



MONOCULUS Copepod Newsletter

The Newsletter of the World Association of Copepodologists

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normal rainfall and the usual strong winds. I contrast this with other parts of the world that have had extreme weather events from unusually cold weather to fires. I seem so far away from everywhere, but still so close in this electronic age.

My thoughts are with my fellow copepodologists as we realize the full extent of the likely influence of the international financial crisis and how it is reaching into all corners of the globe. Our ability to do our work in each country is greatly influenced by the extent to which our respective Governments feel we are a luxury item or an essential part of the knowledge and social fabric. We are particularly heartened to hear that the U.S. President Obama intends to restore scientific integrity to the White House, by using evidence-based science to guide policy. President Obama's invitation to Jane Lubchenco, a marine biologist at Oregon State University, to become head of the National Oceanic and Atmospheric Administration (NOAA), the government agency that studies the climate and monitors the health of marine ecosystems, is also encouraging. Nevertheless, we should have modest expectations as no doubt priority will be given to research related to reductions in greenhouse gas emissions. It is to be hoped that the U.S. example will be influential in other countries that might decide to lower support for science in these difficult times.

So let us not get too pessimistic and keep on with our plans to meet again in Mexico in 2011. Eduardo Suárez Morales has been working on a logo for the 11th International Conference on Copepoda. This logo will be the starting place for the conference web site. Eduardo says the general economic crisis has changed his perspective on organizational costs, as these conditions have increased the potential costs of many things. He hopes the situation will be more stable within the next year so he can negotiate the best prices and conditions for WAC members and participants. Eduardo's first thoughts on conference topics include at least two symposia on subjects that are clearly relevant to the Yucatan area and also to Latin America. He is suggesting mosquito control by copepods (or Copepoda and Health in general), and the biogeography and systematics of copepods from caves and anchialine systems. A third idea involves a tête à tête between molecules and morphology. We look forward to the continuing discussion on conference topics.

Finally, on behalf of WAC, I would like to thank Dr Rubens Lopes of the Oceanographic Institute, University of São Paulo, Brazil, for his many years of work to keep the WAC web site going and making sure it was populated with data and information. We wish you well in your future endeavours.

— Janet Bradford-Grieve, President
National Institute of Water and Atmospheric Research
New Zealand

Message from the President

I am reflecting on life, and everything, from a temperate part of the world that is surrounded by ocean in the "roaring forties" of the Southern Hemisphere and coming into autumn. We are having quite mild weather but also have had above

Changes in the “World of Copepods” Websites

The “World of Copepods” website was hosted for many years on the Smithsonian Institution website <http://invertebrates.si.edu/copepod/index.htm>.

The Smithsonian still hosts this site, but it is now limited to only the bibliographic information. The researcher and taxonomic databases have now been transferred to two different new sites.

The researcher database has been transferred to the WAC website.

Last year, Rubens Lopes and some of his students in Brazil updated an online membership database. This new site allows for easy updating of addresses and emails, and is used by the Treasurer to track membership payments. Check out the website at

<http://www.monoculus.org>

and look under the WAC database. There you will find an updated listing of approximately 761 people involved in copepod research (these are not necessarily WAC members). You can search by last name, country, institution, or research interests. You are also able to update your personal contact information.

The taxonomic data for copepods can now be found on WoRMS (World Registry of Marine Species): <http://www.marinespecies.org/copepoda>

This site is an authoritative and comprehensive list of names of marine organisms, including information on synonymy. While the highest priority is given to valid names, other names are included so that this register can serve as a guide to interpret the taxonomic literature.

The content of WoRMS is controlled by taxonomic experts, not by database managers. WoRMS has an editorial management system, where each taxonomic group is represented by an expert who has authority over the content, and is responsible to control the quality of the information. Each of these main taxonomic editors can invite several specialists on smaller groups within their area of responsibility. This register of marine species grew from the European Register of Marine Species (ERMS), and its combination with several other species registers maintained at the Flanders Marine Institute (VLIZ). Rather than building separate registers for all projects, and to make sure that the taxonomy used in these different projects is consistent, we developed a consolidated database called “Aphia.” MarineSpecies.org is the web interface to this database. The WoRMS is an idea that is being developed, and will combine information from Aphia with other authoritative marine species lists that are maintained by others (e.g., AlgaeBase, FishBase, Hexacorallia, NeMys).

Resources to build MarineSpecies.org and Aphia were provided mainly by the EU Network of Excellence “Marine Biodiversity and Ecosystem Functioning” (MarBEF), and also by the EU-funded Species 2000 Europe and ERMS projects. Intellectual property rights of the European part of the register are managed through the Society for the Management of Electronic Biodiversity Data (SMEBD). Similar solutions are now being investigated for the other parts of the register. Aphia contains valid species names, synonyms, and vernacular names, and additional information such as literature and biogeographical data. Besides species names, Aphia also contains the higher classification in which each scientific name is linked to its parent taxon. The classification used is a “compromise” between established systems and recent changes. Its aim is to aid data management, rather than to suggest any taxonomic or phylogenetic opinion on species relationships.

Keeping WoRMS up-to-date is a continuous process. New information is entered daily by the taxonomic editors and by our members of the data management team. Often, data also come in from contributions of large datasets, such as global or regional species lists. No database of this size is without errors and omissions. We do not promise to make no errors, but we do promise to follow up and give feedback on any communications that point out errors. Feedback is very welcome!

The copepod data are coordinated by the Editors T. Chad Walter and Geoff Boxshall. We have several Associate Editors who are currently updating and improving the site:

Asterocheridae & Dirivultidae **Slava Ivanenko**

Ameiridae & Canthocamptidae **Tomislav Karanovic**

Taeniacanthidae **Danny Tang**

Oncaeidae **Ruth Böttger-Schnack**

Diaixidae, Parkiidae, Phaennidae, Scolecitrichidae &

Tarybidae **Frank D. Ferrari**

Monstrilloida **Eduardo Suárez-Morales**

Distribution planktonic/hyperbenthic copepods **Juliana H.M. Kouwenberg**

This new site has many advantages over the previous Smithsonian site, in that we can now:

- track synonymies
- add additional information, including photos, links, geographic information, museum holdings, and even species descriptions
- if you search on a genus, we have linked all the 3x5 cards from the C.B. Wilson Library for each genus, so that anyone can see all publications that ever mentioned the species in that taxon, up to about the year 2000. (For example, check out the genus *Pseudodiaptomus*, for which there are linked figures for each species in the genus, so that anyone in the world may be able to identify their local species from the

convenience of their computer, without the need for an exhaustive literature search.)

– This site links to OBIS, IBIS, EOL, Species 2000, Census of Marine Life, and other databases.

We are looking for additional associate editors to help improve the data for the taxonomic groups in which they are interested. If anyone has a particular interest in a genus or family and would like to help upgrade the database, please contact Chad or Geoff at walterc@si.edu or g.boxshall@nhm.ac.uk

Please visit these three sites and give us feedback.

– Chad Walter
National Museum of Natural History (Smithsonian)
Washington, D.C., U.S.A.
and
Geoff Boxshall
The Natural History Museum
London, U.K.

Change in WAC Website

The WAC website has returned to the domain originally established at Oldenburg University, and is now being managed by Webmaster Pedro Martínez Arbizu:

www.monoculus.org

The website **www.copepods.uconn.edu** has been shut down. We thank the University of Connecticut and Hans Dam for their years of assistance to former Webmaster Rubens Lopes in maintaining the WAC website there.

“Copepoda List” Closed

Because of the lack of use, Rubens Lopes shut down the “Copepoda List” discussion group in mid-March.

Whoever wishes to receive timely notice of the appearance of *Monoculus* and supplements is encouraged to subscribe to one of the discussion groups listed on Page 1.

– Jan Reid

Progress on the Copepod Culture Database

Dear All Copepodologists,

As we pass into 2009, we hope that this year will bring all copepodologists many exciting results and success in the maintenance of copepod cultures.

We have been very active these last months, and have completely renewed our database at Roskilde University (Denmark). The website is a lot friendlier than the previous version, and we invite you to have a look at it:

<http://copepod.ruc.dk/main.htm>

A major input is that it is now possible to visit the site in different languages, including English, French, Spanish and Chinese. We also renewed the additional material and information available to everybody.

On the World Copepod Culture Database you can get access to contacts and culture conditions of many copepod cultures that have been referenced in the last 2 years. The oldest culture is a culture of *Acartia tonsa*, which is 28 years old this year !!! At present, we are pleased to reference 26 copepod cultures of 18 different species, from 10 countries.

Another priority for us is to offer a list of references and protocols on how to start/develop your own copepod culture.

We update this list regularly, and improve it by taking into account your comments and additional material. You are all welcome to help us make the website a better tool for everybody...

If you yourself maintain a copepod culture, please, feel free to contact us to have it referenced in our database. Also, feel free to invite your colleagues to contact us if you know that they cultivate our tiny creatures.

Looking forward to your contribution.

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Call for Proposals to The Edward B. and Phyllis E. Reed Endowment

The Department of Invertebrate Zoology at the National Museum of Natural History is pleased to request proposals for grants to pursue research on freshwater copepods of North America. Funding for the grants is made available from The Edward B. and Phyllis E. Reed Endowment at the Smithsonian Institution.

Grants are for one year duration and are limited to no more than \$6,000. U.S. citizens and foreign nationals are eligible. Funds are disbursed in US dollars. Proposals should include: (1) a statement of proposed research of no more than 3 double-spaced pages; (2) a budget page; (3) CV's of all participants. Proposals from undergraduate and graduate students also must include a letter of support from the primary faculty advisor explaining the student's funding needs and describing the student's academic and research accomplishments.

Proposals may address any aspect of the biology of freshwater copepods of North America, although specimen-based research on taxonomy, poorly surveyed habitats, zoogeography, invasive species, or phylogeny is of particular interest. Funds cannot be used to attend meetings. Awards for work at the Smithsonian Institution will be made as travel plus stipend; awards for all other research will be made as a reimbursable contract. In either case, grantee will deliver a final report on the results of the research within six months after the completion date. We also ask that reprints (paper or electronic) of publications resulting from the research should be made available to the Charles Branch Wilson Copepod Library, Dept. of Invertebrate Zoology [MRC – 534], Smithsonian Institution, 4210 Silver Hill Rd., Suitland, MD, 20746, USA, and to the Monoculus Library, Deutsches Zentrum fuer Marine Biodiversitaetsforschung, Forschungsinstitut Senckenberg, Suedstrand 44, D-26382 Wilhelmshaven, GERMANY.

Proposals are due by June 1, 2009. Send electronic proposals to ferrarif@si.edu (MS Word, WordPerfect, or PDF) or paper proposals to Dr. Frank D. Ferrari, Dept. of Invertebrate Zoology [MRC – 534], Smithsonian Institution, 4210 Silver Hill Rd., Suitland, MD, 20746, USA. Proposals will be evaluated by a standing committee, Ferrari chairman. All applicants will be notified by the end of August, 2009.



A copepod crustacean female with eggs, photographed in Rheinberg illumination using 200x microscope optics.

Photographed by Massimo Brizzi, Firenze, Italy.
Honorable Mention, 2008 Olympus BioScapes Digital Imaging Competition®. Reproduced by permission from Olympus BioScapes in the person of Ilene Semiatin.

9th SACC - CRN2076 SACC Short Course "Scaling the effects of climate change on marine zooplankton"

Profs. J. Rudi Strickler and Rubens Lopes
1 to 10 July 2009

**Integrated Laboratory on Oceanic Processes,
Oceanographic Institute (IO), University of São
Paulo (USP), Ubatuba (SP), Brazil**

The 9th SACC Short Course is co-sponsored by the University of São Paulo and the Inter-American Institute for Global Change Research.

This is a regular graduate course from the Biological Oceanography program at IOUSP, discipline - IOB 5751 - Advances in Marine Pelagic Ecology. Selected graduate students (following procedures and criteria mentioned below), may enroll to the discipline and acquire credits directly from the USP graduate system. Students approved in the course will receive a certificate from the Course Organizers.

Information and the application form are available at:
<http://www.sacc.org.uy/course9.php>

All application materials must be **e-mailed by Friday 15 May, 2009**. Applications arriving after that date or incomplete applications (i.e., missing some components) will not be considered.

Contact Dr. Rubens Lopes (rubens@usp.br).



Fig. 1. Presenting the *Biospeologica* collection: C. Pleșa, Ch. Juberthie, D. Coman, and C. Delamare-Deboutteville (left to right) (in 1970, Centennial of the Institute of Speleology „Emil Racoviță”).

Corneliu Constantin Pleșa

3 August 1931 – 15 August 2008

Corneliu Pleșa, cave biologist, was born on August 3, 1931 in Cluj. He attended the primary school in his hometown, and in 1940, at the age of 9, he moved to Bucharest as a war refugee, where he lived until 1949. He started high school education in Bucharest, at the Archiepiscopal High School *Sfântul Iosif*, and returned to Cluj where he continued his formation at *Gheorghe Baritiu* high school. After graduation and in spite of his family's wishes that he become a medical doctor, Corneliu Pleșa entered the Natural Science Faculty (pedagogic section). He graduated in 1954 and in the same year became employed as a Research Assistant at the Institute of Speleology, at the time under the auspices of Babeș University.

He was promoted to Scientific Researcher in 1956, when the Institute of Speleology in Cluj became a Department of the newly founded institute in Bucharest. In 1967 he was promoted to Senior Researcher III, and defended his PhD in biology in 1969. In 1990, he became Senior Researcher II, and in 1998 Senior Researcher I.

Dr. Corneliu Pleșa, a devoted biologist and field researcher, was deeply interested in all manifestations of living nature. He was a passionate observer of the natural world and dedicated his scientific life to the study of groundwater fauna. During his career, he investigated more than 650 karst phenomena, especially caves in Romania,

Hungary, former Czechoslovakia, former Yugoslavia, Austria, and Switzerland. He participated in several expeditions and speleological explorations in Romania, mapping over 10 km of cave passages, and together with his colleagues from the institute discovered new caves or new passages in caves. He was also passionate about cave photography, taking over 5000 karst-related photos.

Pleșa's main scientific interests were biospeleology, namely the systematics and taxonomy of subterranean cyclopoids (Crustacea, Copepoda); and the biology of fresh, marine and brackish subterranean waters. His PhD thesis, *Investigations upon reproductive periodicity in troglobiont cave crustaceans*, is a milestone in research on cave aquatic fauna from Romania. Supervised by Dr. Theodor Busniza (Corresponding Member of the Romanian Academy at that time), his thesis is a broad investigation of three aquatic cave crustaceans, cyclopoids, bathynellaceans, and isopods, in one of the most important caves in the Pădurea Craiului Mountains (north-western Romania), the Vadu Crișului Cave.

He was a worldwide specialist in systematics of cyclopoid copepods, continuing the work and the famous school on groundwater fauna initiated in Cluj by Pierre Alfred Chappuis, vice-director of the institute between 1922 and 1948. It was P. A. Chappuis who coordinated his first steps in the knowledge of systematics and taxonomy of this group of crustaceans, guiding Dr. Pleșa's PhD thesis in the first years of research. They conducted an intensive correspondence during this time, also revising material collected from Romanian caves. At the beginning of his research on cyclopoid copepods, he also maintained a fruitful correspondence with other well-known researchers in the field of systematics and taxonomy of copepods: René Jeannel and Claude Delamare-Deboutteville (France), Friedrich Kiefer and Karl Lang (Germany). Chappuis and C. Delamare-Deboutteville named a new microcerberid isopod, *Microcerberus Pleșai* Chappuis & Delamare-Deboutteville, 1958, in his honor. The species was discovered in one of the caves intensively investigated by Pleșa during his doctoral research.

Pleșa's scientific activity focused on cave and interstitial cyclopoids, mainly from north-western Romania. However, he took part in the scientific campaigns organized by the colleagues from Bucharest in the karst of Banat, Mehedinți Plateau, and Dobrogea. Over the years he collected a vast scientific material from caves, groundwater, hypogean and epigean habitats (both terrestrial and aquatic), sorting a huge number of specimens (over 150,000) (Fig. 2). Studying such an impressive number of organisms of various aquatic crustacean groups, he published the results in more than 50 scientific papers in national and international journals. He described 1 genus and 13 species new for science. He was interested also in collecting other scientific material, such as floristic, archeological, palaeontological and mineralogical samples. He enlarged his research interests in the field of hydrobiology, where he conducted rigorous research on the

biology of hyper-saline lakes (1979-1984) and on fishponds in Cluj County (1983). He was also interested in general aspects of karstology. He was co-author of several monographs (more than 20 publications) and conducted research in this field.



Fig. 2. Taking samples with the Karaman-Chappuis method in Vadu Crișului Cave (north-western Romania).

Pleșa was also a promoter of cave science in the amateur caving community, making more than 250 presentations at national conferences, most of them accompanied by his photos from caving trips. He published over 25 articles, books, and guidebooks for cave amateurs in various national and international journals.

He received several awards for his scientific activity, i.e. from the Education Ministry in 1996 for the article, *Flora and vegetation of the natural reserve Crisul Repede Gorges*; and the “Emil Racovitza Prize of the Romanian Academy”, for his collaboration for the volume: “*Résultats des Expéditions Biospéologiques Cubano-roumaines à Cuba*”. His enthusiasm for cave photography was appreciated at several international competitions, i.e. Brussels (1958, 1974).

Dr. Corneliu Pleșa officially retired on 1 June 1999, but he continued his scientific activity at the “Emil Racovitza” Institute of Speleology until April 2003, when he suffered a stroke. Corneliu Pleșa passed away on 15 August 2008, aged 77. With his passing, the Cluj Department of the “Emil Racovitza” Institute of Speleology lost one of the most prominent researchers on subterranean copepods and aquatic cave biology from Romania.

Taxa described by Corneliu Pleșa

Teratocyclops Pleșa, 1981

Heterocyclopina Pleșa, 1968

Acanthocyclops reductus propinquus Pleșa, 1957

Halicyclops brevispinosus psammophilus Pleșa, 1959

Neocyclops affinis Pleșa, 1961

Halicyclops (H.) gauldi Pleșa, 1961

Pareuryte remanei Pleșa, 1964

Heterocyclopina vietnamensis Pleșa, 1968

Neocyclops improvisus Pleșa, 1973

Teratocyclops cubensis Pleșa, 1981

Allocyclops botosaneanui Pleșa, 1981

Cryptocyclops bicolor transactor Pleșa, 1981

Mesocyclops orghidani Pleșa, 1981

Metacyclops dentatus Pleșa, 1981

Metacyclops rudis Pleșa, 1981

Eucyclops scythicus scythicus Pleșa, 1989

Diacyclops languidus maisi Pleșa & Buzilă, 1998

Publications on Copepoda by Corneliu Pleșa

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Bernard Henri Dussart

17 August 1922 – 1 November 2008

Bernard Henri Dussart passed away on 1 November 2008. With him, we lose one of the great European freshwater copepodologists. He was also one of the foremost limnologists and, throughout his career, he attempted to combine physics and biology in his approach to the study of freshwaters and lakes in particular.

Bernard Dussart was born in Dinan (Côtes d'Armor, Brittany) on 17 August 1922. He obtained his baccalaureate (fundamental mathematics) in 1941. It was therefore during the Second World War that he undertook his higher studies at the Sorbonne, in Paris. Despite the difficulties of the period and his participation in the Resistance, he obtained his degree in Natural Sciences in 1944. It was in 1945 that he began his research career, when he was asked to organize a research laboratory on lakes at Thonon-les-Bains on Lake Lemman, and to establish a teaching course in limnology. This was to become the *Centre de Recherches Géodynamiques de la Faculté des Sciences de Paris à Thonon les Bains* (CRG), of which he was the director until 1962. In 1953 he defended his thesis (*Thèse d'Etat*) on water movements within, mainly, Lake Lemman, and also lakes of Annecy and Neufchatel, although his main interest lay with the lacustrine plankton, for which he provided a first classification in 1965, and in particular the copepod crustaceans of freshwater. In 1963, B. Dussart left Thonon les Bains for the position of deputy director at the *Centre de Recherches*

hydrobiologiques (CNRS) de Gif sur Yvette, near Paris. Thereafter, he became *Maître de Recherches* of the CNRS at the *Laboratoire des Pêches Outre-Mer* of the Muséum national d'Histoire naturelle (Paris), directed by Theodore Monod, from 1968 to 1974. There he was in charge of the General and Tropical Limnology Section, working much of the time with the ORSTOM (now IRD). In 1974 he moved to the *Station Biologique de l'Université de Paris VI aux Eyzies* (Dordogne), where he worked until his retirement in 1987.

Throughout his career, B. Dussart developed his double speciality of limnology and freshwater copepods. An eminent limnologist, he argued — with enthusiasm, force and creativity — around the world in favour of the importance of aquatic habitats. His competence in ecological and environmental matters led him, as an expert for the UNESCO with particular regard to Man-Made Lakes and the management of freshwaters, to travel widely, in Africa, Southeast Asia, South America, and North America. As a copepodologist, his encounters with F. Kiefer at Staadt, in 1947, whom he considered his mentor, and with Jean Roy in France were particularly influential.

Author of about 200 publications, including scientific articles, popular texts, memoirs, and technical reports, his major works, such as the famous *Limnologie*, published in 1966 with a second edition in 1992, the two volumes of the *Copépodes des eaux continentales d'Europe occidentale* (1967 and 1969), and the more recent *Introduction to Copepoda* (1995, 2001) and *World Directory of Crustacea Copepoda of Inland Waters* (2002, 2006), are standard texts in both his specialities.

His first publications on copepods concerned Lake Lemman and French lakes in the Alps and Pyrenees. In France, his extensive fieldwork formed the base of his work on the copepods of Western Europe. His many travels and collaborations abroad produced samples from around the world, which served as the source of numerous publications on freshwater copepods (see list below). His contribution to the study of copepod biodiversity is reflected in the description of around 100 new species of 30 genera, representing the three main orders present in freshwater. He also published two monographs: one on the freshwater copepods of Madagascar (1982) and the other on the calanoid copepods of inland African waters (1989). His approach to taxonomy was above all morphological, in the tradition of F. Kiefer, but he ascribed much importance to the place of the species and ecophases in aquatic ecosystems, to development, and to environmental conditions in his appreciation of intraspecific variability, for example. During the last twenty years he followed, with much interest, the evolution of copepod research (particularly in genetics), as applied to supposedly cosmopolitan species and the methods likely to clarify the definition of the species, notably in the genera he had devoted much of his work to, such as *Cyclops*, *Mesocyclops*,

and *Acanthocyclops* in the Cyclopidae, *Diaptomus* and *Hemidiaptomus* in the Diaptomidae, etc.

Present at the first conference on copepods in Amsterdam in 1981, he followed with interest the evolution of the WAC and developments in modern copepodology, worrying about the decline in the number of specialists in this difficult field, which requires precise observations, careful drawing, and high scientific standards. His good-humoured enthusiasm and energy will remain in the memories of those who knew him, as will his generosity in transmitting his knowledge and ideas to his students, colleagues, and friends. Right until the end, despite serious health problems, he kept his optimism, benevolence, curiosity, and open-mindedness.

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– Danielle Defaye
Muséum national d'Histoire naturelle
Paris, France

Treasurer's Report, Membership Application & Dues Payment

Finance Report

The World Association of Copepodologists (WAC) account balance (in US \$):

| | |
|--------------------------------|-----------|
| Beginning Balance 01 June 2008 | 26,381.77 |
| Dues paid | 4,510.00 |
| Interest | 118.65 |
| Ending Balance 01 January 2009 | 31,010.42 |

The 10th International Conference on Copepoda was held in Thailand in 2008, and was attended by 194 people, according to the list provided by the conference hosts. The association collected \$4,510.00 in dues, and there were 99 new attendees, who have been added to the researcher database. All participants who did not pay dues at the conference have been contacted, and many have indicated that they will pay their dues via the new PayPal online service.

Dues for 2008 have been paid by 85 of the 761 copepod researchers who are currently in our database. Many members have not paid dues for many years, and all will be contacted soon to determine their interest in WAC and whether they wish to renew their membership; these members will be encouraged to pay their back dues, if they can afford it. Those who can not afford any of the dues categories, but wish to be members will be asked to request a waiver of dues from the Executive Council.

Why pay dues? It is important that members of the WAC pay their annual dues. These dues are used for funding the activities of the Association. The roles of the Executive Committee, Treasurer, Auditors, Webmaster, Editor of *Monoculus*, etc. are undertaken voluntarily. Nevertheless, there are activities that require money. These activities include: providing seed funding for the tri-annual conference, waiving conference fees, providing student travel, and funding special projects. The Association needs to increase funds for the next tri-annual meeting, which will be held in Merida, Mexico in 2011, to help the host country offset costs, and to offer travel assistance or waiving of registration fees for students to attend the conference. Finally, several people put in long hours to produce the bi-annual *Monoculus Copepod Newsletter* and the supplemental bibliographic information. This newsletter is placed on the website for members to read and use the valuable information in it. Please show your appreciation for their hard work by paying your dues.

A new scale of dues has been set by the Executive Committee, in March 2009.

1 - US\$ 20.00 * Students & Researchers from less economically developed countries

2 - US\$ 35.00 ** Standard Members

3 - US\$ 200.00 [or more] ** Sponsors

4 - US\$ 1,000.00 [or more] - one time payment ** Lifetime members

*if a current member or potential member cannot afford the \$20.00 dues payment, he or she may request a waiver from the Executive Council (Article 11 of the By-laws). Please inform the General Secretary at the time of becoming a new member, or contact him now to request a waiver for dues for 2 years.

** In the U.S.A., the WAC is recognized by the IRS as a 501.c3 non-profit organization, so all members who must pay taxes in the U.S.A. can legally deduct any contribution to the WAC, if you itemize. Members who are doing estate planning are encouraged to consider the WAC as a recipient of their generosity.

Previously, dues collection was a difficult task that occurred during the tri-annual meetings. With the encouragement of the council and working with the Webmaster Pedro Martínez Arbizu, we have set up an online PayPal account so that members can now pay their dues directly to the Association via the web. We hope that this new convenience will encourage all members and potential members to keep their memberships current. We encourage you to pay dues for multiple years when you pay. As Treasurer, I will keep track of all dues that are paid to the WAC, and will send out dues reminders at the beginning of each year to the membership. The WAC website has undergone some updating, and on the WAC membership page you will now see the PayPal link to pay dues via credit/debit cards or your own PayPal account.

Go to:

<http://www.monoculus.org/new/membership.html>



Based on the copepod researcher database, the following table shows which countries have 10 or more copepod researchers as of March 2009.

| | |
|----------------|-----|
| BELGIUM | 10 |
| CHILE | 10 |
| UKRAINE | 10 |
| TURKEY | 11 |
| DENMARK | 12 |
| NETHERLANDS | 13 |
| SPAIN | 14 |
| TAIWAN | 14 |
| INDIA | 17 |
| NORWAY | 17 |
| MEXICO | 18 |
| RUSSIA | 18 |
| AUSTRALIA | 19 |
| ITALY | 21 |
| FRANCE | 26 |
| UNITED KINGDOM | 32 |
| SOUTH KOREA | 34 |
| CANADA | 35 |
| GERMANY | 39 |
| JAPAN | 51 |
| BRAZIL | 70 |
| USA | 134 |

Respectfully submitted,

– T. Chad Walter
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News from or about Members

Taxonomy Award to Y. Ranga Reddy

Long-time WAC member Y. Ranga Reddy has recently received the E. K. Janaki Ammal National Award for Animal Taxonomy, for 2007. The announcement from the Government of India, Ministry of Environment and Forests reads as follows:

“Dr. Reddy is an outstanding taxonomist who has unswervingly devoted his entire lifetime on the cause of taxonomy of crustaceans, especially the freshwater free-living copepods and bathynellaceans. His outstanding contributions to the taxonomy of these aquatic organisms are well known through out the world and have rendered his name synonymous with the Indian copepods [and] bathynellaceans.

“Dr. Reddy has meticulously revised as many as twenty crustacean genera besides discovering about fifty new species, establishing four new genera, two new families and reporting about twenty new species records for India. During last one year alone, he has discovered 36 new additional crustacean species from hyporheic habitats and borewells in different parts of the country. Considering the fact that the diversity of crustaceans is far less than that of insects, Dr. Reddy’s discovery of new crustacean taxa from India is very impressive. He has also resolved several previously intransigent taxonomic problems, particularly concerning diaptomid copepods. His collaborative research effort with several eminent overseas peers is really commendable and speaks volumes about the niche he has carved out for himself in the area of animal taxonomy.”

Further information on the E. K. Janaki Ammal National Award on Taxonomy is available at:
http://envfor.nic.in/citizen/award/ek_janaki_awd2007.pdf

Sincere congratulations to Ranga on the occasion of this award, which is very much deserved! Recently retired from Nagarjunanagar University, Ranga continues his work on a special grant, and has not at all slowed down, as witnessed by his publications on copepods and bathynellaceans that continue to appear at an impressive pace.

— Jan Reid, Editor

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Editor's Notes

For their contributions and assistance for this number, I thank Geoff Boxshall, Janet Bradford-Grieve, Danielle Defaye, Guillaume Drillet, Gael Dur, Frank Ferrari, Sanda Iepure, Rubens Lopes, Pedro Martínez Arbizu, Y. Ranga Reddy, Eduardo Suárez-Morales, and Chad Walter.

Ilene Semiatin kindly gave permission to reproduce the photo of the female harpacticoid. The species was not identified by the photographer, and some structures are a bit out of focus, but after looking at this lovely photo for several weeks I believe that I have an idea what it is. Just for fun (and to satisfy my curiosity about how many people actually read this far), if you believe that you can identify it, let me know. We could call this a “contest” and print the submissions in the next newsletter.

Rubens Lopes has completed the transfer of his responsibilities as Webmaster to Pedro Martínez Arbizu. With help from several of his students, Rubens developed the initial design and structure of the WAC website, composed much of its content, and brought it through its early developmental stages. Rubens’ advice, support, and good-natured tolerance of my ignorance of the html world made it very easy to take the *Monoculus Copepod Newsletter* into the electronic era. As ever, my grateful thanks to Rubens and his team of students, especially José Eduardo Martinelli Filho, at the Instituto Oceanográfico in São Paulo for their untiring help and encouragement.

Chad Walter has assumed the Treasurer’s role, following John Fornshell. He has initiated an online mechanism to pay dues, and will be using the database developed by Rubens to efficiently contact WAC members. With a more predictable income, the WAC should be able to expand its role of promoting copepod studies, as Chad has outlined in his article on page 11.

Back with us is our favorite cartoonist Mark Pottek, with a witty and expert drawing of one of his copepod critters. Mark promises not to let his pencil and digitizer tablet gather so much dust in the future!

Mark’s subject seems especially appropriate for this number of the newsletter. As Janet said in her message to the community, we must keep up our optimism in this cloudy period of history. As I write this, three days after the severe earthquake in central Italy, our colleagues Giuseppe Lucio Pesce and Diana Galassi have not only lost their homes, but also the Università degli Studi dell’Aquila lies in ruins. We send them our deep sympathies and wish for them and their students the fortitude to carry on after this disaster. Inspiration can be found in the life stories of the two eminent specialists, Bernard Dussart and Corneliu Pleșa, whose obituaries grace these pages. Both of them passed through

very hard times in their younger days, but it was given to them to find careers that obviously brought them lifelong joy, which they passed on to many others throughout the world. May we all be similarly blessed.

— Jan Reid, Editor
Martinsville, U.S.A.

WAC Executive Committee 2008-2011 Term

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Membership in the WAC: Any person interested in any aspect of the study of Copepoda is eligible for membership in the WAC. Contact the General Secretary for an application form and other information.

Dues: Dues of US \$20.00 per annum are payable by students & researchers from less-developed countries; \$35 for Standard Members; \$200 for Sponsors; or \$1000 for Life Members. Members who have difficulty paying dues may apply to the President and the Executive Council for a waiver or reduction. Dues may be paid in advance. Contributions to the WAC are tax-deductible in the U.S.A. WAC accepts personal checks issued in local currencies, made payable to WAC, and sent by mail to the Treasurer of the WAC. Dues may also be paid in person at WAC conferences, or online via the website. Members who are more than two years in arrears will automatically have their membership terminated.

Newsletter: All members receive the newsletter *MONOCULUS*, which appears at least once a year, in electronic or printed versions.

Copepod Libraries: Monoculus-Library: C/o Prof. Dr. Pedro Martínez Arbizu, Forschungsinstitut Senckenberg, DZMB-Forschungsinstitut Senckenberg, Monoculus-Library, Suedstrand 44, D-26382 Wilhelmshaven, Germany.

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