FOURTH EUROPEAN MARINE BIOLOGY SYMPOSIUM
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D. J. CRISP

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CONTENTS

Editor’s Foreword and Opening Address ................................................. page 1

THEME A. THE BIOLOGY OF MARINE INVERTEBRATE LARVAE

1. Field observations

R. S. SCHELTEMA
The dispersal of the larvae of shoal-water benthic invertebrate species over long distances by ocean currents 7

L. WOOD and W. J. HARGIS
Transport of bivalve larvae in a tidal estuary 29

M. HRS-BRENKO
Observations on the occurrence of planktonic larvae of several bivalves in the Northern Adriatic Sea 45

J. B. PEARCE and J. R. CHESS
Comparative investigations of the development of epibenthic communities from Gloucester, Massachusetts to St Thomas, Virgin Islands 55

B. BÖHLE
Settlement of mussel larvae, Mytilus edulis, on suspended collectors in Norwegian waters 63

2. Experiments on behaviour and distribution

A-M. JANSSON and A-S. MATTHIESEN
On the ecology of young Idotea in the Baltic 71

E. W. KNIGHT-JONES, J. H. BAILEY and M. J. ISAAC
Choice of algae by larvae of Spiorbis, particularly of Spiorbis spiorbis 89

J. S. RYLAND and A. R. D. STEBBING
Settlement and orientated growth in epiphytic and epizoic bryozoans 105

J. MOYSE
Settlement and growth pattern of the parasitic barnacle Pyrgoma anglicum 125
### CONTENTS

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>P. A. Gabbott and V. N. Lorman</td>
<td>Electrophoretic examination of partially purified extracts of <em>Balanus balanoides</em> containing a settlement inducing factor</td>
<td>143</td>
</tr>
<tr>
<td>W. G. Fry</td>
<td>The biology of larvae of <em>Ophlitaspongia seriata</em> from two North Wales populations</td>
<td>155</td>
</tr>
<tr>
<td>B. L. James</td>
<td>Host selection and ecology of marine digenean larvae</td>
<td>179</td>
</tr>
</tbody>
</table>

#### 3. Growth, development and fine structure

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>P. Bougis</td>
<td>Effet de la température sur le développement endotrophe des pluteus</td>
<td>197</td>
</tr>
<tr>
<td>M. Bernard</td>
<td>La forme elliptique de la relation température-durée de développement embryonnaire chez les copépodes pelagiques et ses propriétés</td>
<td>203</td>
</tr>
<tr>
<td>J. D. Costlow and C. G. Bookhout</td>
<td>The effect of cyclic temperatures on larval development in the mud-crab <em>Rhithropanopeus harrissii</em></td>
<td>211</td>
</tr>
<tr>
<td>C. Thiriot-Quievreux</td>
<td>Les véligères planctoniques de Prosobranches de la région de Banyuls-sur-Mer (Méditerranée occidentale): phylogénie et métamorphose</td>
<td>221</td>
</tr>
<tr>
<td>P. H. Gibson and J. A. Nott</td>
<td>Concerning the fourth antennular segment of the cypris larva of <em>Balanus balanoides</em></td>
<td>227</td>
</tr>
<tr>
<td>P. L. Holborow</td>
<td>The fine structure of the trophophore of <em>Harmothoe imbricata</em></td>
<td>237</td>
</tr>
<tr>
<td>C. Cazaux</td>
<td>Développement larvaire de <em>Microspio mecznikowianus</em></td>
<td>247</td>
</tr>
<tr>
<td>B. L. Bayne</td>
<td>Some morphological changes that occur at the metamorphosis of the larvae of <em>Mytilus edulis</em></td>
<td>259</td>
</tr>
</tbody>
</table>
CONTENTS

R. W. HICKMAN and LL.D. GRUFFYDD
The histology of the larva of Ostrea edulis during metamorphosis 281

J. H. HUBSCHMAN
Transient larval glands in Palaemonetes 295

W. C. JONES
Spicule formation and corrosion in recently metamorphosed Sycon ciliatum (O. Fabricius) 301

THEME B. LIGHT IN THE MARINE ENVIRONMENT
1. Measurement of illumination and its influence in submarine environment

R. M. SMITH and W. E. JONES
The measurement of inshore submarine irradiation 321

J. M. KAIN (MRS N. S. JONES)
Continuous recording of underwater light in relation to Laminaria distribution 335

K. LÜNING
Seasonal growth of Laminaria hyperborea under recorded underwater light conditions near Helgoland 347

W. E. JONES and E. S. DENT
The effect of light on the growth of algal spores 363

M. J. DRING
Light quality and the photomorphogenesis of algae in marine environments 375

F. O. QURAISHI and C. P. SPENCER
Studies on the responses of marine phytoplankton to light fields of varying intensity 393

T. A. NORTON, F. J. EBLING and J. A. KITCHING
Light and the distribution of organisms in a sea cave 409

D. ZAVODNIK
Light conditions and shade seeking populations among algal settlements 433
2. The responses of marine animals to light

D. J. CRISP and A. F. A. A. GHOBASHY
Responses of the larvae of Diplosoma listerianum to light and gravity 443

J. H. S. BLaxter and M. E. STAINES
Food searching potential in marine fish larvae 467

D. A. JONES
A new light trap for plankton 487

J. C. CASTILLA
Responses to light of Asterias rubens 495

V. M. THAIN
Diurnal rhythms in snails and starfish 513

L. FORBES, M. J. B. SEWARD and D. J. CRISP
Orientation to light and the shading response in barnacles 539

A. R. GIDNEY
The light sensitivity and light environment of Corophium volutator (Abstract only) 559

D. GEORGES
La lumière et le déclenchemen de la ponte chez Ciona intestinalis 561

L. GIDHOLM
Light controlled swarming in the polychaete Autolytus (Abstract only) 571

S. G. SEGERSTRÅLE
Light and gonad development in Pontoporeia affinis 573

Index 583
FOREWORD

The IVth European Symposium on Marine Biology (E.M.B.S.) took place at Bangor between 14 and 20 September 1969 by invitation of the Marine Science Laboratories of the University College of North Wales. It was attended by some two hundred participants from twenty countries. Financial support for the Symposium was received from the Council of Europe and the Royal Society of London; the Bangor City Council, the University College of North Wales and the University of Wales provided hospitality to the guests.

Previous symposia of this series have been held at the Biologische Anstalt, Helgoland, German Federal Republic (1966); at the Biological Station, Espegrend, Norway (1967), and at the Station Biologique d’Arcachon, France (1968). The aim of these meetings is to foster personal contact between scientists working in marine institutes and university departments of European countries and to offset the tendency for marine biologists to lose touch with the subject as a whole, through the necessity to specialise on particular lines. Topics of wide interest to ecologists, physiologists and taxonomists are therefore chosen as themes around which the programme of each symposium is built.

The two themes of the IVth Symposium were, ‘Larval biology’ and ‘Light in the marine environment’. Forty-two contributions were delivered and discussed; the majority of them have been included in this volume.

My task of editing the proceedings has been made much lighter through the willing assistance given me by Professor J. M. Dodd, Professor E. W. Knight-Jones, Professor Robert Weill, Dr J. H. S. Blaxter as well as by the staff of my own department. Mrs Marian Jones checked the references and Mrs. M. Flowdew undertook the secretarial work in connection with editing the volume.
OPENING ADDRESS

D. J. CRISP

Marine Sciences Laboratories, Menai Bridge, Anglesey

When the invitation was issued to European marine biologists to hold their Fourth Symposium in Bangor, the College had in mind not only the merits of North Wales as a venue for such a meeting, but also the honour that the Symposium would do us in meeting here on the 21st birthday of the Marine Science Laboratories. It seems fitting, therefore, that in my address of welcome, I should give a brief outline of the history of our institute.

For the benefit of those who are not acquainted with the politics of the University of Wales, I should first explain the relationship between the Marine Science Laboratories, the University, and the University College at Bangor. The essential point to be remembered is that in Wales it is the constituent colleges that are responsible for all the teaching and research, each college being in effect a separate university, whereas the ‘University of Wales’ is an administrative structure which serves to link the colleges loosely together. The Marine Science Laboratories contain two independent university departments, Marine Biology and Physical Oceanography, belonging to and administered by the University College of North Wales, Bangor.

A journey to these parts of the Principality is no longer a major expedition to a wild and remote area, as it was in the days when the naturalists John Ray and Thomas Pennant visited North Wales. Nevertheless, the mountains of Snowdonia still create a sense of isolation from the rest of the country. It is perhaps owing to this happy illusion, as well as to the vigilance of conservationists, that North Wales has, at least until recently, resisted the despoilation that usually follows in the wake of development of communications and growth of population.

Accessibility, combined with an unspoilt and natural environment, has been the major asset of the University College situated at Bangor and accounts for its success in many fields of environmental biology. The marine life is exceptionally rich and easily available for other reasons also. The Menai Strait is unique in combining shelter from storms with a great cleansing flush of tidal water. The coastline within some twenty miles of Menai Bridge is both extensive and varied and includes an important faunal disjunction at Carmel Head, North-west Anglesey. There are all grades of deposits from mud to coarse gravel and boulders, coasts of smooth and
fissured rock. Within easy reach to the east are estuaries and shores exhibiting all types and conditions of pollution.

Not surprisingly, the affinity that marine biologists have felt for North Wales predates by half a century the interest now shown by the University College.

William Herdman, following his appointment in 1881 as the first Derby Professor of Natural History at Liverpool, attempted to set up a Marine Biological Station within easy reach of his University. He was perhaps the originator of that unfortunate tradition that the devotees of marine biology should reside on an island and work in dilapidated buildings. His first attempt to found a station was at Hilbre Island, accessible only across the sands of Dee at low water. His second attempt was made on Puffin Island, now a rocky and exposed bird sanctuary at the extreme easterly tip of Anglesey. Here, in 1889, he and his staff landed by a small boat, entered a disused semaphore telegraph station and restored it as a laboratory. But after several strandings of ships on the mainland and of scientists on the island, the enterprise was abandoned in 1891. Herdman then turned his attention to Port Erin on the Isle of Man, where the laboratory associated with Liverpool University was eventually established.

The first permanent marine laboratory in North Wales was established at Conway and arose through an unfortunate occurrence of typhoid poisoning, allegedly caused by the proximity of the mussel beds to the town’s sewage outfall. The Ministry’s Shellfish Experimental Station at Conway was initially headed by the bacteriologist R. W. Dodgson, whose task was to establish a cleansing procedure to safeguard the important Conway mussel industry. The location of this laboratory is perhaps unique in having been determined by proximity to pollution. Yet, despite this disadvantage, its programme now encompasses the whole range of shellfish biology and is prominent in the development of shellfish cultivation in association with the White Fish Authority’s oyster hatchery.

The foundations of the interest of the University College of North Wales in marine biology were laid by the late Professor F. W. Rogers Brambell, F.R.S., who was made Lloyd Roberts Professor of Zoology at Bangor in 1930. Shortly after his appointment he instituted a vacation course for undergraduate students which was, I think, the first of its kind offered by a British university department. This not only gave a strong impetus to marine studies at Bangor, but also familiarized many zoology students of other universities with the faunal diversity of the area.

In 1942, Rogers Brambell and Sir D. Emrys Evans, the then College Principal, suggested that a Marine Biology Station should be set up at
FOREWORD AND OPENING ADDRESS

Bangor as part of the post-war plans of the University. In 1947 the University Grants Committee agreed in principle to this development, on the understanding with the University of Wales, that it would meet the needs of all four constituent colleges. The following year marked the first meeting of the University Advisory Committee which was set up to steer the station’s development. Plans were made for the appointment of a Director, the purchase of a boat and the acquisition of land on the Caernarvonshire side of the Menai Straits. In so far as an institute can be said to have been born, rather than merely conceived, the year 1948 should be regarded as the birthday of the University’s Marine Station.

The station suffered a tragic setback when the first Director, Dr Fabius Gross, died within a year or so of his appointment. By then no financial commitment had been made to erect a laboratory, though Gross and the College architects had planned a large building of the character required to stand on the Caernarvonshire side of the Straits, close to Bangor, at Nantporth.

By 1951, when I joined Dr E. W. Knight-Jones, then acting Director, and Dr C. P. Spencer, who was training under H. W. Harvey, F.R.S., at Plymouth, the political situation had deteriorated and any priority accorded to the Marine Station had been dropped in favour of new science buildings and halls of residence. It became necessary, therefore, to buy time. The laboratory had to be set up in temporary accommodation. By good fortune, a house built in spacious Victorian style, known as Westbury Mount, came on the market. Admittedly, it had defects characteristic of old buildings; an unsuitable layout, unstable floors, dry rot and, it is believed, a poltergeist; nevertheless its situation was ideal. It commanded fine views of the Straits, it was centrally placed in relation to the best collecting areas, and its proximity to the public pier was very convenient for boat work and for seawater supplies. It rightly became the permanent location of the laboratory.

Curiously, despite the vigorous growth of the Department of Marine Biology during a period of great university expansion, it never acquired a major science building of its own, but continued to lean on the massive rubble walls of Westbury Mount. Indeed, the Department’s achievements would not have been possible, but for its having adopted the way of life of the hermit crab. Having outgrown its original home, it has repeatedly moved into another vacated by the previous occupant, whenever the opportunity arose. But unlike the old shells of the hermit crab, those of the Marine Biology Department continue to be occupied.

In 1962, a metamorphosis began; the ‘Marine Biology Station’ was renamed ‘The Marine Science Laboratories’ to accommodate two new
developments; a Department of Physical Oceanography of which Professor J. Darbyshire is now the Head, and a Unit of Marine Invertebrate Biology which was set up by the Development Commissioners, a body which has now been absorbed into the Natural Environment Research Council. This Unit, which is closely linked with the Department of Marine Biology, is concerned at present with studies of marine invertebrate larvae. These two new ventures, together with a Research Vessel, the Prince Madog, and a laboratory for fish physiology generously given by the Nuffield Foundation, have led to a considerable broadening of the disciplines studied.

One of the themes chosen for the Symposium, ‘Larval biology’, is especially pertinent to this occasion, since so many marine Bangorians, past and present, have made significant contributions to the subject. Some years before the Marine Station was founded, Dr Cole and Dr Knight-Jones, both old students of the college, studied the setting behaviour of oysters at the Conway laboratory; Dr Walne has since extended this work into the practical world of oyster culture, and Dr Knight-Jones, now Professor of Zoology at University College Swansea, has continued his interest in gregarious settlement. It is indeed a great pleasure to see at this Symposium so many colleagues and past students who have contributed to this field of research.

The second theme, ‘Light in the marine environment’, is less obviously related to the recent programmes of the laboratory. Nevertheless, it would have gratified its first Director, since Dr Fabius Gross had intended that the Marine Station should become a focus for the study of the microbiology of primary production in the sea, and Dr Spencer, with his collaborators, has continued to give emphasis to this subject.

To see so many European countries, not to mention some outside Europe, represented among the participants, encourages those who initiated these Symposia to believe that, as they become better known year by year, they are fulfilling their purpose more successfully. In welcoming you all to this, the Fourth Symposium, I would like to express my own view that the scientific sessions, important as they are, serve only as a framework. The more important side of such a gathering is the opportunity it offers, through informal discussion, to forge good personal relationships and to get to grips with fundamental scientific problems. I hope, therefore, that the domestic arrangements and the social events will provide sufficient time for such activities as well as allowing you to see something of our beautiful countryside.

Finally, I would like to thank all those who have made this Symposium possible. We have no formal organisation, and therefore must rely entirely
on the assistance so generously given by members of the host institution. There are too many to name individually, but I would like to say that not only have many of the staff, students and their wives from my own department given willingly of their time, but we have also had generous help from many others, including the College administration, the women’s hall of residence, the Department of Zoology and our colleagues from the laboratory at Conway.