

Ostracodes - Gems of the Collections

Lou Kornicker



A diver prepares to collect specimens from a marine cave. Photo courtesy of Tom Illiffe.



NEWSLETTER NO BONES

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The NMNH collection of marine and freshwater Ostracoda is rich in both number of taxa and number of specimens. Specimens are split between the Departments of Invertebrate Zoology and Paleobiology. The IZ collection contains extant species of the Orders Myodocopida and Podocopida. Most specimens have appendages and are stored in alcohol, except for dissected specimens, whose appendages are mounted on slides. The collection of the Department of Paleobiology contains fossil carapaces of Podocopida as well as some carapaces of extant species of Podocopida that were collected in bottom sediments and bottom cores, and the carapaces are stored on slides.

Of the extant Myodocopida, the IZ collection contains 569 of an estimated 600 known species. Of the extant Podocopida, the IZ collection contains 740 of about 7000 known extant species, most of the

latter known only from carapaces.

An extensive collection of podocopid ostracodes that parasitize crayfish was accumulated by Horton H. Hobbs, Jr. and C. W. Hart.

It has been estimated that 25,000 living ostracodes are undescribed, so we have far to go. The IZ extant ostracode collection is probably also the best in the world, or at least comparable with that in other major museums. The collections are from many areas of the world, but are especially comprehensive from the Antarctic and Subantarctic Oceans, western Atlantic Ocean, Gulf of Mexico, Caribbean Sea, and the vicinity of some islands in the Indian and Pacific Oceans.

Numerous scientific publications authored by many scientists have been based on the IZ collection of Ostracoda and include information about the systematics, phylogeny, ontogeny, ecology,

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SPOTLIGHT ON STAFF

IZ Scientist Selected for 2005 Science Award

Steve Cairns recently received a Science Achievement Award for a 71-page paper published in 2004. "The Azooxanthellate Scleractinia of Australia," which appeared in the Records of the Australian Museum, was the culmination of seven years research on the deep-water scleractinian corals of the Australian region, including adjacent seamounts. For the study Cairns examined over 5500 previously unreported coral specimens collected from over 500 stations by 34 research vessels. He also examined the type specimens of 90% of the 237 species involved



Photo by Yolanda Villacampa as well as additional material.

The paper included the description of 15 new species and two new genera. This kind of comprehensive review of characteristics for all deep-water corals had not been

done before and yielded interesting ecological observations. The Australian fauna is now known to possess one-third of the worldwide species diversity of deep-water corals, and the Australian deep-water coral fauna is about half that of the famous Great Barrier Reef shallow-water counterpart. Results of a zoogeographical analysis showed two main regions of tropical and warm temperate fauna, consistent with the pattern for shallow water organisms, even though these corals occur predominantly at 200-1000 m in much colder water.

COVER STORY CONTINUED

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Please submit news or articles via email or disk by the 15th of the month prior to publication.

Publication in this newsletter does not constitute publication in a taxonomic or any other scientific context.

behavior, specialized morphology, and more recently, genetics. Two relatively recent jewels in our collection are almost 100% of the identified Myodocopa collected in oceanic hydrothermal vents and deep marine caves.

Other interesting specimens include the "Fireflies of the Sea," luminescent signaling ostracodes with a variety of signaling patterns presently being studied by a number of



Vargula noropsela, luminescent ostracod, San Blas, Panama. Photo by Jim Morin..

researchers, including Anne Cohen formerly of IZ.

A note from editor:

With this issue, we mark several changes in the production of NoBones: a new editor, the use of a new program, Adobe InDesign, for page setup, and a different approach to how stories and photos are gathered. All members of the department are now staff--so I look forward to your contributions.

The editor would like to acknowledge the considerable assistance of Molly Ryan in both setting up the NoBones format and assisting me in learning the basics of the program. And I look forward to the continuing advice of Geoff Keel in many of the details of production and distribution.

RESEARCH

Former Volunteer Returns As Post-Doc

Ashleigh Smythe

I was born in Fairfax, Virginia and lived in Middleburg, Virginia until moving to Aspen, Colorado for middle school. I came back to Virginia for high school to attend the Madeira School in McLean. My first association with the Smithsonian Institution came in my senior year of high school when I volunteered to work with the primates at the National Zoo one day a week for the academic year and following summer. This experience helped lead me to study biology at the University of Vermont. At Vermont, a course in ecological parasitology prompted my continuing interest in parasitic and free-living



worms. I subsequently moved to Louisiana to do a masters at Southeastern Louisiana University. While I arrived in Louisiana intending to study the ecology of trematode parasites, I be-

came increasingly interested in systematic biology, eventually settling on a morphological phylogenetic analysis of a group of trematode parasites of fish. I continued my graduate training by pursuing a Ph.D. at the University of California, Davis. At Davis I studied morphological and molecular systematics of bacterial-feeding soil nematodes, which are free-living relatives of parasitic nematodes. Here at the NMNH, I am doing a postdoctoral fellowship with Dr. Duane Hope. I am continuing to study morphological and molecular systematics of free-living nematodes, but am now concentrating on aquatic nematodes from marine and freshwater environments.

SUMMER VOLUNTEERS

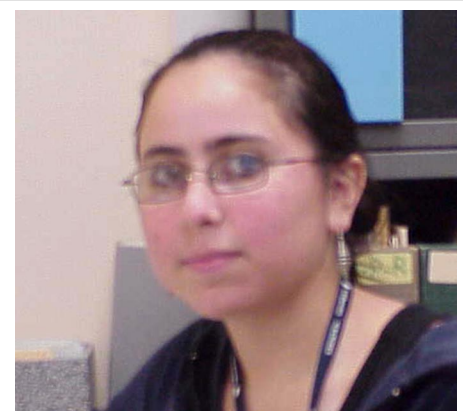


Alex Dennis - Mollusks

Text and photo by Yolanda Villacampa

Recent high school graduate, Alex Dennis from Potomac, MD is volunteering this summer in the mollusk section, June- August. He is assisting Jerry Ha-

rasewych and Yolanda Villacampa with tasks including DNA extractions and scanning SEM negatives. Alex has previously participated in Earthwatch fieldwork in Cuba and Mexico. He graduated from Darrow High School in Lebanon, New York and will be attending McDaniel College in Westminster, Maryland this fall semester.



Camila Muñoz - Crustacea

Text and photo by Elizabeth Nelson

Camila Muñoz attends Jeb Stuart High School in Falls Church, VA. She was born in Chile, and came to the U.S. six years ago with her parents and older sister. Camila is assisting Lou Kornicker and Elizabeth Nelson with a variety of tasks but has been es-

pecially proficient at scanning and plating ostracod illustrations. She has not yet decided on what her college major will be, but is looking forward to taking an advanced biology course this fall.

SPOTLIGHT ON STAFF

Help Arrives for IZ Collections

Katie Womack



(Left to right): Christina Keating, Katie Womack, Hillary Crehan, Brian Spatola, Randy Scott

The new faces you've been seeing in the crustacean stacks belong to members of the Collections Support Staff (formerly known as the Move Crew) who have been assigned to Invertebrate Zoology to help prepare for the move to Pod 5 at the Museum Support Center. The Collections Support Staff currently consists of around 15 people who are trained to handle a wide variety of collections and who are assigned to different departments to aid them in preparing their collections for transport and also to help with physically moving the collections.

The CSS team members initially involved in the IZ project were Hillary Crehan, Christina Keating, Randy Scott, Brian Spatola, Tina Wilson (not pictured), and Katie Womack. Katie now works at a museum in North Carolina and Randy Scott has since transferred to Anthropology.

The most recent projects these team members have tackled involved the Mammals and Paleo departments. While the IZ project members all have career goals that relate to the museum field, our backgrounds are varied and include studies in anthropology, history, art, and graduate work in museum studies. We were hired by Liz Dietrich, MSC Management Officer.

Armed with little more than our trusty iPods and a steady supply of latex gloves, we have been replacing old, worn out, or non-functional gaskets

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PUBLICATIONS

Cairns, S. D. 2005. Revision of the Hawaiian Stylasteridae (Cnidaria: Hydrozoa: Athecata). *Pacific Science* 59(3):439-451.

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N.D. Holland, D.A. Clague, D.P. Gordon, A. Gebruk, **D.L. Pawson**, and **M. Vecchione**. 'Lophenteropneust' hypothesis refuted by collection and photos of new deep-sea hemichordates." *Nature* (March 17, 2005):374-376.

Kornicker, Louis S. and Elizabeth Harrison-Nelson. 2005. Ostracoda (Myodocopina) from Johnston Atoll, Pacific Ocean, and proposal of a new tribe Bruuniellini (Myodocopina: Cylindroleberididae). *Pacific Science*, 59(3):323-362, figures 1-23.

Moser, W. E., B. D. Quelvog, and P. Hovingh. 2005. First report of an eastern United States species of blood-feeding leech, *Placobdella parasitica* (Euhirudinea, Glossiphoniidae) in California. *Proceedings of the California Academy of Science*, 56:91-92.

Scelzo, M.A., Mantelatto, F.L. and **Tudge, C.C.** 2004. Spermatophore morphology of the endemic hermit crab *Loxopagurus loxochelis* (Anomura, Diogenidae) from southwestern Atlantic - Brazil and Argentina. *Invertebrate Reproduction and Development* 46(1):1-9.

Schotte, M. 2005. *Discerceis kensleyi*, n. sp. from Caribbean Colombia, the third species of the genus (Crustacea: Isopoda: Sphaeromatidae). *Proceedings of the Biological Society of Washington*, 118(1): 48-54.

VISITORS

Rebecca Belcher, Auburn University, Department of Biological Sciences; study Antarctic brittle stars (06/13/2005 - 07/15/2005). **Sponsor: Pawson**

Nancy Budd, University of Iowa; examine fossil corals; consult with Cairns (05/10/2005 - 05/11/2005). **Sponsor: Cairns**

Jen Buhay, Brigham Young University; Study crayfish collection for morphological and molecular projects (05/24/2005 - 05/25/2005). **Sponsor: Reed**

John Clamp, Department of Biology N.C. Central University; examine specimens of *Sphaeromawalkeri* for symbiotic ciliates (06/07/2005 - 06/07/2005). **Sponsor: Schotte**

Anne Cohen, Bodega Marine Lab researcher (California); Discuss various ostracod research topics (06/20/2005 - 06/20/2005). **Sponsor: Kornicker**

Jorge Cortes, CIMAR; literature work on corals from eastern Pacific (05/02/2005 - 08/02/2005). **Sponsor: Cairns** *continued on next page*

SPOTLIGHT ON STAFF CONTINUED

and topping the alcohol in all of the IZ specimen jars that require it. Since beginning the project in February, we have replaced over 20,000 gaskets and topped the alcohol in many more jars. In the process, as many IZ department members may be aware, we exhausted the supply of available gaskets and had to wait for more to arrive. We recently finished topping off the IZ types and are working our way through the general collection.

In addition to replacing gaskets and topping off alcohol, we have also been involved in capturing important information from the tags or labels that can be found on shelves throughout the collection (hang tags). The information from each hang tag (usually related to accession numbers, taxon, or collectors), as well as detailed location information, is entered into an Access database and then printed on small, specially coated paper tags which get placed into the corresponding specimen jars. This way when the collection moves, all associated information will be sure to move with it. At this time over 1,000 hang tags have been entered, printed, and inserted into specimen jars. Once we have finished these tasks in Crustaceans, we will continue the process in Worms and the rest of IZ.

We have also begun to scan catalog cards and enter the information from them into the EMu catalog system (1000 cards have been scanned as of July 2005). This project promises to be one which we will be involved with for quite some time.

And true to our Move roots, we've moved the giant squid to MSC and have begun the move of some of the worm collections to MSC. The cataloged nemertean collection at MSC is presently being moved to Natural History where it can more easily accessed by Jon Norenburg.

Article by Katie Womack with updated information by the editor.

LIBRARY

NEW TITLES: INVERTEBRATE LIBRARIES, March - June, 2005

Biology of the Terrestrial Isopods 3: Proceedings of the Third International Symposium on the Biology Terrestrial Isopods, Poitiers, France, July 10-12, 1990. Poitiers: Universite de Poitiers, ca. 1990.

Biology of Terrestrial Isopods 5: Oniscidae rolling into the new Millennium: Proceedings of the 5th International Symposium on the Biology of Terrestrial Isopods, Irakleio (Iraklion), Crete, Greece, 19-23 May, 2001. Crustaceana Monographs 3. Leiden: Brill, 2003.

Bullard, Stephan G. **Larvae of Anomuran and Brachyuran Crabs of North Carolina: a Guide to the Described Larval Stages of Anomuran (families Porcellanidae, Albuneidae, and Hippidae) and Brachyuran Crabs of North Carolina.** Crustaceana Monographs 1. Leiden: Brill, 2003

Catalogues of the Collections in the Showa Memorial Institute, National Science Museum, Tokyo No. 2: Specimens of Hydroid Species described by the Showa Emperor Hirohito. Tokyo: Show Memorial Institute, National Science Museum, 2004.

Cherbonnier, Gustave **Echinoderms: Holothurides.** Faune de Madagascar 70. Paris: ORSTOM, 1988.

Contributions to the Fifth International Congress on Rudists, held in Erlangen, Germany 1999. CFS (Courier Forschungsinstitut Senckenberg) 247. Stuttgart: E.Schweizerbart'sche Verlagsbuchhandlung, 2004.

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VISITORS CONTINUED

Louise Crowley, American Museum of Natural History; Study Mollusks Bivalve Collection (05/23/2005 - 05/27/2005). **Sponsor: Strong**

Sarah Curry, Louisiana State University - Baton Rouge; (03/24/2005); Tour IZ collections. **Sponsors: Ahearn and Nickens**

Savel Daniels, Brigham Young University; Study crayfish collection for morphological and molecular projects (05/24/2005 - 05/25/2005). **Sponsor: Reed**

Henk de Haas, Universiteit van Amsterdam; (05/05/2005 - 05/06/2005). **Sponsor: Ruetzler**

Wallie de Weerd, Dept. Coelenterata & Porifera, Institute for Biodiversity and Ecosystem Dynamics (Zoological Museum), Universiteit van Amsterdam; (05/05/2005 - 05/06/2005). **Sponsor: Ruetzler**

Cristina Diaz, Museo Marino; Study sponges (05/13/2005 - 05/27/2005). **Sponsor: Ruetzler**

Darryl Felder, Department of Biology, University of Louisiana; Examine and study decapod collections. (04/06/2005 - 04/13/2005). **Sponsor: Lemaitre**

Raquel Figueira, UFRJ; Take photographs of types (Cerithiospidae, Pyramidellidae, Triphoridae) (06/13/2005 - 06/16/2005). **Sponsor: Harasewych**

Victor (Dr.) Gallardo (Ariel Gallardo), Vice Chair, International Scientific Steering Committee, Census of Marine Life, COPAS; Universidad de Concepción, Chile; IZ research (03/24/2005 - 09/10/2005). **Sponsor: Fauchald**

Stuart Gelder, University of Maine - Presque Isle; Collection based research, examine Branchiobdellida worm collection (05/17/2005 - 05/22/2005). **Sponsor: Bright**

Daniel Graf, The Academy of Natural Sciences of Philadelphia; Photograph Freshwater Clam Types (05/05/2005 - 05/05/2005). **Sponsor: Hershler**

Anita Grumpert, Bead Society of Greater Washington Bead Museum; View cowrie collection; consult with Dr. Harasewych and gather information for an article (06/02/2005 - 06/02/2005). **Sponsor: Harasewych**

Iben Heiner, Zoological Museum University of Copenhagen; Examine uncataloged Loricifera material and donate specimens to collection (05/05/2005 - 05/05/2005). **Sponsor: Bright**

Ilka Hilton Clark, Trinidad Art Society, 101 Art Gallery; Tour of Mollusks Gee Whiz Exhibit (05/18/2005 - 05/18/2005). **Sponsor: Greenhall**

John Holsinger, Old Dominion University; Deposit specimens in Crustacea collection (Cave amphipods) and return USNM specimens (05/17/2005 - 05/17/2005). **Sponsor: Nelson**

Robin Huettel, Auburn University; Identification of deep-sea marine nematodes from the Gulf of Mexico (06/01/2005 - 06/03/2005). **Sponsor: Hope**

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LIBRARY CONT.

Contributions to the Study of East Pacific Crustaceans, vol. 1 ed. Michel E. Hendrickx. [Mexico City]: Instituto de Ciencias del Mar y Limnología, 2002.

Contributions to the Study of East Pacific Crustaceans, vol. 2 ed. Michel E. Hendrickx. [Mexico City]: Instituto de Ciencias del Mar y Limnología, 2003.

Crosnier, Alain **Crustacés Décapodes Pénéides Aristeidae**. Faune de Madagascar 46. Paris: ORSTOM, 1978.

Dyne, G. R. and Jamieson, B. G. M. **Native Earthworms of Australia, 2**. Canberra: ABRS Publications, 2004

Faust, M. A. and Gulledge, R. A. **Harmful Marine Dinoflagellates**. Washington, D.C.: Smithsonian Institution, 2002.

Fischer-Piette, E. et al. **Gastéropodes Terrestres Pulmonés**. Faune de Madagascar, 83.

Paris: Muséum national d'Histoire naturelle, 1994

Howard, Dorothy W. et al. **Histological Techniques for Marine Bivalve Mollusks and Crustaceans**. 2nd Ed. NOAA Technical Memorandum NOS NCCOS 5. Oxford, Maryland: NOAA, 2004.

Hyllebert, Jorgen **Lexical approach to Cardiacea, Illustrated and annotated bibliography of living and fossil shells, with emphasis on the families Cardiidae and Lymnocardidae (Mollusca: Bivalvia), Part 1: Literature**. Phuket Marine Biological Center Special Publication, vol. 29. Phuket: Phuket Marine Biological Center, 2004

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VISITORS CONTINUED

Kristin Hultgren, UC-Davis; Study brachyuran crab collection, family Epialtidae (04/11/2005 - 04/12/2005). **Sponsor: Lemaitre**

Gene Hunt, University of California - San Diego; Access mollusks general collection (03/25/2005 - 03/31/2005). **Sponsor: Harasewych**

Heather Judkins, University of South Florida College of Marine Science; to select cephalopods to take to her lab to identify for SI (05/24/2005 - 05/26/2005). **Sponsors: Vecchione and Roper**

Isabella Kappner, Field Museum of Natural History; Study Marine Bivalves, Veneridae (05/23/2005 - 05/27/2005). **Sponsor: Strong**

Robert Knowlton, George Washington University; to examine Alpheid shrimp in Crustacea collection (05/04/2005 - 05/04/2005). **Sponsor: Schotte**

Jose Leal, Bailey-Matthews Shell Museum; Collaborate with Dr. Harasewych and study material using the Environmental SEM (05/17/2005 - 05/18/2005). **Sponsor: Harasewych**

Patricia Lindner, Duke University; photograph Dana coral types (05/19/2005 - 05/21/2005). **Sponsor: Cairns**

Steve and Susan Maguire, NA; behind-the-scenes tour of mollusks and echi- noderms for several Airborne Rangers (veterans of Vietnam War) plus spouses) - 5 hour presentation for a veteran blinded in combat. (06/12/2005 - 06/12/2005). **Sponsors: Greenhall and Nickens**

Ron Mollick, Christopher Newport University; tour of IZ and research presentations by Fauchald, Cairns, Ahearn, Greenhall, Nicken, Reed (04/07/2005 - 04/07/2005). **Sponsor: IZ Staff**

Sergio Nates, Zeigler Bros., Inc.; review crustacean materials within the Thalassinidea group, collected in Madagascar and the South East coast of Africa (04/08/2005 - 04/08/2005). **Sponsor: Lemaitre**

Todd OBrien, NOAA-NMFS-Science & Technology, Marine Ecosystems Division; Check Sorting Center data sheets for information not found else where, from past programs. (05/04/2005 - 05/05/2005). A return visit to check Sorting Center data sheets for information not found else where, from past programs. (06/15/2005 - 06/15/2005). **Sponsor: Ferrari**

Dennis Opresko, research associate; Study antipatharian collection (04/11/2005 - 05/01/2005). **Sponsor: Cairns**

Timothy Pearce, Carnegie Museum of Natural History; Study the Pulmonate Land Snail Collection at MSC (05/06/2005 - 05/06/2005). **Sponsor: Hershler**

Richard Petit, ; Consult with Rare Book Room library, Mollusk Library and collaborate with Jerry with photography for publication plates (05/23/2005 - 05/23/2005). **Sponsor: Harasewych**

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LIBRARY CONT.

Hyllebert, Jorgen **Lexical approach to Cardicea, Illustrated and annotated bibliography of living and fossil shells, with emphasis on the families Cardiidae and Lymnocardiidae (Mollusca: Bivalvia), Part 2: Records of Taxa, A – M.** Phuket Marine Biological Center Special Publication, vol. 30. Phuket: Phuket Marine Biological Center, 2004.

Hyllebert, Jorgen **Lexical approach to Cardicea, Illustrated and annotated bibliography of living and fossil shells, with emphasis on the families Cardiidae and Lymnocardiidae (Mollusca: Bivalvia), Part 3: Records of Taxa, N – Z.** Phuket Marine Biological Center Special Publication, vol. 30. Phuket: Phuket Marine Biological Center, 2004.

Ingle, Ray W. and Christiansen, Marit E. **Lobsters, Mud Shrimps and Anomuran Crabs.** Synopses of the British Fauna (New Series) No. 55. Shrewsbury, England: FSC Publications, 2004.

Jass, Joan P. **Distributions of Gastropods in Wisconsin.** Milwaukee Public Museum: Contributions in Biology and Geology No. 99. Milwaukee, Wisconsin: Milwaukee Public Museum, 2004.

Khan, R. A. **Faunal Diversity of Zooplankton in Freshwater Wetlands of Southeastern West Bengal.** Records of the Zoological Survey of India Occasional Paper No. 204. Kalcota: Zoological Survey of India, 2003.

Kazachenko, V. N. **Opre- delitel Semeistv I Rodov Paraziticheskikh Kopepod (Crustacea: Copepoda) Ryb, ch. 1 – 2.**

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T R A V E L

Dave Pawson gave a seminar at the Grice Marine Laboratory, Charleston, SC, on April 29: *Male sea urchins don't care whose eggs they fertilize: hybrids and other morphological anomalies in sea urchins*. Then from May--4, he gave a three-day workshop at the Southeast Regional Taxonomic Center, Charleston, SC on the *Identification of Echinoderms from the Atlantic Coast of the Southeastern United States*. Dr. Steve Stancyk of the University of South Carolina taught part of the course, and the team was assisted by Mrs. Doris Vance, Research Collaborator in IZ.

Bob Hershler and USGS colleagues Marith Reheis and Dave Miller co-organized a workshop on *Late Cenozoic Drainage History of the Southwestern Great Basin and Lower Colorado River Region: Geologic and Biotic Perspectives*, which was held at the California State University's Desert Studies Center near Baker, California April 11--14, 2005. Bob and collaborator Hsiu-Ping Liu presented a paper, *Molecular Evidence Suggests a Complex Biogeographic History of Springsnails in the Death Valley Region*. at the conference.

From April 10--23 Mike Vecchione led an expedition to study the deep-sea nekton of Bear Seamount and vicinity on the *Delaware II*, out of Woods Hole, Massachusetts. The cruise included graduate students from five universities, Liz Shea, Mike's National Research Council Post-Doc, and personnel from NOAA/NMFS and Harbor Branch Oceanographic Institution. In addition to material for research projects, the group collected specimens and took photos for the Ocean Hall and tissue for the Barcode of Life.

L I B R A R Y C O N T I N U E D

Vladivostok: Dalnevostochnyi Gosudarstvennyi Tekhnicheskii Rybokhozuaistvennyi Universitet, 2001

Livro de resumos do 2 Congresso Brasileiro sobre Crustáceos, São Pedro, Brasil, 10 a 14 de Nov., 2002. São Pedro: Sociedade Brasileira de Carcinologia, 2002.

Morozova, I. P. **Mshanki Otryada Fenestellida (Morfadogiya, Sistema, Istoricheskoe Razvitnie).** Rossiiskaya Adademiya Nauk. Trudy Paleontologicheskogo Instituta, Tom 277. Moskva: GEOC, 2001.

Paul, Sobhana and Nandi N. C. **Studies on intertidal macrozoobenthos of Hugli River in and around Calcutta in relation to water and soil conditions.** Records of the Zoological Survey of India Occasional Paper No. 213. Kolkata: Zoological Survey of India, 2003.

Pavlov, V. Ya. **Zhizneopisanie Kraba Kamchatskogo Paralithodes Camtschaticus (Tilesius, 1885).** Moskva: Gosudarstvennyy komitet Rossiisko federatsii po rybolovstvu, 2003.

Phillips, Bruce F. and Melville-Smith, Roy **Sustainability of the Western Rock Lobster Fishery: Past Progress and Future Challenges.** School of Environmental Biology Bulletin No. 25. Perth: Curtin University of Technology, 2003

Schanzle, Robert W. et al. **Freshwater Mussels (Bivalvia: Unionidae) of the Fox River Basin, Illinois and Wisconsin.** Illinois Natural History Survey Biological Notes 141. Champaign, Illinois: Illinois Natural History Survey, 2004.

Taylor, Christopher A. and Schuster, Guenter A. **Crayfishes of Kentucky.** Illinois Natural History Survey Special Publication 28. Champaign, Illinois: Illinois Natural History Survey, 2004.

Tixier-Durivault, A. **Octocoralliaires.** Fauna de Madagascar 21. Paris: ORSTOM, 1966 p

I Z W E B S I T E S



Philoscia muscarum, the Common Striped Woodlouse.

A new feature has been added to the existing IZ website *World List of Marine, Freshwater and Terrestrial Isopod Crustaceans*. Maintained by Marilyn Schotte in the Department of Invertebrate Zoology, the website provides a new link to images in PDF format of some common backyard isopods (known as pillbugs or sowbugs). These images can be downloaded into 8.5" by 11" mini-posters on a personal computer for individual or classroom use. Each species page provides a color photo, identifying characteristics, habitat information and present known distribution. More species will be added as photos become available. The URL for the site is <http://www.mnh.si.edu/iz/isopod/photogallery/>