology Degree programs. During the three years that Dr Wigham was based at SGU, he designed a Marine Biology degree, along with marine major and a minor track. Dr Wigham also assisted with the design and

construction of a purpose built Marine Station at the True Blue campus.

## **The Marine Station**

The Marine Station was completed in 2001 and has since served as a teaching base for a range of undergraduate courses and visiting groups, and as a research base for industry and university scientists from the Europe, North America and the Caribbean. The Marine Station is conveniently located just behind one of the campus beaches. The Station has an air conditioned teaching laboratory/lecture room upstairs that accommodates up to 40 students. A wet-bench runs along the back wall of the room. Adjacent to the teaching room is a large wooden deck overlooking the University Bay, providing space suitable for briefings or relaxation. On the lower level of the Marine Station is an air conditioned technician's room/research area, a large enclosed clear space that can be set-up as needed, a long wet-bench and a large circular seawater tank. An open seawater circulation system feeds both upstairs and downstairs in the Marine Station and to a larger laboratory (accommodating 60 students) a short distance away. The front of the marine station has a shaded concrete deck with two partly enclosed freshwater showers and a wide wooden deck on the east side. The Marine Station is equipped with a wide range of equipment for teaching marine biology both in the laboratory and in the field (i.e. buckets, aquaria, sieves, quadrats, plankton nets microscopes, refractometers, and pH meters). We also have a small amount of scuba equipment (including four sets of BC's, regulators and weights and eight tanks). The Station is supplied with both 110 and 220 volt power and is telephone connected.

The bay in front of the marine station is a wonderful snorkeling spot that provides safe and easy access to lush seagrass beds and an array of reef vertebrates and invertebrates. A second beach (with black sand) is located on the west side of the True Blue Campus, which is ideal for comparative beach studies. St. Georges University has a second campus in Grenada located on the beautiful west coast Grand Anse beach. This campus has student accommodation that can be made available to visiting groups and an excellent refectory. The Grand Anse campus is located in close proximity to a number of scuba dive operators.

Dr. Clare Morrall received a B.Sc. degree from the University of Plymouth where she worked with fish and Marine Biology. After a year traveling and working on the Great Barrier Reef, she returned to the University of Plymouth to get her Master's degree in Applied Marine Science. She stayed registered at Plymouth for her Ph. D research but was based in warmer climes at the Bermuda Biological Station for Research (BBSR) where she worked on the characterization of the Nitric Oxide Synthase enzyme and investigating environmental stress responses in the sea anemone *Aiptasia pallida*. She then moved to Grenada early in 2001 to take up a position as Assistant Professor in the Marine Biology Department of St. George's University..

### **Marine Biology at St. George's University**

Courses in marine biology are currently offered as part of a Bachelor of Sciences Degree (Life Sciences Major) from the School of Arts & Sciences. Courses currently on offer are: Marine Foundation, Aquatic Biology, Diversity Adaptation & Function, Aquatic Ecosystems and Marine Habitats & Organisms. She is currently teaching undergraduate courses in Marine Biology to predominantly Caribbean students and has recently been working alongside the SGU's School of Veterinary Medicine toward establishing a turtle rehabilitation centre at the SGU True Blue campus. The Department of Marine Biology supports work done on island by the Marine Conservation group Ocean Spirits (<http://www.oceanspirits.org/>) and by the Grenada government Fisheries division (including their Marine Protected Area project). Links between The Nature Conservancy (<http://nature.org/>) and Marine Biology at SGU have been established and we hope to be working on projects together in the near future.

### **Studying and Research Opportunities**

In addition to offering undergraduate courses to students based at SGU on a full time basis we are able to accept students for shorter-term study periods (attendance of SGU as part of a semester or year abroad is possible). We are keen to support and collaborate with students, scientists and companies who require the use of an educational and/or research base in the Caribbean. The marine environment of Grenada has received little research attention so far,

thus research opportunities abound. There is much to be learnt from a wide range of investigations at varying levels, from baseline studies upwards. Grenada is a prime location for field study visits for students at high schools, colleges or universities, or simply groups of people interested in short term continuing education courses. It may be possible to arrange technical and teaching support from St. George's University staff and faculty. University accommodation is available to visiting groups predominantly during the summer vacation (approximately mid-May until the end of July). We hope to have a Marine summer course for college and university level students in the near future. Grenada has a well developed dive industry that has a great track record of serving visiting scientist, groups and our own students well. A wide range of dive and snorkel vessels are available for charter. We will happily recommend a dive company to suit your needs.

### **Last but not Least!**

The Executive board meetings of the AMLC will be hosted by SGU in July 2004. I hope to see you in Grenada in the near future.

Dr Clare Morrall, Chair of Life Sciences, Pre-Veterinary Program Director, Assistant Professor, Department of Marine Biology, St. George's University, P.O. Box 7, St. George's, Grenada, West Indies, Tel: (473)-444-4175 ext. 2360, Fax: (473) 435 1835, email: [cmorrall@sgu.edu](mailto:cmorrall@sgu.edu), [www.sgu.edu](http://www.sgu.edu)

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## ***General Interest***

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### **From Ocean to Aquarium: The Global Trade in Marine Ornamentals**

Is the Fish Aquarium Trade Becoming a Sustainable Industry? – A recent report by UNEP says that responsible fish harvesting could protect reefs and raise incomes.

Supplying small aquariums in homes and businesses with colorful fish has become an almost US\$ 300

million business, with the potential of becoming a sustainable industry that can both ease poverty and protect the threatened coral reefs where the fish are harvested. A U.N. Environment Program (UNEP) report issued September 30, 2003, is called the first accurate estimate on the number of ornamental fish, corals and other animals being taken from the wild.

### **From Cauliflower Corals to Clown Fish**

Scientists turn the spotlight on the threats and opportunities of the booming marine aquaria trade. Over 20 million tropical fish, including 1471 species ranging from the sapphire devil to the copperhead butterflyfish, are being harvested annually to supply the booming marine aquarium trade in Europe and the United States, according to the most comprehensive global survey ever undertaken. A further nine to 10 million animals, including molluscs, shrimps and anemones and involving some 500 species, are also being traded to supply tanks in homes, public aquaria and dentists' surgeries. Up to 12 million stony corals are being harvested, transported and sold annually estimates the report, released today by the United Nations Environment Program's World Conservation Monitoring Center (UNEP-WCMC).

"From Ocean to Aquarium: The Global Trade in Marine Ornamentals" says that the value of aquarium creatures in trade is worth between \$200 to \$330 million annually. The report comes in advance of the UK launch of the Disney blockbuster, 'Finding Nemo', which has already taken the United States by storm. The film tells the trials and tribulations of a clown anemonefish, which along with the beautiful blue-green damselfish, tops the list as the most traded tropical fish.

In the new report, Southeast Asia is shown to be the main source of the trade, but ornamental marine species are increasingly being taken from several island nations in the Indian and Pacific Oceans. Most of the demand comes from the United States, Europe and to a lesser extend Japan. "For the first time we have an accurate estimate of the number of fish, corals and other animals being taken from coral reefs and brought to public aquariums and fish tanks in homes across Europe and the USA," said Klaus Toepfer, UNEP's Executive Director. "Collecting tropical fish brings pleasure to millions".

It also fuels an important, and mostly legitimate, industry," Toepfer continued. "this valuable new data should enable more informed and effective decision making at the policy, industry and consumer level. The global trade in marine species on the one hand poses a significant risk to valuable ecosystems like coral reefs, but on the other has great potential as a source of desperately needed income for local fishing communities." He added, "As a result it represents another important weapon in the war against poverty and in helping to meet not only the United Nation's Millennium Development Goals but also the World Summit on Sustainable Development's Plan of Implementation".

Unlike freshwater aquarium species, where 90 per cent of fish species are currently farmed, the great majority of marine aquariums are stocked from wild caught species. This activity, if not carried out in an appropriate manner, can cause irreversible damage to coral reefs. "A minority of fishermen, in countries such as Indonesia, use sodium cyanide to capture fish," says Colette Wabnitz, one of the report's authors. "An almost lethal dose of the poison is squirted into the coral reef where fish shelter. It stuns the fish to allow capture and export, but can also kill coral and other species. The fish may survive the export process but usually die of liver failure soon after being purchased."

Coral reefs, the rainforests of the seas, are facing an increasing plethora of threats from pollution and sedimentation to coral bleaching, overfishing and tourism. The reefs of Southeast Asia are particularly at risk and it is therefore important that aquarium species' collection does not further compound these problems. Moving from the risks, the new report from UNEP-WCMC also highlights the economic value (or opportunities) presented by a well-managed aquarium marine trade. According to Mark Collins, UNEP-WCMC Director, "If managed properly, the aquarium industry could support long-term conservation and sustainable use of coral reefs in regions where other options for generating revenue are limited. Some collection techniques have minimal impact on coral and the industry as a whole is of relatively low volume yet of very high value." On this theme, From Ocean to Aquarium, highlights some case studies. It says that in year 2000, 1 kg of aquarium fish from the Maldives was valued at

almost US\$ 500, whereas 1 kg of reef fish harvested for food was worth only US \$6. Similarly, live coral trade is worth about US\$ 7,000 per ton whereas harvested coral for the production of limestone yields only about US \$60 per ton. In another example, Sri Lanka earns about US\$ 5.6 million per year by exporting reef fish to around 52 countries. The report estimates that 50,000 people in the country are directly involved in the export of marine ornamentals, providing jobs in rural low-income coastal areas and a strong incentive to maintain fish stocks and reef environments in good condition. The report recommends the continued development and wider application of third-party certification schemes that empower consumer choice. Also, at the source country level, the implementation of appropriate quotas, catch size limits, the designation of marine reserves and greater use of permits. Finally, in order to take some of the pressure off wild stocks and to avoid removing livelihoods from local communities, there is a call for greater local farming of commonly traded species.

Data for the new report has largely come from the Global Marine Aquarium Database, a joint collaborative effort between UNEP-WCMC, the Marine Aquarium Council (MAC) and members of various aquarium trade associations. "Fish certified by the Marine Aquarium Council are healthier and have better survival chances because they are collected, handled and transported according to internationally approved best practice standards," says Ed Green another author of the report. "We encourage responsible traders to sign up to the MAC certification scheme and for the public to only buy from reputable dealers. Only by such means can we ensure a trade, from reef to retail, that is sustainable and beneficial for all".

Copies of the report are available from the UNEP web site at

[http://www.unep.org/PDF/From\\_Ocean\\_To\\_Aquarium\\_report.pdf](http://www.unep.org/PDF/From_Ocean_To_Aquarium_report.pdf) or at:

[http://www.unep-wcmc.org/resources/publications/UNEP\\_WCMC\\_bioseries/17.htm](http://www.unep-wcmc.org/resources/publications/UNEP_WCMC_bioseries/17.htm)

Note to editors, from Ocean to Aquarium is based in part on the Global Marine Aquarium Database (GMAD), which was developed in partnership with the Marine Aquarium Council (MAC) to promote sustainable trade. The database contains more than 100,000 records from global aquarium import and export companies. It is accessible online at [www.unep-wcmc.org/marine/GMAD/](http://www.unep-wcmc.org/marine/GMAD/).

an international not-for-profit organization dedicated to protecting tropical marine fish and coral reefs-has designed the first-ever marine-life certification system which enables consumers to select retailers who sell organisms that complies with internationally approved environmental and quality standards... from reef to retail.

Recently, Sierviskwekerij Waterweelde B.V., an import facility in The Hague, became the first company in Europe to be MAC Certified. Other MAC Certified companies are located in Canada, the Philippines and the United States. A complete, updated list is posted at <http://www.aquariumcouncil.org/>.

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## **Caribbean Journal of Science - Request**

Please take a few seconds to read about our journal and the advantages we offer scientists doing research on Caribbean natural history. Contact me if you need additional information or if you would like to receive an examination copy. You can also read about our journal's history ([http://caribjsci.org/dec01/37\\_302-305.pdf](http://caribjsci.org/dec01/37_302-305.pdf)) and visit our website ([www.caribjsci.org](http://www.caribjsci.org)).

The Caribbean Journal of Science publishes formal articles, research notes, book reviews, and essays relevant to Caribbean natural science. Emphasis is on the various branches of zoology, botany, ecology, and geology. We offer authors:

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Sincerely, José A. Mari Mutt, Editor, Caribbean Journal of Science. [www.caribjsci.org](http://www.caribjsci.org)

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## *Meetings & Conferences*

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### **6th Congress on Marine Sciences - Marcuba'2003. 1-5 December 2003.**

Havana International Conference Center, Cuba.

The National Oceanographic Committee (CON) of Cuba is pleased to announce that the 6th Congress on Marine Sciences will be held at the Havana International Conference Center, on December 1-5 2003. The meeting is expected to bring together scientists and managers involved in marine sciences, services and technologies as well as educators, sociologists, economists, businessmen, policy-makers and anyone interested in promoting and integrating marine scientific research to sustainable development.

The Scientific Committee of MarCuba'2003 will decide on the form of presentation of contributed papers, which will include keynote lectures, and oral and poster presentation.

More information at:

<http://www.aoceano.org.br/MARCUBA%202003.doc>

Mail and Information Requests may be addressed to: ORGANIZING COMMITTEE MarCuba'2000 - 6th Marine Sciences Congress - National Oceanographic Committee - Playa, Ciudad de La Habana, Cuba - Tel.: (537) 23 64 01 al 06  
Fax: (537) 24 99 87  
E-mail: [marcuba@ama.cu](mailto:marcuba@ama.cu).

### **The 10<sup>th</sup> International Coral Reef Symposium. Okinawa, Japan. 28 June to 2 July, 2004.**

The meeting is being coordinated by International/Local Organizing committees and the Japanese Coral Reef Society. The first circular has just been issued, which announces the general information of the symposium with a pre registration card and call for proposals of mini-symposium responding to four sub-themes under the main theme "Stability and Degradation of Coral Reef Ecosystems" selected by the Organizing Committee.

You can find the circular contents at:

<http://www.plando.co.jp/icrs2004>.

Please visit the web site or you may contact to "[icrs@plando.co.jp](mailto:icrs@plando.co.jp)" for further information.

### **2nd National Conference on Coastal and Estuarine Habitat Restoration.**

**September 12-15, 2004.** The Washington State Convention & Trade Center and the Grand Hyatt. Seattle, Washington.

Call for Presentations and Posters

(<http://www.estuaries.org/objects/2004RAEFCF.pdf>)

### **Timeline and Due Dates**

February 2, 2004 – Presentation and Session Proposals due  
March 1, 2004 – Poster Proposals due



March 15, 2004 – Speakers and poster presenters are notified of proposal status.

**Annual Meeting of the Association of Tropical Biology and Conservation.** Miami, Florida. July 12 – 15, 2004.

The Association for Tropical Biology and Conservation will be holding their annual meeting in Miami, Florida from July 12 to 15 in 2004. Laurie Richardson, AMLC member, will be organizing a symposium in association with this conference titled "Coral Health and Reef Degradation". While the ATBS has a focus on tropical terrestrial ecosystems, this tropical marine symposium has been accepted and will allow AMLC members to bring their work on coral health to an important new audience. If interested in submitting a title and abstract for a talk, please contact Laurie Richardson at [richardl.fiu.edu](mailto:richardl.fiu.edu) for more information. To see more about ATBS, their website is [www.atbio.org](http://www.atbio.org).

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## *New Books*

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**Latin American Coral Reefs.** Edited by Jorge Cortés. Elsevier Press, 2003. 497 pp. US \$ 130.00.

**Review by E. Weil**

This book presents a much-needed compilation of information for coral reefs from fourteen Latin-American countries and Belize. These countries cover the three major regions where coral reefs grow in Latin America, the Caribbean, Brazil and the eastern Pacific. The timing for this book could not be better. It comes out at a time when coral reef communities have been experiencing significant losses in hard coral cover and other biological components due to a combination of natural and anthropogenic detrimental factors such as local habitat degradation, over-fishing, pollutant input, bleaching, hurricanes and more recently, diseases. All chapters are formatted the same way so the lectors can easily compare information between different countries and regions.

The book covers a wide range of reef formations and biotic compositions in distinct environmental conditions throughout the three "isolated" (from each other) geographical regions. The Caribbean Sea is a relatively small, partially enclosed and highly interconnected water body surrounded by dense human populations. The wider Caribbean is an extension that also includes the Gulf of Mexico, Florida, the Bahamas and Bermuda. Only about 8% of the coral reef area world-wide is found here. The region is highly diverse in human cultures and socio-economic development. Nine Latin American countries and two non-Spanish speaking countries, Belize and Haiti, bordering the north, south and western Caribbean. The eastern edge is bordered by the island chain of the Lesser Antilles, from the Virgin Islands to Grenada, all island countries or commonwealths speaking Dutch, English or French. Brazil on the other hand, has few areas with well developed coral reefs and a highly endemic, low diversity fauna. Even though Eastern Pacific reefs are usually small, shallow communities with low diversity of corals, this book presents a comprehensive set of chapters covering on reefs and coral communities from the poorly known and isolated Easter Island, 3750 km west of Chile, the exotic Galapagos islands (1050 km west of Ecuador) and from the Pacific coast of Colombia to Mexico.

Each chapter is written in the same or similar format, therefore, for each country, the reader is exposed to a brief historical perspective of coral and coral reef research, the current status of coral communities and/or coral reefs, their distribution, geomorphology and predominant physical environment, species diversity, characteristic community structures, natural and anthropogenic impacts, and government regulations, protection and management issues. For all those interested in coral reef research, management and/or conservation in Latin America, this book is an invaluable resource. Researchers, students and government employees involved in coral reef research, conservation and management will benefit because Latin American Coral Reefs provides most of the information for comparisons within and between reefs of each country, between countries within regions and across regions. This book is available from Elsevier Science. Order at :

[www.elsevier.com/inca/publications/store](http://www.elsevier.com/inca/publications/store)

Ernesto Weil  
Associate Professor  
Department of Marine Sciences  
University of Puerto Rico

**Coral Reef Fishes.** Indo-Pacific and Caribbean.  
Ewald Lieske and Robert Myers. Princeton Press –  
\$ 22.45 plus shipping.

This is a handy guide to all fishes that are likely to be observed by anybody diving on the coral reefs of the Indo-Pacific and the western Atlantic and the Caribbean to a depth of sixty meters. This book is the first comprehensive guide of its kind. It enables the reader quickly to identify 2,074 species of fish with 2,500 color illustrations depicting the most common forms of each species – male-female-inmature and geographical variations.

Order by phone: (1-800-777-4726)  
Fax orders: (1-800-999-1958).

**The Future of Life.** By Edward O. Wilson.  
2003. Classroom Media.

This is a six-part video covering important topics of evolution and biodiversity by this renowned author. From the bottleneck phenomenon and how much biodiversity to the future of life and a moral compass, this series is an excellent toll for any level of students. More info and pricing in:  
[order@classroommedia.com](mailto:order@classroommedia.com).

(*Epinephelus striatus*) and fish populations of Little Cayman and Cayman Brac.

This is a highly selective program, to ensure the best training possible during the research internship only a maximum of 12 students will be able to participate at a time. Students will collect data to be used on a large on-going study of the coral reef ecosystems of Little Cayman.

The goals of this program are: (1) To increase the interest of future young scientists in coral reefs and enhance their training, (2) To learn more about coral reef communities and divulge this knowledge by means of scientific publications, and (3) To provide data that will assist in protecting these ecosystems.

For more information go to our website:  
[www.reefresearch.org](http://www.reefresearch.org) Or contact us at:  
[info@reefresearch.org](mailto:info@reefresearch.org)

Dr. Carrie Manfrino Central Caribbean Marine  
Institute – USA  
P.O. Box 1461 Princeton, NJ 08540  
(609) 921-3590  
CCMI – Cayman

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## *Courses Offered*

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### **Internship Announcement**

The Central Caribbean Marine Institute is announcing available spaces in our summer internship programs in the Cayman Islands. Internship credit is available through Rutgers University. We are extending the registration deadline for qualified undergraduate and graduate applicants for our:

- 1) Structure and Diversity of Coral Reefs Internship
- 2) Coral Reef Fish Population Assessment: Occurrence and distribution of Nassau Grouper

## Change of Address

MOVING? To ensure that you continue to receive *Caribbean Marine Science*, notification of upcoming AMLC meetings and other AMLC information, please fill out the following change of address form and mail to:

Dr. Laurie Richardson  
79 Marina Avenue  
Key Largo, FL 33037  
[richardl@fiu.edu](mailto:richardl@fiu.edu)

Name & Title \_\_\_\_\_

Institution/Association \_\_\_\_\_

Address \_\_\_\_\_

Telephone \_\_\_\_\_

FAX \_\_\_\_\_

E-mail \_\_\_\_\_

Scientific Interests \_\_\_\_\_

## Dues

Individual membership dues for 2003 are \$25.00 due March 31st, 2004. You may also help AMLC with a donation membership contribution if you wish; the schedule for these is presented below. Student dues are still \$5 per year. **The AMLC can now accept credit cards (Visa or Mastercard) payments for AMLC dues!** A 5% service charge will be added to credit card payments. Checks must be in U.S. dollars, from U.S. banks (or a U.S. dollars bank draft), made out to "AMLC", and sent to Laurie Richardson.

Name & Title \_\_\_\_\_

Institution/Association \_\_\_\_\_

New Address \_\_\_\_\_

Telephone \_\_\_\_\_

FAX \_\_\_\_\_

E-mail \_\_\_\_\_

Scientific interests \_\_\_\_\_

Membership Options: Student (US\$5.00) \_\_\_\_\_  
Regular (US\$25.00) \_\_\_\_\_ Sponsor(US\$30.00) \_\_\_\_\_  
Sustaining Member (US\$50.00) \_\_\_\_\_ and  
Patron (US\$100.00) \_\_\_\_\_.

My check (bank draft) is enclosed for US\$ \_\_\_\_\_ OR Please charge US\$ \_\_\_\_\_ to my  
Visa (  ) Mastercard (  ) (Charge will include  
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## ***AMLC Background & Goals***

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*The Association of Marine Laboratories of the Caribbean (AMLC)* was founded in 1956 by marine researchers with interests in the marine science of the tropical Atlantic and Caribbean. Founded primarily as a scientific organization, the strength of the AMLC lies in the diversity of its member laboratories and the extensive expertise of its membership. Institutional, individual scientist and student memberships are available.

Annual AMLC meetings are hosted by member laboratories which are actively conducting marine research in the Caribbean. The host laboratory arranges for facilities for research presentations, copies of the presented abstracts (the proceedings) and accommodations for participants. The AMLC has no designated official language so researchers are free to make their presentations in their native language.

**Caribbean Marine Science**, published in English and Spanish, is the biannual newsletter of the AMLC and informs members of AMLC activities, pertinent events, and relevant research.

The purpose of the AMLC is to advance common interest in the marine sciences by:

- a. Assisting and initiating cooperative research and education programs
- b. Providing for a for exchange of scientific and technical information
- c. Fostering personal and official relations among members
- d. Publishing the proceedings of scientific meetings and a newsletter
- e. Cooperating with governments and other relevant organizations
- f. Other means that may be desirable.

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**Contributions to the AMLC Newsletter:**

All members of the AMLC (individual and laboratory) are encouraged to send relevant news items at any time, to the newsletter. Relevant news items include, but are not limited to: new facilities, faculty/staff changes, positions available, research programs and initiatives, publications of general interest, awards, visiting scientist opportunities, and education programs. Submitted items should be sent to the AMLC newsletter office by the end of February for inclusion in the Spring issue, and by the end of September for the Fall issue.

**Please send your information and comments to:**

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