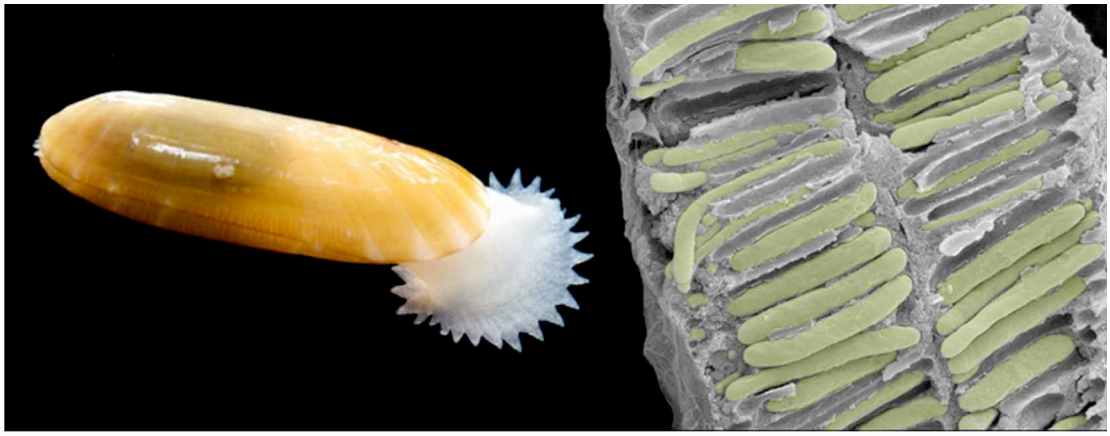

Chemosymbiotic molluscs and their environments: from intertidal to hydrothermal vents

7 - 8 April 2011
The Natural History Museum, London

The Malacological Society

NATURAL HISTORY MUSEUM

ASSOCIATION • THE PALAEONTOLOGICAL

7th APRIL 2011

10.00

COFFEE

10.20 Welcome and introduction
Professor Phil Rainbow (Head of Zoology, NHM)

10.30 Sarah Samadi (Systématique, Adaptation et Evolution, Université Pierre et Marie Curie, Paris)
'Mytilids associated with sunken wood shed new light on the evolution of Bathymodiolinae'

11.00 Sebastien Duperron (Systématique, Adaptation et Evolution, Université Pierre & Marie Curie, Paris)
'Connectivity and flexibility of mussel symbioses: how to cope with fragmented and variable habitats?'

11.30 Clara Rodrigues (Universidade de Aveiro, Portugal)
'Chemosymbiotic bivalves from mud volcanoes in the Gulf of Cadiz: an overview'

12.00 Graham Oliver (National Museum of Wales, Cardiff)
'Thyasiridae: the known and the unknown: setting priorities for future research'

12. 30

LUNCH
(12.45 – 1315 Annual General Meeting Malacological Society)

13.30 Heiko Sahling (Geosciences, University of Bremen)
'The geological and geochemical environment of vesicomyid clams'

13.50 Elena Krylova (Institute of Oceanology, Moscow)
'Vesicomyidae (Bivalvia): current systematics and distribution'

14.10 Steffen Kiel (Geobiology, University of Göttingen)
'The fossil history of chemosymbiotic bivalves'

14.40 John Taylor and Emily Glover (Zoology, NHM London)
'Ancient chemosymbioses – contrasting diversification histories of Lucinidae and Solemyidae'

15.00 Olivier Gros (Université des Antilles et de la Guyane, Guadeloupe)
'*Codakia orbicularis* gill-endosymbiont produces quorum-sensing signals of the AHL-class: putative impact on the bacterial population control in lucinids'

15.30 **TEA BREAK**

16.00 Caroline Verna (Max Planck Institute of Marine Microbiology, Bremen)
'Lucinid symbiont diversity: influence of host selection, geography, habitat and depth'

16.20 Jenna Judge (Integrative Biology, University of California Berkeley)
'Testing diversification processes in chemosymbiotic gastropods: a phylogenetic approach'

16.40 Adrian Glover (Zoology, NHM London)
'Chemosynthetic ecosystems of the Antarctic: a test of dispersal'

17.00 Final remarks

RECEPTION
1700-1800 h

POSTERS

Luciana Génio, Anders Warén, Fábio L. Matos, Clara F. Rodrigues and Marina R. Cunha (Department of Biology, University of Aveiro, Portugal.)
'Revealing diversity of gastropods from the Gulf of Cadiz (NE Atlantic) mud volcanoes and adjacent deep-sea habitats'

Fiona Gill (School of Earth and Environment, University of Leeds)
'*Elongatolucina* – a new lucinid genus from Cenozoic seeps and possible seep sites".

Krzysztof Hryniewicz[1], Hans Arne Nakrem[1], Oyvind Hammer[1] and Crispin Little[2]
(Natural History Museum, University of Oslo, [2] School of Earth and Environment, University of Leeds)
'Chemosymbiotic bivalves from Jurassic-Cretaceous boundary hydrocarbon seeps from Svalbard'

Justine Thubaut (Systématique et Evolution, Museum National d'Histoire Naturelle, Paris)
'Thermophilus' lineage and its sister group: a biological comparative study.

Robert G. Jenkins, Andrzej Kaim, Crispin T. S. Little, Yasuhiro Iba, Kazushige Tanabe, and Kathleen A. Campbell
'Caspiconchiid bivalves: widespread occurrences in late Mesozoic cold-seeps'

LUNCH

There are several eating outlets in the Natural History Museum including the Deli Café near the Flett Theatre and the Central Hall Café and Restaurant in the main museum. Just across Exhibition Road there is the Victoria & Albert Museum Café. Between the Natural History Museum and South Kensington Station there are many cafés, sandwich bars and restaurants to suit all tastes and pockets.

8th APRIL 2011
Chemosymbiotic Molluscs continued

VENUE – Sir Neil Chalmers Science Seminar Room
(Darwin Centre room .LG16)

This room is located in the basement of the Darwin Centre (Orange Zone). Walk to the extreme western end of the museum, until you reach the Cocoon, continue down the stairs, turn right and you will find the Seminar Room in the far corner of the atrium

10- 10.20 **COFFEE**

10.20 – 10.40 Paul Dando (Marine Biological Association, Plymouth)
"Fjord thyasirid populations and sediment geochemistry".

10. 40 – 11.00 Matthijs van der Geest (Royal Netherlands Institute for Sea Research)
"Ecological importance of chemoautotrophic lucinid bivalves in the Banc d'Arguin (Mauritania) intertidal ecosystem"

11.00-11. 20 Karina van der Heijden (Max Planck Institute of Marine Microbiology, Bremen)
'Biogeography of Mid-Atlantic Ridge hydrothermal vent mussels and associated bacterial symbionts'

11.20-1140 John Hartley (Hartley Anderson Ltd, Aberdeen)
'Chemosynthetic bivalve responses to oil contamination around North Sea wells and platforms'

11.40-11.50 Graham Oliver & John Taylor (National Museum of Wales and NHM)
'First confirmation of bacterial symbiosis in Nucinellidae'

GENERAL DISCUSSION SESSION

Possible themes for discussion:

Evolution of chemosymbiosis – when and how?
- links between fossil record and origin of symbiosis
- adaptive radiation into new environments

Biogeography and dispersal
- explaining present-day patterns based on dispersal ecology and local ecology
- role of multiple types of chemosynthetic ecosystems

Mechanisms of symbiosis
- horizontal vs vertical transmission
- infection and mutual recognition signals
- bacterial symbiont diversity
- host morphological adaptations

Ecology of chemosynthetic ecosystems?
- role of molluscs (e.g large mussel beds) in the functional ecology of vents and seeps
- chemical ecology (settlement, sulphides, feeding etc)

Future directions

1300 CLOSE