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MarBEF



Marine Biodiversity and Ecosystem Functioning

EU Network of Excellence

Sustainable development, global change and ecosystems

D-7-CSP-4.4 Report on training course “Makrozooplankton and Micronekton”, Bergen

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Organisation name of lead contractor for this deliverable

Framework Programme (2002-2006)		
Dissemination Level		
PU	Public	X
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

Report Taxonomy course

MARBEF Responsive Mode Project “Integration of different methods to study patterns and changes in pelagic biodiversity in the open ocean along the mid-Atlantic Ridge”.

Annelies Pierrot-Bults and Tone Falkenhaug

Identification of marine macrozooplankton and (micro)nekton

Field Station of University of Bergen, Norway, Espeland: 4-15 June 2007

Chaetognatha, Cephalopoda, Euphausiidae, pelagic Amphipoda, and small micronektonic fishes are abundant and typical members of the mid-Atlantic zooplankton and nekton communities. In studies of ecology and diversity of the mid-ocean fauna, correct identification of these organisms is essential. But the number of taxonomists that can actually carry out this work is low and steadily decreasing. The goal of the proposed course is to pass on the knowledge and skills of the still active taxonomic specialists to a new generation.

The course builds on the experience gained in similar identification courses in macrozooplankton held in Amsterdam and Concepcion. Highly skilled senior taxonomists have been asked to introduce the subject, and provide extensive hands-on training. After training under supervision of these world-class specialists, many ecology and biodiversity projects will benefit. The quality of the basic species-specific data is enhanced and the processing time decreased. Even if this course primarily focuses on the mid-Atlantic oceanic fauna, many taxa have wide distribution areas and hence the knowledge gained will benefit studies elsewhere.

The course aims to strengthen the competence in classical taxonomy and systematics of abundant and typical groups of the North Atlantic zooplankton and nekton. It is suitable for advanced students with basic training in faunistics, and for researchers wishing to acquire new skills for uses in studies of biodiversity and ecology. The course will consist of introductory lectures by specialists on the groups followed by extensive hands-on training sessions in the laboratory. The emphasis will be on species identification based on morphological and anatomical characters, and the sample material will be drawn from the northern mid-Atlantic (MAR-ECO collection at the Bergen Museum). The specialists will be asked to provide a reference collection for future use and relevant identification tools. Also available CD-ROM and web-based material will be used.

Requirements: Students are expected to bring their own laptop computers. The students are also expected to give a short presentation of their Ph.D. work during the evenings

LECTURERS: **Dr. Alistair Lindley** (SAHFOS, Plymouth) *euphausiids*, **Dr. Georgyi Vinogradov** (Severtsov Institute, Moscow, P.P. Shirshov Institute of Oceanology, Moscow) *amphipods*. **Dr. Endre Willassen** (Bergen Museum (UoB). *Curation of collections and barcoding* **Dr. Philippe Porteiro** (University of the Azores, Horta, Portugal) *Mid-water Fishes*. **Dr. Annelies Pierrot-Bults** (Zoological Museum Amsterdam, University of Amsterdam) *Chaetognatha*. **Dr. Uwe Piatkowski** (Universität Kiel, Germany) *Cephalopoda*.

Because of the funding situation we were not able to carry out the course in 2006 as earlier planned, so we combined plankton and micronekton in one course.

Espegrend station is very well equipped for a course like this. The labroom can easily accommodate 12 students, more than that would be a bit cramped. The living quarters are well-equipped but catering for lunch and dinner was commissioned from outside because doing it ourselves would have been too time-consuming.

As can be seen from the participants list students came from seven countries e.g. Austria, Germany, Netherlands, Portugal, Turkey, U.K. and U.S.A., seven females and five males. The teachers came from Germany, Netherlands, Norway, Portugal and the U.K., two females and four males.

The course was executed as was outlined in the introduction and slightly changed as can be seen from the programme. The teachers had to be changed because Frances Pages had a schedule conflict and had to decline the invitation. The most sad thing was that he very unexpectedly died two weeks before the course. Martin Angel also could not come so we fortunately found Alistair Lindley able to come and to teach about the euphausiids. Unfortunately Georgyi Vinogradov had to cancel at the last moment because his father Michael Vinogradov was very ill and died in this period.

The students were very satisfied with the model of the course and the balance between talks and practical work. Most of the time was spent in hands-on work working with the specimens and the presence of an expert to teach then the most efficient way of sorting and identifying. Also the combination of taxonomic information, general biogeography-biodiversity information and handling of collections was well received. Students would have liked a greater number of groups treated but then the course had to be still longer, for a next course other groups could be chosen. Other comments included that it was a bonus to meet other people in this field, and that new contacts were made, creating a network of young scientists in this field.

All participants received a certificate.

Identification of marine macrozooplankton and (micro)nekton

Bergen, Norway 4-15 June 2007

Programme

Monday 4 June: Arrival and Introduction

Participants arrive

1800: Welcome and introduction (*Annelies Pierrot-Bults*)
1900 Dinner

Tuesday 5 June: Euphausiids

0800-0830 Breakfast
0900-1230 Morphology, ecology, diversity and systematic of Euphausiids (*Alistair Lindley*)
1230-1400 Lunch and possibility for short hike/swim
1400-1730 Hand-on training session Euphausiids
1730-1800 Presentation on MAR-ECO (*Tone Falkenhaug*)
1900 Dinner

Wednesday 6 June: Euphausiids

0800-0830 Breakfast
0900-1230 Hand-on training session Euphausiids
1230-1400 Lunch and possibility for short hike/swim
1400-1730 Hand-on training session. Euphausiids
1730-1830 Student presentation Clare Buckland and Marianne Wootton
1900 Dinner

Thursday 7 June: Biogeography and Plankton

0800-0830 Breakfast
0900-1230 Pelagic biogeography ((*Annelies Pierrot-Bults*1200-1400
1230-1400 Lunch and possibility for short hike/swim
1400-1730 Hand-on training session
1730-1830 Student presentation Vanda Carmo and Young-Nam Kim
1900 Dinner

Friday 8 June: Chaetognatha

0800-0830 Breakfast
0900-1030 Morphology, ecology, diversity and systematic of Chaetognatha (*Annelies Pierrot-Bults*)
1030-1230 Hand-on training sessions Chaetognatha
1230-1400 Lunch and possibility for short hike/swim
1400-1730 Hand-on training sessions Chaetognatha
1730-1830 Student presentation Dimitry Roelofs, Benin Toklu-Alicli
1900 Dinner

Saturday – Sunday 9-10 June

Breakfast: Self service

Free activities. Possibilities for excursions/sightseeings (*suggestions and timetables for the busses*)

Participants will have to make their own arrangement for lunch and dinner

Monday 11 June: Cephalopoda

0800-0830 Breakfast
0900-1230 Morphology, ecology, diversity and systematic of Cephalopoda (*Uwe Piatkowski*)
1230-1400 Lunch and possibility for short hike/swim
1400-1730 Hands-on training session Cephalopoda
1730-1830 Student presentation Henrike Hamer, Nina Dehnhard
1900 Dinner

Tuesday 12 June: Cephalopoda and Mesopelagic Fish

0800-0830 Breakfast
0900-1230 Hands-on training session Cephalopoda
1230-1400 Lunch and possibility for short hike/swim
1400-1530 Morphology, ecology, diversity and systematic of mesopelagic fishes (*Filipe Porteiro*)
1530-1730 Hands-on training session Mesopelagic Fish
1730-1830 Student presentation Annemarie Kramer, Kyle Bartow
1900 Dinner

Wednesday 13 June: Mesopelagic Fish and visit Bergen Museum

0800-0830 Breakfast
0900-1230 Hands-on training session Mesopelagic Fish
1230-1330 Lunch
13.30 Departure to the Bergen Museum
14.00-1700 Lectures and visit at the Bergen Museum
-- Specimen processing and museum collections. (*Endre Willassen*)
-- DNA-barcoding and taxonomy. (*Endre Willassen*)

Thursday 14 June: Mesopelagic Fish

0800-0830 Breakfast
0900-1230 Hands-on training session Mesopelagic Fish
1230-1400 Lunch and possibility for short hike/swim
1400-1730 Hands-on training session Mesopelagic Fish
1730-1800 Student presentation Holger Ossenbrügger
1800-1830 Presentation on CmarZ (*Annelies Pierrot-Bults*)
1900 Dinner

Friday 15 June

0800-0830 Breakfast
0900-0930 Presentation on MARBEF (*Uwe Piatkowski*)
0930-1230 Hands-on training session (special interests)
1230-1400 Lunch
Departure

List of participants training course

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