

Porcupine Newsletter

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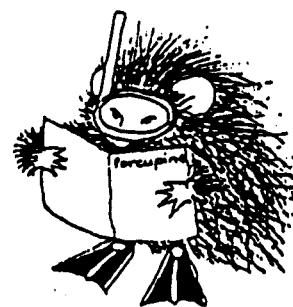
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* * * *

Roger Bamber, Hon. Editor
Marine Biology Unit, C.E.G.B, Fawley
Southampton SO4 1TW, U.K.



STOP PRESS: We hope to resolve the hiccough in timing of issues this year by producing the next in time for the New Year. This wish is of course dependent on your contributions, so please don't hesitate. Don't forget - this is YOUR Newsletter: use it.

PORCUPINE

| | |
|--|------------------|
| Hon Secretary | Hon Treasurer |
| Dr Martin Sheader | Dr Antony Jensen |
| Department of Oceanography, The University | |
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EDITORIAL

I was evidently in error to suggest at this year's A.G.M. that the response of speakers at our meetings in supplying articles from their talks for publication in the NEWSLETTER was encouragingly satisfactory. The reason that there are no reports from the Spring Meeting in this issue is that no manuscripts have been received (apologies, if needed, to Sue Hiscock, with whom the enclosed abstraction on MNCR (p.61) was agreed).

This of course means that we have adequate capacity for all those articles which Members (and non-Members) have been waiting to submit (?), so please don't be shy. We do command a readership which is actually very interested in marine biology (fauna lists, ecological notes, reviews, requests, responses, letters, new records, alien species, the progress of recording schemes, zoogeography, nomenclatural changes, announcements of meetings, workshops, field meetings, not to mention full blown articles of the kind you are hopefully becoming familiar with in the NEWSLETTER). Equally, this organ is often the only vehicle by which many Members keep in touch with the goings on and with others Members of PORCUPINE. And they may often be able to help you.

Regarding the article on pages 51-54, Gerhard Cadée did submit a photograph of an *Attalea* seed to illustrate his paper; alas, attempts at its reproduction for the NEWSLETTER were unsatisfactory, and my apologies to Gerhard.

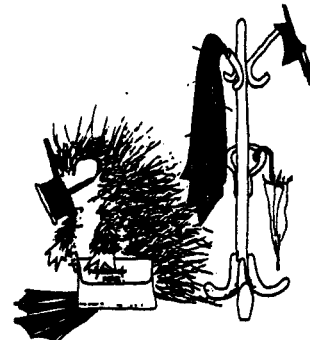
Our best wishes go to the Scottish Marine Group, who are holding their inaugural meeting on 27th October at Stirling. For those of you saying "Who?", we have hopes of an article on the Group from John Gamble in the near future.

On an international note, we join the concern currently felt in Japan over the health of Emperor Hirohito, who, most people and certainly news media seem not to appreciate, has been a keen marine biologist in that country over the past fifty years, particularly in the Sagami Bay area, and his speciality has been Hydrozoa. I was fortunate recently to receive one of the series of publications from His Majesty's Biological Laboratory, Imperial Palace, where the Emperor's extensive collections are held and studied in a now well established institution which can hopefully continue in success from the foundation that the Emperor has established.

Alas it seems we are too late to offer similar encouragement to the Plankton Recorder Survey, the demise of which can only be seen as a significant loss to marine biology in the world. Please do not R.I.P!

Roger Bamber
Hon. Ed.

Porcupine Newsletter, 4 (3), 1988



SEEDS OF *ATTALEA FUNIFERA* MART. AND A REVIEW OF OTHER TROPICAL SEEDS FROM THE DUTCH COAST

by G.C. Cadée

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ABSTRACT

Three seeds of the tropical palm *Attalea funifera* are reported from the Dutch coast. These seeds cannot drift; two were dredged. They are supposed to originate from shipwrecks. A survey of tropical (drift) seeds found on the Dutch coast reveals that most of them crossed the ocean by ship. They are imported for industrial purposes, or, particularly recently, for decorations. Real tropical drift seeds are rare on the Dutch coast and, moreover, hard to distinguish from those imported by man. This may also hold for other European coasts.

INTRODUCTION

Tropical drift seeds are relatively rare on European coasts but have attracted attention for a long time. In particular, the Irish coast is famous for its tropical drift seeds (see Lobelius & Pena, 1570, and other older literature cited in Colgan, 1919; also Guppy, 1917; Nelson, 1977; 1986).

A number of authors have investigated buoyancy of seeds and their viability after a prolonged time in seawater, in order to establish the role of seed transport by sea in plant dispersal (Darwin, 1857; Martins, 1857; Guppy, 1906; Praeger, 1913). Ridley gives an excellent summary of the subject.

Recently tropical (drift) seeds have also been discovered on the Dutch coast (Leenhouts, 1968; Kofman & van Tol, 1972; van Benthem Jutting, 1977; de Boer, 1980; Vader, 1980; Heerebout, 1981; de Graaf, 1984; Smit & Wagner, 1985; Cadée, 1983, 1986a, b, 1988). However, it has been repeatedly questioned whether these seeds have travelled all the way from the tropics to our coast by ocean currents. This paper summarizes these Dutch data and particularly stresses the importance of transport by man. It also presents the first record of seeds of the palm *Attalea funifera* Mart. from the Dutch coast. These heavy, non-buoyant seeds have certainly been transported by man.

ATTALEA FUNIFERA MART.

Some time ago the author received two interesting seeds for identification. They were found on the beach of the island of Texel, one in the early seventies by Mr C.G.J. van Empel, the other in 1985 by Mr J.P.G. Schraag. They bear some superficial resemblance to coconuts deprived of their vesicular outer layer. However, they are smaller (lengths 8.2 and 7.4 cm), more oval, and the three germination holes are larger than in the coconut. They are heavier than water and cannot drift: their occurrence on the beach thus posed some problems. The one from 1985 was found in sand which had been dredged from the sea, from the inlet area between Texel and Vlieland; in recent years this sand has been used to supplement the beach on Texel because of the alarming erosion on the North Sea coast. For the earlier specimen, the finder could not recall the circumstances exactly, but it certainly dates from before this period of sand supplementation.

Identification as *Attalea funifera* proved easy, particularly as comparison with nuts in the carpological collections of the Rijksherbarium Leiden was possible. Moreover, the herbarium collection contained another specimen (carp. coll. 13285) from the Dutch coastal area. This nut was collected in 1938 during one of the attempts to recover the gold of the famous shipwreck of the frigate *Lutine*, wrecked in 1799 near Terschelling, the third of the Wadden Islands (van der Molen, 1970). Thus two of the *Attalea* nuts

were originally buried in coastal sediments, and only came to the surface owing to dredging activities.

How did these nuts arrive in the Dutch coastal area? It seems logical to assume that they were transported by ships. *A. funifera* nuts were used in the manufacture of buttons, doorknobs, etc. (Bondar, 1964; Menninger, 1977), the wood of the nut being very hard. Nuts of other *Astalea* species are used for the preparation of oil, and charcoal was made from the hard endocarp. As far as I know, *A. funifera* nowadays is only cultivated for the piaçaba (piassava) fibre from the leaves, from which hard brushes and brooms are manufactured (Kirby, 1963). *A. funifera* originates from tropical America, but it is now cultivated in Nigeria (Corner, 1966; Otedoh, 1973; Santos, 1979).

The *A. funifera* nuts collected from the Dutch coast most probably originate from ships that transported them from tropical areas (probably Brazil) to Europe. Many ships were wrecked on the coast off the Wadden Islands: I suppose the nuts to derive from such a shipwreck. A recent example of a shipwreck as a source of seeds on the coast is given by the *Compass I*, wrecked on the coast of Texel (12.1.1986), which delivered large quantities of soybeans to the beaches of Texel (pers. obs.).

OTHER TROPICAL SEEDS FROM THE DUTCH COAST

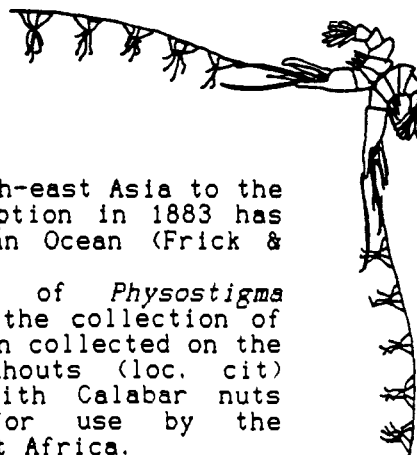
Undoubtedly, many of the tropical seeds on the Dutch coast have been transported by man. For seeds heavier than seawater this is evident: they cannot drift. This applies, for example, to ivory nuts (*Phytelephas macrocarpa* Ruiz & Pav.) reported for the Dutch coast (de Boer, 1980; Cadée, 1986a), and for *A. funifera*. Transport by ships over the ocean and subsequent short-distance transport by sea are most likely for a number of seeds introduced for human consumption, such as peanuts (*Arachis hypogaea* L.), Brazil nuts (*Bertholettia excelsa* Humb. & Bonpl.) and mango (*Mangifera indica* L.) (Guppy, 1917; Muir, 1937; Ridley, 1930; Gunn & Dennis, 1976).

Coconuts (*Cocos nucifera* L.) are regularly found on our beaches, but are seldom reported because they are not thought to be of interest. In 1985 I found one on Texel and Mr L.F. Weijdt (Texel) told me that he had found two germinating coconuts in the warm summer of 1947 on Engelsmansplaat, a high tidal flat in the Wadden Sea. Coconuts are well known long drifters, so they could probably reach European coasts with the Gulf Stream; however, Ridley (1930: p.322) and later Gunn & Dennis (1976: p. 182) suppose Norwegian records to be jetsam from ships. Although they can drift for years, they do not remain viable for such a long time (e.g. Stopp, 1956), and the viable Engelsmansplaat specimens could not have been drifting for that long.

More than 30 seeds of the well-known tropical drift-seed *Entada gigas* L. have been found together on the coast of Zeeland, south Netherlands (Bentham Jutting, 1977; Heerebout, 1981). The suspiciously high number involved suggest transport by man in these cases also: a possible source relates to the use of this seed in pharmacology. I recently observed *Entada* seeds being sold in a flower market, and Nelson (in Cadée, 1983) reports them being sold as "lucky beans" in coastal resorts in England.

The five *Mucuna* sp. seeds recorded from the Dutch coast (Leenhouts, 1968; Kofman & van Tol, 1972; Vader, 1980) may be true tropical drift seeds. Vader (loc. cit.) suggests that the fact that 4 of the 5 seeds were found in the northern part of the Netherlands could support this hypothesis, as the northern coast may be more suitable for collecting Gulf Stream drift (coming from the north). However, Leenhouts (1968) mentions the use of *Mucuna* seeds in ornaments (necklaces), for which purpose they may be introduced to Europe.

Pangium edule Reinw. is another tropical drift seed reported from the Dutch coast (Cadée, 1986b), and it originates from a tree which grows only in Malaysia. The same is true of *Cerbera odollam* Gaertner seeds from the Dutch coast (de Graaf, 1984; Smit & Wagner, 1985). These must be the result of human transport as no ocean



current can be envisaged to bring seeds from south-east Asia to the Dutch coast: even pumice from the Krakatoa eruption in 1883 has only been found on beaches bordering the Indian Ocean (Frick & Kent, 1984).

Leenhouts (1968) mentions three seeds of *Physostigma cylindrosperma* (Bak.) from the Dutch coast. In the collection of Mr C.G.J. van Empel I identified a fourth specimen collected on the beach of Texel in the early seventies. Leenhouts (loc. cit) suggests transport by ship, probably mixed with Calabar nuts (*P. venenosum* Balf.), which are imported for use by the pharmaceutical industry. Both species grow in West Africa.

Ricinus communis L. seeds are not uncommon on the Dutch coast, and from a number of localities seedlings have been reported germinating in the strand zone (Cadée, 1983); such seedlings were also reported from the Rotterdam Harbour area. These seeds can drift for much longer than reported in the literature: while most drift for only 5 to 10 days (Guppy, 1917), three seeds collected on the beach of Texel four years ago are still floating in my experiment (unpubl.). *Ricinus* seeds are imported for industrial purposes, and their occurrence on our beaches is attributed to transshipment. They are unknown from the Irish coast, so famous for genuine tropical drift seeds; Nelson (1986) does report them from Cornwall.

The importance of man in the occurrence of smaller (non-tropical) seeds in drift on our coasts was mentioned by Kuijper (1982). He lists, for instance, *Anthriscus cerefolium* (L.), *Cannabis sativa* L., *Coriandrum sativum* L., *Ficus carica* L., *Fragaria chiloensis* (L.) X *F. virginiana* Duch., *Hordeum vulgare* L., *Panicum cf. mileaceum* L., *Papaver somniferum* L., *Rubus idaeus* L., *Vitis vinifera* L., all of which are from cultivated plants. To these I can add the larger seeds of *Cucumis melo* L., *Helianthus annuus* L., *Persica vulgaris* Batsch., *Prunus domestica* L. and *P. avium* L. all from the coast of Texel, and all of which stem from human consumption. Previously Stopp (1956), in discussing Beguinot's (1901) paper on the drift of the Italian river Tevere, stressed the importance of man as a contributor of fruit and seeds.

CONCLUSION

We must conclude that most of the tropical drift seeds found on the Dutch coast have been transported by man. It is therefore very difficult to discern genuine tropical drift seeds which have come all the way from the tropical West Indies with the Gulf Stream. While this holds for the Dutch coast, we must also be suspicious about other European coasts (see also Gunn & Dennis, 1976).

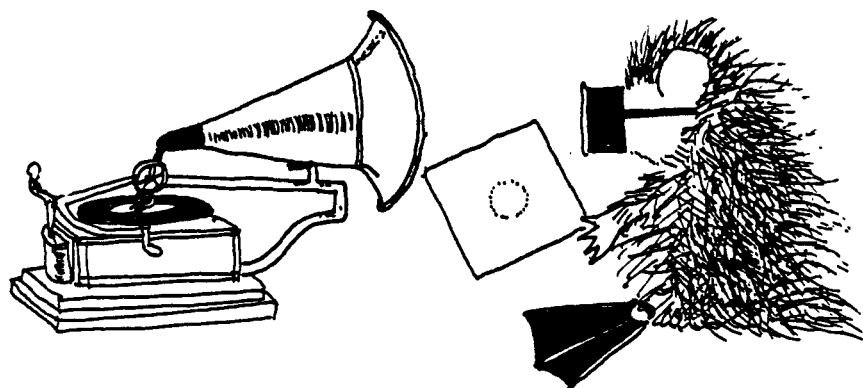
ACKNOWLEDGEMENTS I am very grateful to Mrs C.G.J. van Empel and J.P.G. Schraag (Den Burg, Texel) for the loan of the *Attalea* nuts from their private collections, and to Dr P. de Wolf for critically reading the manuscript.

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new records



Primno evansi Sheader (Crustacea: Amphipoda: Hyperiidea)
from Martin Sheader

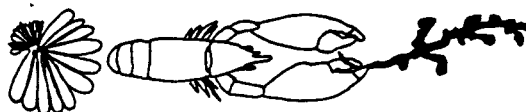
A specimen of *Primno macropa* Guerin, part of the Tattersall collection, sent to me for verification by Mark Holmes (National Museum of Ireland) was identified as the recently described (Sheader, 1985) *P. evansi* Sheader. The specimen represents the northernmost record of this species to date. The details given by Tattersall (1906) are as follows:

"64 mi. ½ N.W. W. of Cleggan Head, Co. Galway,
199 fath., August, 1901, townet on trawl - One"
(This is thought to be equivalent to *Helga* station CXXI).

Although the genus *Primno* is recognised as having a wide geographical distribution, the assumption of monotypy for the genus since Bovallius (1889) has resulted in a loss of zoogeographic information for individual species. A reworking of old collections in the light of Bowman's (1978) recent revision of the genus is therefore necessary.

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ECHIURID, (*MAXMUELLERIA LANKASTERI* (HERDMAN, 1898)), POPULATION
OFF BEMBRIDGE, IOW

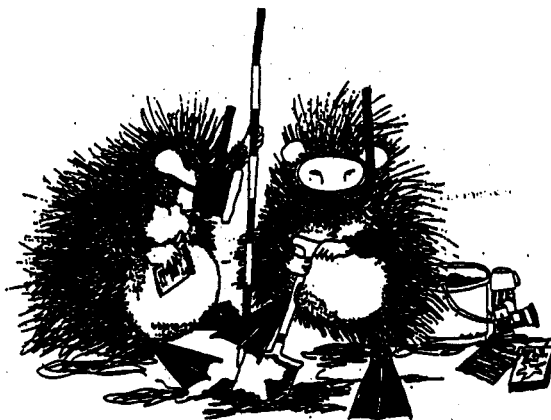
Ken Collins and Jenny Mallinson

Oceanography Department, Southampton University,
Southampton, SO9 5NH

Last year we carried out a diving survey of the marine flora and fauna off Bembridge, Isle-of-Wight, on behalf of the NCC (Report number HF3-11-52(1)). This was in response to plans to establish a voluntary marine nature reserve between Horestone Point and Culver Cliff extending 1 km offshore. This area is shallow, dominated by the Bembridge limestone reef system which supports an unusually rich flora.

This year we have extended the survey further offshore and into deeper water, below the algal dominated zone. A surprising find was a dense population of the echiurid *Maxmuelleria lankasteri* (Herdman, 1898) in fine deep mud in St Helen's Road. This appears to cover a large area, in excess of 1 km². The mud also supports large numbers of the tube-dwelling amphipod *Ampelisca tenuicornis*.

To date we have photographed the echiurid but only managed to collect part of the rapidly retreating distinctive green proboscis. Can anyone suggest how this animal can be diver-collected in one piece?



CALORIFIC VALUES OF SOME COMMON S. ENGLAND LITTORAL ANIMALS

by N.D. Bridgwater

Department of Applied Biology, Bristol Polytechnic, Bristol.

Energy flow through salt marshes and estuaries is a topic of continuing interest. The calculation of such flows requires the estimates of the calorific content of the tissues of the dominant species. This note presents information on some common littoral benthic invertebrates which have not been previously published. The author hopes others will find them of value.

Samples were collected as part of a study of the shell breccia bank at the seaward end of Fawley salt marsh, Southampton Water. The dominant benthic species are as in the table below. The dry weights of these species were obtained by drying to constant weight at 60°C. The specimens were then decalcified in dilute hydrochloric acid, rinsed in distilled water, and the dry weight redetermined. Calorific values were obtained from the mean of 5 or 6 replicate pellets, weighing about 20 mg each, prepared from the decalcified tissue. A Newhams micro bomb calorimeter was used, calibrated using benzoic acid pellets of known weight.

The calorific values of the seven dominant species are given

in the accompanying table, as kilocalories per gram calcium-free dry weight.

| Species | Average calorific value (kcal.g ⁻¹) | Number of determinations | Standard deviation |
|-------------------------------|---|--------------------------|--------------------|
| <i>Hydrobia ulvae</i> | 4.72 | 5 | 0.106 |
| <i>Littorina littorea</i> | 5.25 | 6 | 0.088 |
| <i>L. saxatilis</i> | 5.09 | 5 | 0.073 |
| <i>Lepidochitona cinereus</i> | 4.33 | 6 | 0.168 |
| <i>Cerastoderma edule</i> | 5.01 | 5 | 0.346 |
| <i>Crangon crangon</i> | 5.79 | 6 | 0.085 |
| <i>Amphipholis squamata</i> | 4.63 | 5 | 0.263 |



5th INTERNATIONAL CONFERENCE ON COELENTERATE BIOLOGY, 1989
(see overleaf)

Call for Contributed Papers for Historical Session(s)

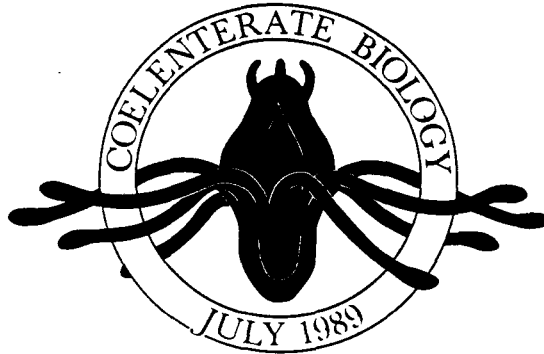
During the past few years as my research has turned more and more towards examining the historical roots of research on hydra, it has become apparent to me that Ⓞ many important biologists have at one time or another used coelenterates in their researches, Ⓞ many important discoveries in biology were first made using coelenterates, some in times past and others more recently, and Ⓞ research in coelenterate biology itself has periodically undergone some interesting and significant changes.

Thus I am writing to you, the reader, because at this international conference we would like to enlist your cooperation in doing something different. Would you consider preparing a short paper (15 minutes and 5 minutes discussion) or a poster dealing with some historical aspect of coelenterate biology of interest to you? For example, you might wish to: Ⓞ give a historical summary of coelenterate research in your country; Ⓞ discuss a certain chronological period of research in coelenterate biology; Ⓞ describe the historical development of some phase of coelenterate biology, such as in behaviour, development, symbiosis, ecology, systematics, nematocysts, chemoreception, etc.. For a poster session you might consider constructing a "genealogical tree" of coelenterate researchers, such as the Pantin or Tardent schools. Or perhaps you have other ideas.

To help with planning the Historical Session(s) of the Conference, the Organizing Committee requests that you send your questions, proposals and ideas directly to me. We look forward to your response.

Howard M. Lenhoff, Chair, Historical Session(s), School of Biological Sciences, University of California, Irvine, CA92717 USA.

**5th
INTERNATIONAL CONFERENCE
ON
COELENTERATE BIOLOGY**



**UNIVERSITY OF SOUTHAMPTON
10-14 JULY 1989**

Conference Themes

Cellular Biology, Developmental Biology, Ecological Physiology, Ecology, Evolution and Systematics, Genetics, Physiology and Behaviour, Historical Aspects.

This list is a guide to the main themes and contributions outside these broad categories are welcome.

The Conference will consist of talks, poster sessions and additional informal workshops. The proceedings will be published as a single volume.

Registration

If you are interested in attending this meeting or wish to receive further information please write to:

Dr R. G. Hughes, School of Biological Sciences,
Queen Mary College, University of London,
London, E1 4NS, U.K.

Tel: 01 980 4811 ext 4171

Organizers: the Coelenterate Group of Great Britain.



Letters to the Editor

from Dr P.A. Henderson
Marine Biology Unit
CEGB, Fawley
Southampton SO4 1TW

Dear Editor (!),

I am presently working on the morphology of the common shrimp *Crangon crangon*; the purpose of the research is to study the population structure of the species. The present indications are that the British specimens are divisible into a number of geographical races.

I am therefore writing to ask whether any of the readership of PORCUPINE NEWSLETTER could supply me with specimens. Almost any locality is of interest, but particularly those in the North of the U.K. or overseas. I would be happy to pay for postage or transport.

Thank you,
Pete Henderson.



THE ROBERT LLOYD PRAEGER GRANT SCHEME

Hon. Ed.

Any scheme which involves awarding financial assistance to "naturalists" from any relevant discipline clearly warrants our admiration and support. Such a scheme which, owing to the uncontrollable influences of inflation, is in need of contributions to maintain its value and very existence is even more in need of our support. I must confess to not having heard of the Praeger Fund before recent discussions with Member Mark Costello; rewarding correspondence from Natasha Weyer-Brown, Assistant Executive Secretary, has cured my ignorance, and I make no apologies for extracting from text from various sources to spread the information on the Fund, and to publicize their current fund-raising appeal.

The name of Robert Lloyd Praeger will be familiar to those interested in the natural history of Ireland. He was the first President of the National Trust of Ireland (An Taisce), and he left his estate to the Royal Irish Academy's Praeger Fund, which had been established in 1945 in honour of his 80th birthday.

The purpose of the fund is the promotion of fieldwork in natural history by research grants or otherwise. The Praeger

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Committee meets each year to consider applications (submitted by the 15th February) and awards, on average, ten to fifteen grants to naturalists from all relevant disciplines (biology, geology, zoology, botany) for work anywhere on the island or off the coast of Ireland. Preference is given to amateur work, but there are no restrictions except that the work cannot be part of an undergraduate or postgraduate course project. The minimum amount awarded is IR£30 with the average grant about IR£100, and the maximum usually IR£300. Grantees need not be based in Ireland, and grants are regularly awarded to British applicants. In 1988 the Committee set threatened species and habitats as priority areas. There is a preferred list of (Irish) journals for publication of results, and representative material (voucher collections) should be lodged at recognised institutions in Ireland.

Recent examples of projects in the marine field which have benefitted from Praeger grants include Declan McGrath's studies on the population dynamics of kittiwakes in Co. Waterford, and the study by Dr Pauline King, of University College Galway, on the biology of the shore clingfish, *Lepadogaster lepadogaster*, at Inishbofin.

In addition, the Praeger Committee expects to receive in the near future the Patrick A. Byrne Fund. The interest from this fund will be used to provide a specific Patrick A. Byrne Award for limnological work.

The Committee is most concerned to continue the number and value of awards. However, in these inflationary times, the Praeger Fund has not maintained its value relative to costs. For that reason, the Chairman of the Committee recently launched an appeal to boost the Fund's capital. Those wishing to contribute to the Fund should please send donations (payable to the Royal Irish Academy) to the Praeger Fund, 19 Dawson Street, Dublin 2. All gifts, no matter how small, will be gratefully appreciated and will ensure that the Praeger tradition lives on, not just in hearts and minds but in fact.



FUTURE MEETINGS

Members should by now have received an announcement regarding the Autumn Meeting at Ipswich. The cancellation of the normal meeting resulted from the withdrawal of most of the proposed speakers, and our gratitude and apologies are sent to the remaining volunteers. But fear not - you can still come and get an audience! The Autumn Meeting has metamorphosed into a field meeting, based at Ipswich Museum, with excursions out to the estuaries of the Orwell and Stour, and the lagoons of Shingle Street, amongst others. Dates remain 29-30th October 1988. Members wishing to attend, who receive this NEWSLETTER in time, should contact the Hon. Sec. Dr Martin Shearer (Tel. 0703 559122 - Dept. Oceanography).

The 1989 Spring Meeting and A.G.M. will be as announced in the previous issue, on the weekend after Easter - 31st March to 2nd April 1989 at Lancaster University, on the theme of the Irish Sea. A detailed circular will be sent to all Members around the end of this month. In the meantime, those interested should contact Dr Shelagh Smith

THE MARINE NATURE CONSERVATION REVIEW

The Marine Nature Conservation Review (MNCR) is a major new initiative by the Nature Conservancy Council along similar lines to the Nature Conservation Review (published in 1977) and the Geological Conservation Review now near completion. Its initiation recognises the importance of the shores and shallow seas around Great Britain, which contain the greatest variety of marine habitats of any country in western Europe, and acknowledges the fact that our information of British marine ecosystems is incomplete and therefore does not provide a wholly adequate basis for nature conservation needs. Over a ten year period the MNCR will draw together information on marine ecosystems around Great Britain in order to:

Extend our knowledge of British marine ecosystems, particularly the description, distribution and extent of habitats, communities and species;

Identify sites of nature conservation importance;

Provide a broad base of information to support the more general measures required to minimize adverse effects of development and pollution.

The area included is the coastline of England, Scotland and Wales (excluding the Isle of Man and Channel Islands), extending from the lower limit of flowering plants out to the limit of territorial seas. A considerable amount of information is already available from published papers and commissioned research reports. Some information is locked away in the memories and field notes of marine biologists. A great deal of the shore and seabed around these islands still requires survey.

There are seven main elements to the MNCR:

Collation and assessment of existing information,
Commissioning new field surveys to fill gaps in knowledge,
Validation of information and the preparation of site descriptions,
Classification of marine ecosystems,
Comparative evaluation of sites,
Preparation of an inventory of sites of nature conservation importance,
Reporting.

Preparation of the Marine Nature Conservation Review will be a major part of the work of the Marine Science Branch of the NCC's Chief Scientist Directorate which is based in Peterborough. This branch is also responsible for detailed site survey, monitoring and impact studies, advice on the designation and management of Marine Nature Reserves, and other statutory sites and general advice on marine conservation in relation to potentially damaging developments. The scientific information from the MNCR will help to underpin all this work.

One of the first priorities is to file, analyse and review the field data on the new NCC computer system. The team is primarily concerned with managing data collation and interpretation; most of the field survey and reporting will be contracted out.

The production of reports has to be staged over the next ten years so that topics within the review will be completed regularly over that period. Reports on those topics will be made widely available in a publications series before the final Marine Nature Conservation Review is produced.

During 1987 MNCR team members took part in the following surveys organised by NCC or in conjunction with contractors:

Portland Harbour and areas of the Solent (FSC - Harbours, Rias and Estuaries).
River Dart Survey (FSC - Harbours, Rias and Estuaries).
Christchurch Harbour Survey (FSC - Harbours, Rias and Estuaries).
River Helford Survey (FSC - Harbours, Rias and Estuaries).
Marine biological surveys in the Northern Isles (with FSC).
Beadnell to Dunstanburgh Castle (R & J Foster-Smith).
Intertidal survey of chalk coasts in England (British Museum of Natural History).
Sublittoral survey, Flamborough Head (C & E Wood).
Isle of May (NCC).
Farne Islands and Berwick to Beadnell (NCC).

COLLATION AND ASSESSMENT OF EXISTING INFORMATION

Much information on the ecology of littoral and sublittoral communities already exists, although the type of information, the form in which it is held and its detail vary. One of the first tasks is to assess the current knowledge of marine ecosystems around Great Britain and in the North-East Atlantic and determine its usefulness to the MNCR. Location of available information will rely on past records and reprints maintained at NCC, further searches of the literature and a programme of visits to research institutes and individual scientists to discuss our work.

Information will be gathered by a review of the literature and the preparation of abstracts relevant to the MNCR. In addition, discussions with marine scientists should reveal sources of unpublished information as well as current research activities or a general knowledge of particular lengths of coastline. The quality of information will be recorded so that gaps in the data can be identified. A database is being developed to store and access this information to give detailed knowledge of the data available at sites all around the coast. To assist both searches of the literature and filing of information, Great Britain has been divided into 15 sectors, with MNCR staff having responsibility for particular areas (Figure 1).

Arising from these initial information searches, two publications in the MNCR Report Series are planned:

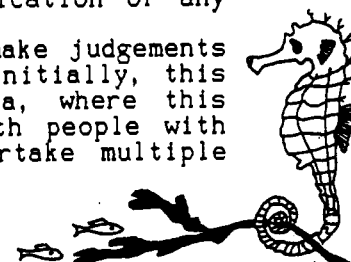
- ⊙ A framework for the classification of marine ecosystems in Great Britain.
- ⊙ Marine ecosystems in Great Britain - a review of current knowledge.

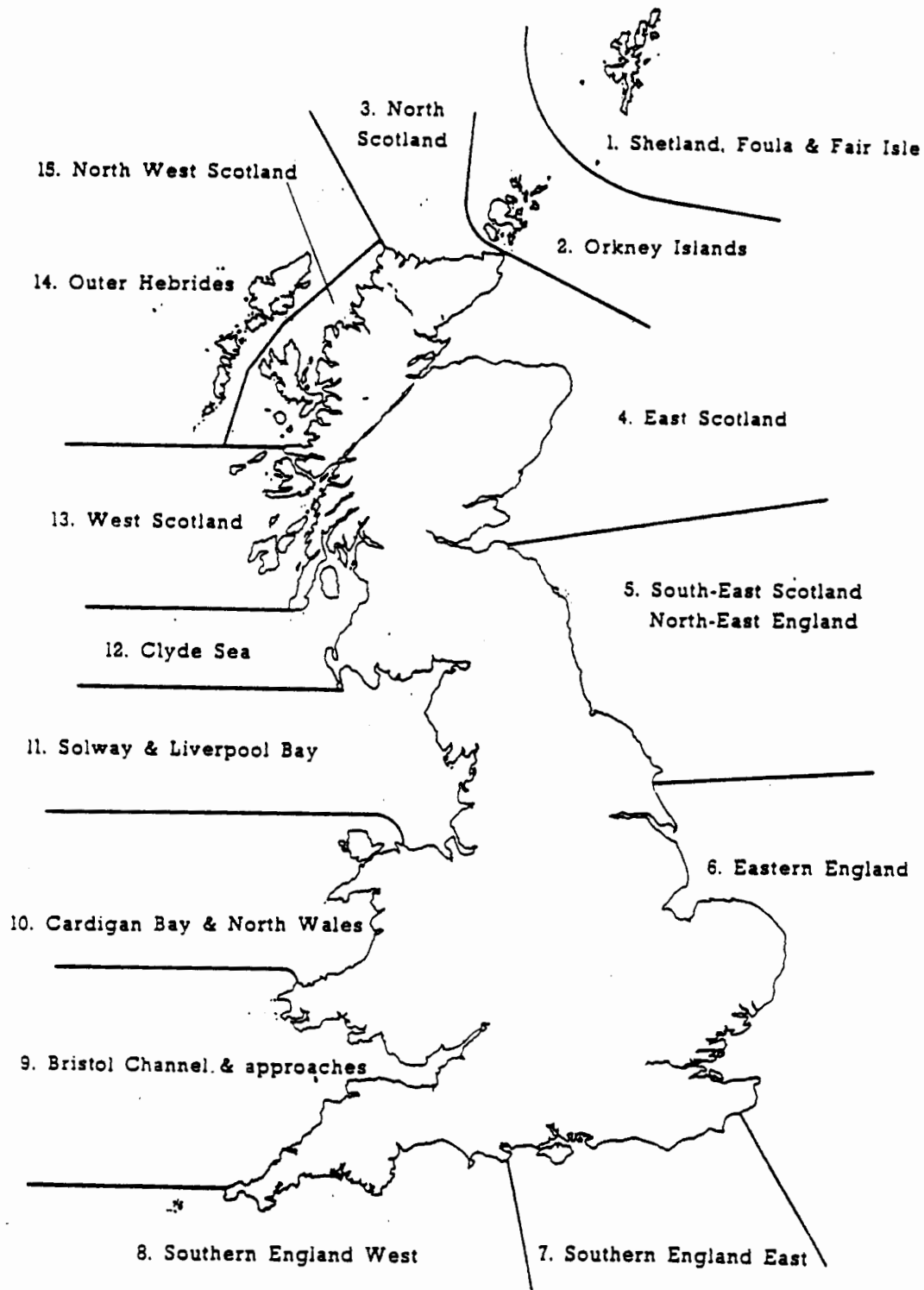
FIELD SURVEY METHODS AND PROGRAMME

NCC has been responsible for a large amount of descriptive marine ecological survey work over the past fourteen years. During that time, survey methods aimed at providing information relevant to the description of marine sites for nature conservation assessment have been greatly refined. The MNCR is therefore able to take advantage of that experience, and little development work will be required.

For each area, field survey will be directed at the identification of different habitats, the description of communities of conspicuous species and the identification of any features or species which are rare or unusual.

Survey will require experience personnel to make judgements on the most useful locations to survey or sample. Initially, this will be by the inspection of phase 1 survey data, where this exists, or through map searches and discussion with people with local knowledge. It is not our intention to undertake multiple





surveys of commonly occurring habitats and communities within a particular area, although some detailed recording will be needed for between area comparisons even on open rocky shores. Check lists have been developed for recording site features for littoral and sublittoral areas. Survey staff will be expected to record all of the conspicuous species observed in a habitat during *in situ* survey work. For sediments, samples will be taken for analysis and identification of species in the laboratory. Records from field surveys will be entered into data management programs for storage and retrieval and will be analysed where appropriate to look for site or species groupings and to compare sites.

In its design, the field work programme over the next nine years takes account of habitats which require study urgently because of current pressures, the need to obtain a good geographical spread as quickly as possible and with regard to the availability of expertise.

REPORTS, PUBLICATIONS AND OTHER PRODUCTS

Reports. Reports of individual surveys are incorporated into the Chief Scientist Directorate Report Series. These have a limited circulation, but are held by SMBA, MBA and BM(NH) libraries. Copies are available on loan or on microfiche. Reports from contractors and those prepared by MNCR staff will be added to that series as the MNCR progresses. Reports in an MNCR series will be published on each of the themes which form the 10-year programme. More specialist studies, for instance reviews of communities in particular habitats) will also be published. A list of the current themes is as follows:

- Rationale and methods
- Data handling systems
- Framework for the classification of marine ecosystems in Great Britain
- Marine ecosystems in Great Britain - a review of current knowledge
- Shetland Isles, Foula and Fair Isle
- Harbours, Rias and Estuaries in Southern Britain
- Saline lagoons in England and Wales
- Chalk coasts
- North-east England and south-east Scotland (open coastal areas)
- North-east Wales, Lancashire, Cumbria and southern Scotland (open coastal area)
- Estuaries in eastern Britain
- Estuaries in western Britain
- Scottish sea lochs (including brackish lochs)
- Cardigan Bay, Lleyn and Anglesey
- South-west Britain (open coastal areas)
- Orkney
- Artificial substrata and man-made habitats
- Western Scotland and the Hebrides
- Eastern and northern Scotland
- South-east and eastern England (open coastal areas).

Information files. MNCR work will generate detailed summaries of marine biological studies which will be filed by geographical location where possible and/or by subject, where no particular geographical location is involved in the work or where the study has been undertaken outside of Great Britain. Details of those studies will be filed on the database and can be accessed by the journal reference, Ordnance Survey grid reference, location key words or subject key words. The abstracts will provide the basis for a review of current knowledge of British marine ecosystems. The files will also provide an information base for advising on case work.

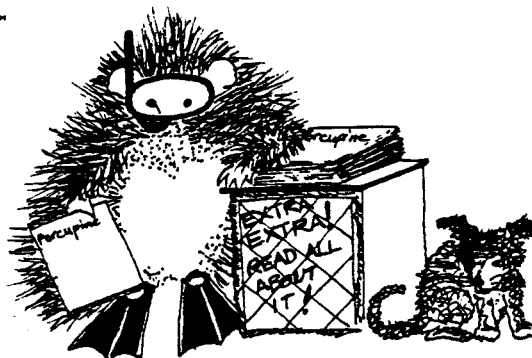
Photographs. Extensive photographic collections already held by NCC will be extended by new surveys. Files are ordered geographically and will be cross-referenced for subject, species, quality, etc..

Specimens. It is not intended to accumulate large reference collections of specimens but it is hoped to ensure that, through our contractors and in cooperation with the museums, collections resulting from survey work are properly labelled and maintained.

Interpretative material. Much of the photographic material, artwork and scientific information prepared for the MNCR should provide useful interpretative material and long-term plans include the preparation of display material and publications.

Progress reports. It is planned that progress on the MNCR will be generally publicised through a bulletin which will also contain items of interest on other research, MNRs and casework.

The Nature Conservancy Council Great Britain Headquarters is at Northminster House, Peterborough PE1 1UA (Tel, 0733 40345).



OF LUTH, NA'AMA AND LEATHERBACK (AGAIN)
(*DERMOCHELYS CORIACEA*(L.))

Hon. Ed.

I suppose it had to come! The professional rivalry, engendered by the competition for kudos inherent in appearances in PORCUPINE NEWSLETTER, has overflowed to extreme.

Members will be familiar with our frequent mention of records/sightings of the leatherback turtle, *Dermochelys coriacea*, the only member of the family Dermochelyidae, the largest of the turtles, reaching weights over half a tonne. To complete the field guide, it lacks horny scales or claws, has seven ridges running down its back, and a toothlike projection on each side of the upper beak. You may need this to join in the competition.

But the current winner, and star of radio and national press, is Peter Morgan of the National Museum of Wales, Cardiff, who has been publicised in the presence of a leatherback "8 ft across and weighing 1800 lb" (readers must do their own metric conversions), and therefore believed to be the largest *D. coriacea* ever found! And washed up last month on a beach at Harlech, Gwynedd, to boot! There have been many sightings this summer, though no resulting articles for the NEWSLETTER (see PN 4 (2), p.32 for an example from last year), but the patient may eventually see Cardiff's record specimen: when the taxidermists have finished it will go on impressive display at the Museum. Congrats, Peter.

Incidentally, Na'ama is the beast's arabic name, and apparently translates literally as "ostrich"! I leave you to work that one out yourselves.

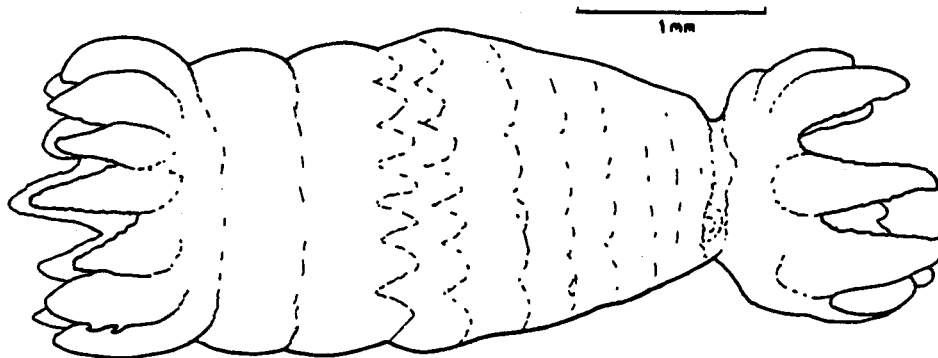
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**MORE SMALL BRACHIOPODS - AND A SMALL CORAL - FROM THE
ISLE OF WIGHT**

by Jan Light
88, Peperharow Road, Godalming, Surrey

Hot on the heels of J.E. Phorson's recent contribution in PN (Vol. 4, No. 2) I write to record having recently retrieved some small articulate brachiopods from sediment samples collected off the south east coast of the Isle of Wight. Dr Howard Brunton has kindly identified the first specimen which measures 1 mm, and which came from diver-collected material off Culver Cliff (50°37.5' N 01°04.82' W), as a juvenile *Platidia*. Two species are described in Brunton & Curry (1979): *P. anomioides* (Scacchi & Philippi, 1844) and the similar but slightly larger *P. davidsoni* (Deslongchamps). The former has an approximate length of 5 mm when adult and is recorded from the Hebrides, to the west of Ireland and in the Western Approaches as well as further afield. The latter species has been found in the Bay of Biscay and the Mediterranean. Both species are recorded from depths in excess of 82 m whereas the Culver Cliff specimen appears to have been live-collected, from 14 m of water. Subsequently, a second, more worn specimen has turned up in sediment collected by grab from Sandown Bay (50°37.5' N 01°04.82' W) at a similar depth. These finds represent an extension of known geographical range for *Platidia* species.

It is interesting to record that both the Culver Cliff and the Sandown Bay sites have also yielded fresh specimens of the coral *Sphenotrochus andrewianus* Milne Edwards & Haime, 1848. Zibrowius (1980) records this species from various British localities including Cornwall but no further east along the Channel. *S. andrewianus* lives amongst coarse sand in less than 100 m of water, a feature of this species being its end-to-end budding instead of building branching colonies (see figure). *Sphenotrochus* specimens were also collected, quite commonly, in June 1987 from dredged material off White Nothe, Dorset.



SPHENOTROCHUS ANDREWIANUS

I would like to thank Dr Howard Brunton and Dr Brian Rosen, both of the BM(NH), for identifying the brachiopod and coral respectively. Also thanks to Mr Phil Palmer for drawing the figure of *Sphenotrochus*.

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