

# ICES/MARBEF Crustacean Zooplankton Taxonomic Workshop

**Host organisation.** Sir Alister Hardy Foundation for Ocean Science

**Location.** Marine Life and Environmental Sciences Resource Centre, The Laboratory, Citadel Hill Plymouth, UK

**Date.** 20-23 June 2006

## Organising group

Dr J. A. Lindley (Chair), C.L. Buckland, A.W. G John, T.D. Jonas, Dr P. Licandro, D.P Stevens, M. Wootton.

## Speakers

Prof. Geoff Boxshall (Natural History Museum)

Dr Alistair Lindley (SAHFOS)

Dr David Conway (SAHFOS/ Marine Biological Association)

Dr Richard Kirby (University of Plymouth)

Dr Isabella Buttini (Stallion Zoological, Naples)

Prof. Tecla Sertorio Zunini (University of Genoa)

## Participants

UK – 6 (Cheryl Burt, Emma Lane, Sophie Pitois, Mike Shaw, CEFAS\*; Katie Hill, University of St Andrews\*, Richard Ticehurst University of Plymouth.)

Poland -4 (Diana Dziaduch, Anna Grzyb, Institute of Oceanology, Polish Academy of Sciences\*, Luiza Bielecka, Stella Mudrak, + *Anna Jozefczuck absent due to sickness* University of Gdansk\*).

Norway –2 Signe Johannessen, Berit Endresen, (IMR Bergen\*)

Italy - 2 Irene Vaglio, Elisa Giangrande (University of Lecce - CONSIMA\*)

Japan-1 Kazutaka Takahashi (Tohoku National Fisheries Research Institute)

Canada- 1 Les Harris (BIO)

Germany-1 Astrid Cornils (AWI Bremerhaven\*)

Spain -1 Jesus Cabal Naves) IEO Gijon\*)

Tunisia- 1 Yosra Ben Lamine (Faculty of Sciences, Bizerta<sup>†</sup>)

Turkey-1 Benin Toklu(University of Cukurova<sup>†</sup>)

Greece 1. Isari Stamatina (University of Patras)

(5 Male, 16 Female)

\* MARBEF partner

<sup>†</sup> Supported through the MARBEF Taxonomic Clearing System

## Programme

### Tuesday 20th June.

0900-0930 Registration

0930-1000 Introduction by Chairman. Alistair Lindley.

1000-1100 Introduction to Copepod Morphology. Geoff Boxshall

1100-1130 Coffee/Tea break

1130-1230 Important non-calanoïd families from the Marine zooplankton. Geoff Boxshall

Lunch

1400-1430. Visit to SAHFOS laboratory and workshop.

1430-1700. Practical session (with opportunity for coffee/tea break from 1545)

1800-1930. Ice Breaker (drinks and snacks) at the common room, Citadel Hill Laboratory

### **Wednesday 21<sup>st</sup> June**

0900-1000. Identification of developmental stages of copepods – eggs to adults. Dave Conway

1000-1230. Practical session (with opportunity for coffee/tea break from 1045)

Lunch

1400-1500. Use of confocal microscopy in zooplankton studies. Isabella Buttino.

1500-1700. Practical session (with opportunity for coffee/tea break from 1545)

### **Thursday 22<sup>nd</sup> June**

0900 -1000. *Clausocalanus* and *Paracalanus*: identification and species distribution in the Mediterranean Sea. Tecla Sertorio Zunini

1000-1230. Practical session (with opportunity for coffee/tea break from 1045).

Lunch

1400-1430. Genetic analysis of CPR samples. Richard Kirby

1430-1545. Practical session

Coffee/Tea

1615-1700 Discussion.

1930 Workshop dinner. Common Room Citadel Hill Laboratory.

### **Friday 13<sup>th</sup> June.**

0900-1000. Distinguishing Mysidacea, Euphausiacea, and pelagic stages of Decapoda and Stomatopoda. Identification of larval stages of major groups within Decapoda. Presentation. Alistair Lindley (SAHFOS).

1000-1230 Practical session (with opportunity for coffee/tea break from 1045).

Lunch

1400 -1545 Completion of practical

Coffee/tea

## **Report**

This workshop was part of a series initiated by the ICES Working Group on Zooplankton Ecology (WGZE) to help to standardise and exchange expertise in identification of zooplankton and also to stimulate interest in and contributions to the ICES Identification Leaflets for Plankton. The second such workshop was held in Plymouth and hosted by SAHFOS in June 2003. Due to the limit to the numbers attending, many people who expressed an interest in attending could not be accommodated for that workshop. A workshop of similar content but hopefully improved due to the experience of 2003 was offered on this occasion. An application for support from the MARBEF Training Programme was successful and the MARBEF Taxonomic Clearing Scheme supported the attendance of students from Tunisia and Turkey.

The workshop commenced with introductory remarks from the Chairman. These included drawing attention to the fact that the ICES plankton Id leaflets, as well as being available in hard copy and on CD, are accessible on line on the ICES web site (<http://www.ices.dk/products/fiche/Plankton/START.Pdf>). The site now includes the facility to add amendments to existing leaflets. He also drew attention to an example of the ETI CDs that was installed in one of the computers in the resource centre.

The content of the presentations is given on the SAHFOS web site [http://192.171.163.165/Event\\_taxonomic\\_wkshp\\_Talks.htm](http://192.171.163.165/Event_taxonomic_wkshp_Talks.htm) so they will not be described in detail here. Dr Buttino demonstrated the practical use of the confocal microscope to small groups as the equipment could not be transferred from the laboratory in which it was used to the Resource Centre. Apart from this the practical sessions in the laboratory of the resource centre were provided with sorted and unsorted preserved plankton from the Indian Ocean and the Antarctic as well as European waters. Some participants brought interesting material from their own institutions. Also live plankton caught daily off Plymouth. The participants worked in various sized groups with advice and guidance from the speakers, organising group and other SAHFOS staff. A video microscope with large monitor was used to display material of particular interest.

Participation in the workshop has resulted in new initiatives for future research, for example during her visit Dr Buttino carried out studies on the morphologies of widely distributed copepods from different areas to provide a basis for further research in intra-specific populations or cryptic speciation. Also Dr Kirby has been approached for further information on the analysis of DNA from formalin preserved material.

Feedback forms were distributed to participants. The responses in were generally positive, participants enjoyed the workshop, were complimentary about SAHFOS and appreciated the organisation. The main critical comment was that some participants would have liked more structure and organisation to the practical sessions.

## Feedback

Due to oversight by the chairman, internally generated feedback forms were distributed at the workshop. These indicated a high degree of satisfaction with the course, with the main criticism being the need for a more structured approach in the practical sessions. The MARBEF form was sent by e-mail to participants shortly afterward and 8 replies have been received to date from 2 Scientists, 1 Postdoc, 3 Technicians and 2 Ph.D students. The results are summarised below

	Excellent	Very good	Good	Satisfactory
In general the course was:	2	5	1	
The course content was:	2	6		
The course organization was:	4	4		
The instructors were:	7	1		
The presentations were:	3	5		
The presentation style was:	4	3	1	

The handouts were:	3	4	1	
This course was in comparison to other courses you have participated?*	2	5		
My expectation for this course was met (please provide a percentage):	100%	90%	70%	
	3	4	1	

\* 1 No response entered

## Acknowledgements

We thank the University of Plymouth (Dr. Roger Haslam, School of Biological Sciences) and Olympus Optical Co. (U.K.) Ltd., who made microscopes available for the workshops. Dr Colin Brownlee of the MBA made the confocal microscope available.



Participants speakers and some of the organisers of the Crustacean Zooplankton Taxonomic workshop



Viewing copepods on the video-microscope at the workshop.



Participants examining specimens in a practical session.