

THE CONCHOLOGISTS' NEWSLETTER

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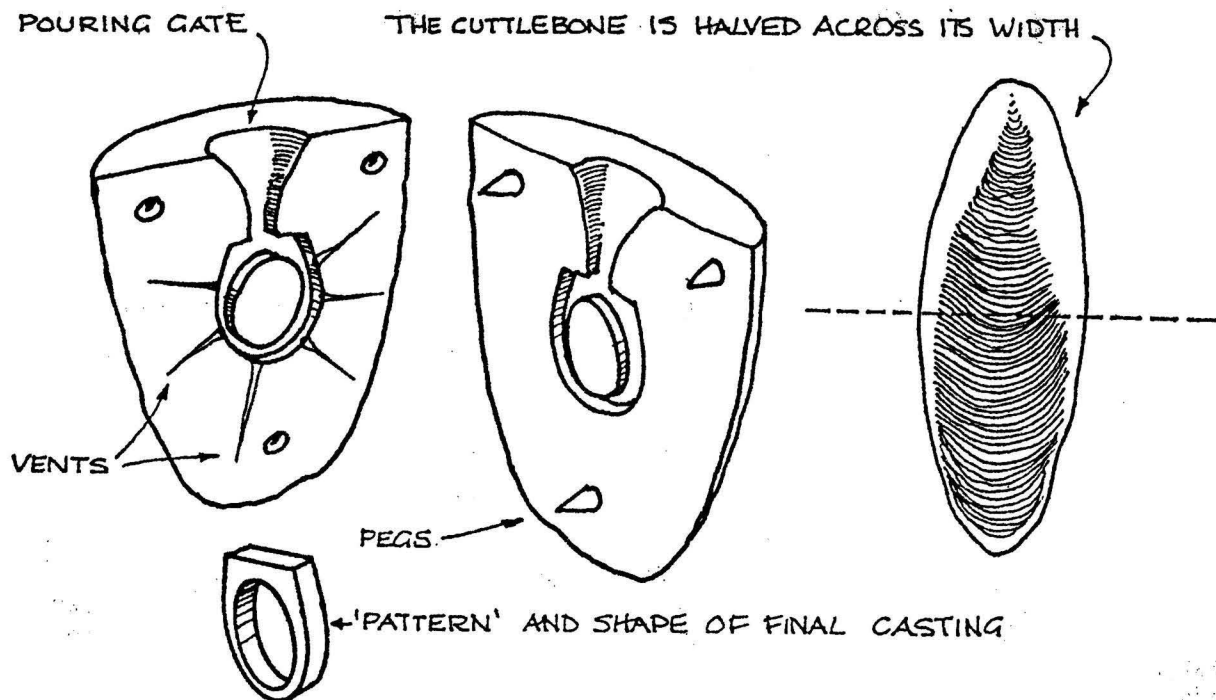
CASTING METALS WITH CUTTLEFISH BONE

Cuttlefish bone is perhaps familiar to most people as a source of lime for captive birds, when it is placed in their cages. A little known application however, is in small scale metal casting, when the bone is adapted to form a two-piece mould. The method has long been used by jewellers and silversmiths for casting small items such as finger rings or small metal reliefs which have no undercutting. The bone is the calcareous internal shell of Sepia officinalis Linné, which is occasionally found washed up on our southern coastline. The bone of the much more diminutive S. elegans d'Orbigny, has been used for very small work, but is rarely large enough for most practical purposes. The average size of a cuttlefish bone generally favoured by jewellers is approximately 15 x 8 cms.

Once a bone of suitable size has been selected, it is cut into two equal parts. The soft sides of each piece are then rubbed flat on sandpaper and then against each other to obtain a close fit. These pieces form the basis of the two-part mould. Three small pegs of wood or metal are placed in one of the flattened faces of the mould. When the two halves of the mould are eventually pressed together the pegs make marks which ensure the proper alignment of the two pieces. The object from which the casting is to be made is prepared as a "master pattern" in wood or metal and placed on one face of the mould about 3 cms from the top edge. The pattern is then pressed a little way into the face of the bone and the second piece of bone is placed exactly over the first and pressed firmly down onto the pegs and the pattern. The mould is then re-opened and the pattern removed leaving a sharp impression. A funnel-shaped opening called a "pouring gate" is cut into the top of the mould to provide a way in for the molten metal. A number of grooves called "vents" are scored across one face of the mould towards the outer edge to allow air to escape as the hot metal enters the mould. Those areas of the mould which will be touched by the molten metal are then painted with a strong combined solution of "borax" (sodium borate) and "waterglass" (sodium silicate). This toughens the mould and provides a higher degree of surface accuracy in the casting. The mould is then re-assembled and bound up with iron wire.

The metal is melted in a crucible either in a kiln or with a blowtorch and poured swiftly into the mould, which is re-opened immediately the metal has solidified. Metals such as gold, silver, bronze and lead-tin alloys are frequently cast by this process. Unfortunately, due to the rapid action caused by the molten metal on the surface of the cuttlebone, the cavity surface deteriorates and this method is only suitable for individual or "one off" pieces. However, jewellery cast in this way takes on an interesting surface, caused by the natural texture of alternating hard and soft ridges in the bone, and is often exploited to very good effect by many contemporary craftsmen.

Mark Lewis



NINTH INTERNATIONAL MALACOLOGICAL CONGRESS - EDINBURGH, SEPTEMBER 1986

My attendance at the Congress in Edinburgh in September was due to an idea put forward by Dr. Tom Gascoigne. At the beginning of the year Dr. Gascoigne suggested to the Council of the Society that if they would select a 'promising young malacologist' who could benefit from attending the Congress, he would donate his series of Symposia to that person. The idea was taken up by the Society and, in conjunction with Unitas, a bursary was made available such that the recipient would have all Congress fees, travel and accommodation expenses paid for.

At the AGM in March 1986 it was announced that I would receive this sponsorship, which I was honoured and very grateful to accept. I also felt rather flattered that I should be regarded as both young and promising. Do malacologists never grow old? One of the catches of receiving this award was to write this article for the Newsletter. However, I hope to give an impression of the week from a general angle.

Arrived at the Halls of Residence of Edinburgh University on Sunday evening to discover that someone had swiped my room. After convincing the staff that I was the real Ian Killeen I was soon found another. I then proceeded to fill the room with mountains of leaf litter, half-drowned specimens etc. that I'd collected in a superb Northumberland woodland on the journey up. The room cleaning staff were really very tolerant.

I must admit that as the opening morning of the Congress came round I began to feel rather apprehensive. There were hundreds of people who all seemed to know each other and only a handful who knew me. Also the original programme implied a heavy marine bias all of which would be way beyond my comprehension. Spending a week listening to lectures on the nerve structure of some remote deep-sea bivalve wasn't exactly my idea of a good time. However, all my fears were very quickly dispelled. A quick read of the actual programme revealed that there was more than enough to interest me, in fact it was obvious that some days there were going to

be clashes. This was later confirmed when some days were spent running around Edinburgh from one lecture venue to another. The opening lecture also convinced me that I was going to enjoy the Congress. It was presented by a lady palaeontologist from America, and although I didn't understand half of it, the paper was delivered with so much enthusiasm that one couldn't help enjoying it.

If nothing else, one thing I should have learnt during the Congress was the art of presenting a paper. Having seen everything from the absolutely superb to the downright atrocious certainly made me aware of the difficulties of public speaking. No matter how good the content, if a speaker has his back to me, mumbles or tries to bombard me with too many facts, I just turn off. I feel that too many of the authors used a mass of graphs, histograms and tables which just couldn't be taken in within the available time. The good speakers were relaxed, only used a few high quality slides and presented limited facts around them. An element of humour is always entertaining. I well remember one lecturer who illustrated part of her paper on the life cycle of freshwater mussels with a video accompanied by disco music. Quite an unusual touch. It was also a pity that one of the lecture venues was below par. If I had come half way round the world to deliver a paper in a noisy theatre with poor facilities I would be rather upset.

It didn't take long to start getting to know people either. This was enhanced by the various receptions, communal eating and drinking, etc.. I always think that malacologists converse best when they've got a glass in their hands (viz. après Conch. Soc. meetings). I was very pleased to have made some good contacts amongst people with similar interests to mine. The field trip day helped with this considerably. The Wednesday of the Congress was devoted entirely to excursions. The options were as diverse as marine laboratories, Bass Rock and a non-marine trip to Fife and Kinross. Having chosen the latter, surprise, surprise, I was quite taken aback when David Heppell 'phoned me up a few days before and asked if I would lead the meeting, the original leader having dropped out. Naturally I accepted, despite knowing very little about the malacofauna of the area, I thought I could muddle through! Besides I did have to earn my keep. My confidence took somewhat of a knock when getting on the coach to discover that the group consisted of most of the non-marine specialists, presumably expecting to hear some words of wisdom from me. However, it all went well once I'd started changing the programme around (and then getting my knuckles rapped for doing so). If you are going to lead a field trip, make sure that you are the one who organises it. The day was certainly a success and definitely a great way to meet people.

One thing that I did find disappointing was the apparent lack of support by the British members of this Society. Many people asked me 'where is so and so, I was so looking forward to meeting them again'.

The Congress closed on Saturday with some very interesting papers on mollusc conservation. It was rather sad leaving in the end, the following week seeming very flat. The Congress was a very enjoyable experience, I met lots of interesting people, made new friends and learnt a lot. It has certainly made me want to go to the next one in Germany in 1989. I should like to thank all the people who made my trip to Edinburgh possible: Dr. Gascoigne, the Council of the Conchological Society, Dr. David Heppell and the organisers of Unitas.

Ian J. Killeen

Some comments on Otala

In the arrangement and classification of specimens for my land collection I always have to stop and think over my newly acquired Otala. These happen to be one of my favourite land snails but present much difficulty as regards separation of material into either O. punctata or O. lactea. I wrote to Mr. A. Norris, F.L.S., Leeds City Museums who informed me that typical O. punctata have a dotted appearance all over the shell and the mouth does not have a hard edge to the colour band whereas in O. lactea the shell is generally not so spotted and the colour band on the inside of the mouth has a hard edge. In addition O. punctata is usually slightly bigger and more flattened. I also forwarded several specimens to him which were identified as probable O. punctata. I am grateful to Mr. Norris for his help and for the specimens of Otala he sent which I have used for identification of material I have collected.

In order to be able to separate between the two species I collected large numbers of specimens from many localities in Gibraltar and compared individuals with regard to the afore-mentioned characteristics. In the examination of these I found that the majority possessed those of O. lactea and others those of O. punctata, there being several which fell in between and which could not be confidently assigned to either species.

Juvenile specimens of O. lactea have the hard edge to the band within the mouth but do not show the very dark brown colouring on the parietal area that the adults have. Most juveniles are coloured light brown to chestnut, adults are very dark brown to almost black. The colouring on the palatal area is rarely ever as dark as that of the parietal and the colour bands are clearly visible, in some cases almost touching the lip. I have specimens, however, which defy all the generalisations given above. One is white and completely unbanded and has intense dark chocolate colouration within the mouth and on the lip. A juvenile specimen has almost no colouration within the mouth (this is a sub adult shell with an almost sealed umbilicus), whereas another juvenile is coloured light grey with slightly darker grey spots in poorly defined bands with no dark colouring within the mouth whatsoever.

Very young individuals (less than ten millimetres in breadth, less than five millimetres in height) have semi-transparent shells with banding clearly visible inside the mouth and an absence of any addition of darker colouration within the mouth. I cannot positively separate such youngsters to species level.

It is interesting to note that the vast majority of both O. punctata and O. lactea from Gibraltar have solid banding, usually fairly dark, this is in contrast to all the Otala specimens I have collected in Tangier, Morocco, Africa which have broken lighter coloured banding. I have not found any specimens in Morocco which show banding like my Gibraltar material and at present have not been able to find a reason for this.

I would be happier if there were more concrete differences I could use in species separation or any additional features which would help in classification. I wonder if there is anyone reading this who is very familiar with Otala and who might be able to offer more information?

Alexander Menez, [REDACTED], Gibraltar (30/12/86)

BANDING IN CEPAEA MEMORALIS AS A RESULT OF PHYSICAL INJURY

It is well established that the normal variations in shell colour and banding in Cepaea nemoralis are genetically controlled. I would therefore like to report an example of shell banding as a result of physical injury.

On 14th. October 1984 an extensive colony of Cepaea nemoralis was being examined in a disused limestone quarry alongside the former Ashbourne-Buxton Line of the London and North Western Railway (now Tissington Trail) near Minninglow in Derbyshire (grid reference SK204576). This colony consisted almost entirely of yellow-shelled forms most of which lacked banding. It also included a small but significant number of specimens where the apertural-lip of the adult shells was white rather than brown as in the typical form: an uncommon but widespread variant on the Peak District limestone.

During the search a specimen was found which had started life as a typical yellow-shelled unbanded form and had continued as such until nearly adult. At this point, when the shell consisted of about 4½ whorls, the aperture appears to have been crushed as shown by a distinct scar and by fragments of broken shell incorporated in the repaired portion. Beyond the injury the shell had developed three distinct white bands with a possible fourth near the suture much obscured by later erosion of the periostracum. These bands differed in width and tended to narrow gradually away from the point of injury. Only the two broadest bands reached the shell aperture but these continued across the apertural-lip. The shell appeared to be thinner on the white bands and it seems that they were the result of a lack of periostracum rather than a lack of pigmentation.

The animal was photographed in situ then released. The accompanying sketches are based on these photographs.



Bob Clinging

JUVENILE DELINQUENTS - MORE CASE HISTORIES

"Yes sir, that's my baby,
No sir, don't mean maybe,
Yes sir, that's my baby noooow!"

In June 1984 I was interested to read an article entitled 'The Trouble with those Juvenile Delinquents' by J. E. Phorson (The Conchologists' Newsletter No. 89). At the time I was working through Cornish shellsand and periodically coming across juvenile 'posers'. Small shells taken from weedwashings were also sometimes confusing; has anyone else collected a batch of juvenile Lacuna vincta (Montagu, 1803) and believed them to be Cingulopsis fulgida (J. Adams, 1797)?

A few weeks ago I was given a batch of small shells from Sark in the Channel

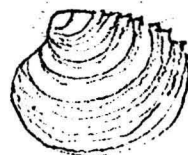


Figure 1

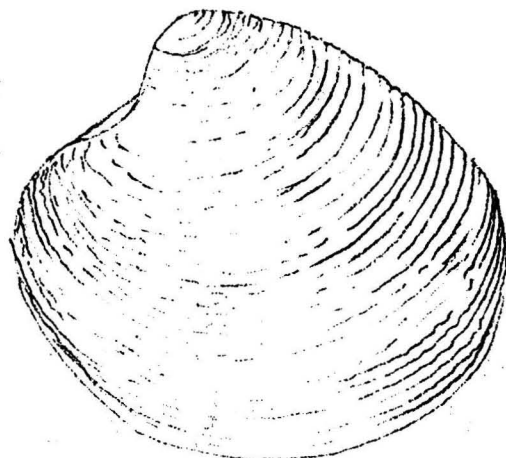


Figure 2

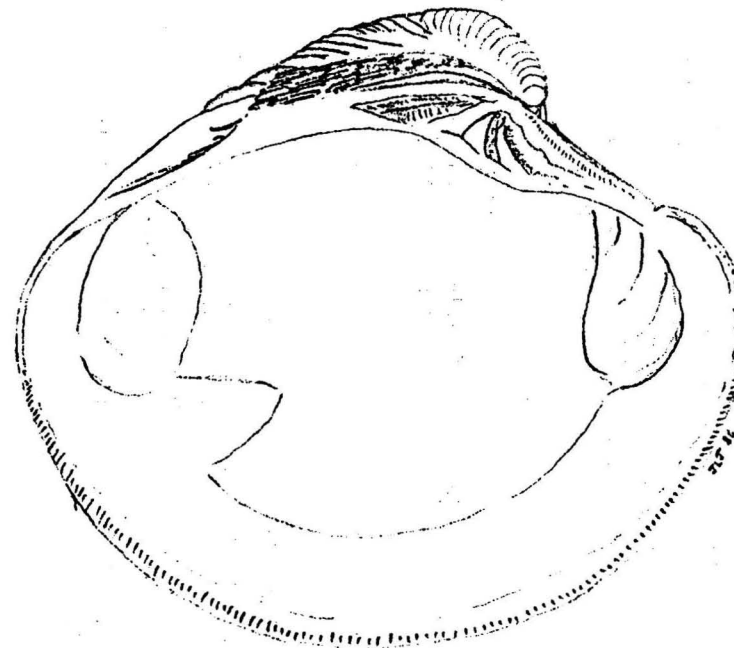


Figure 3

- Figure 1 - Mercenaria mercenaria L. 1758 showing view of outside of left valve of juvenile shell with concentric lamellae.
- Figure 2 - View of outside of left valve of semi-adult specimen.
- Figure 3 - View of inside of left valve of mature shell. Note the relatively smooth umbone.

Islands to identify. In amongst these were several specimens of the tiny Cingula pulcherrima (Jeffreys, 1848) - an aptly named Rissoid whose beautiful markings enabled me to be reasonably confident of an identification although I had not seen the shell before. Working through the Sark material I was puzzled by a minute Trochid-like shell no more than 0.5mm in breadth. Little more than a protoconch, it was a flat shell, whitish with red spiralling stripes, and a relatively large umbilicus. Having worked through Calliostoma, Gibbula, and Cantharidus without success, I set it aside to take another look after a suitable interval. (I have found this can be effective with identification problems. A space of a week or two enables me to detach myself from the problem long enough to return and take a fresh look and achieve an identification). Later the same day I was working through some samples from the Society's recent dredging trip and pulled out several specimens of Tricolia pullus (L., 1758). As I looked through the microscope, there 'perched' on top of one adult specimen was my 'mystery' mollusc. Looking again at the Sark shell the umbilicus was offputting since Tricolia only has a 'slight umbilical groove' (Fretter & Graham, 1977). However, this same source quotes 'a small opening' in young shells. With the aid of a powerful microscope, examination of the aperture revealed the distinctive white calcareous operculum typical of Tricolia.

More recently, at a meeting of the Society I was searching in my bag for a slip of paper and came across two juvenile specimens of a well-known British bivalve, about 10mm in height. I had forgotten they were there and handed them to my companions; three of the Society's members with more than a passing knowledge of British marine shells. They were puzzled - as I would have been if I had found these shells on the shore, instead of having been given them by a research student working on that particular species. Arriving at the family, Veneriidae, was not difficult but it needed a location and another large clue to elicit the name, Mercenaria mercenaria (L., 1758).

The problem with these particular juvenile delinquents is that unlike the unornamented adult, they have raised thin concentric lamellae which make them look more like Venus casina (L., 1758), see Figure 1. Semi-adult specimens were duly fetched from the Museum's collection for comparison. It seems that these raised lamellae which are quite fragile, wear off as the animal matures but vestiges remain to enable one to associate the small shell with the adult. None of us had encountered juvenile specimens before.

The above-mentioned examples are my additions to the 'can of worms' that Phorson opened when he raised the problem of molluscan juveniles. Some molluscs grow up with no problems; a scallop is recognisable from the smallest shell. For others the path is not so smooth. Quite apart from the apparent distortions produced by growth pattern in molluscs, there is the separate issue of parasitism which can produce genuine distortions, which in turn render the shell's shape or size unfamiliar and sometimes unrecognisable. What we need is a 'Guide to Unpredictable Growth Patterns in Juveniles' - a Benjamin Spock for Molluscs.

I should like to thank Mr. R. Bamber of CEEB at Fawley, and Hashim Al-Sayed of the Dept. of Oceanography at Southampton University for supplying the specimens referred to above, and Mr. J. Llewellyn-Jones for drawing the figures.

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Jan Light

FRESHWATER PEA-SHELLS - PISIDIUM

The majority of bivalve molluscs are marine, but some families have adapted to a life in freshwater. Put a scoop in almost any stream or pond and you will find freshwater pea-shells or Pisidium, small white and rather featureless shells about the size of a piece of gravel (3 mm). These, along with the slightly larger Orb Shells (Sphaerium), belong to the family Sphaeriidae.

There are 16 species of Pisidium in Britain and 15 of them look very much alike, and of the total, about half of the species are reasonably common and widely distributed. However, individual species have preferences for different types of habitats and a list of Pisidium is a useful indicator of environmental conditions. They are not easy to name and much of the identification is arrived at by a repeated process of elimination. Some of the features on which they can be grouped on preliminary sorting are as follows:

1. Size - One species, Pisidium amnicum is distinctly larger than any other growing to 11 mm in length. It is easily separated from Sphaerium by its distinctly asymmetrical shape with the umbones rather to one end and, in live specimens, by the fused siphons. This is the easy one!
2. Sculpture - P. amnicum and the uncommon P. pulchellum both have concentric ridges on the shell.
3. Nodule on the umbone - The outside surface of the shell near the umbone has a small elongate lump in P. supinum, P. henslowanum and P. moitesserianum.
4. Ventral margin - This is rather straight in P. milium (in others it is curved) and the shell is elongated in an anterior-posterior direction.
5. Triangular shape of valve - Sometimes asymmetrical in P. subtruncatum, P. supinum and P. obtusale and fairly symmetrical in P. casertanum.
6. Relatively symmetrical valve with the umbone near the midline and often swollen. This occurs in P. personatum, P. nitidum and P. hibernicum.
7. Fatness of shell - from valve to valve. Adult shells are usually plump, whereas juveniles are usually flatter, but P. pseudosphaerium is flat in the adult stage too, hence its specific name.
8. Hinge characters - Most of the diagnostic features and key characters for identifying Pisidium are in this category and for serious study a good stereomicroscope is needed with powerful lighting at a low angle to show up detail. P. subtruncatum and P. casertanum are separated on the arrangement of the two cardinal teeth of the left valve which are inside each other in P. subtruncatum but are laterally displayed in P. casertanum. In Pisidium personatum there is a little lump or callus where the two posterior lateral teeth meet. P. nitidum is relatively featureless and identified by elimination.

The most common and widely distributed species of Pisidium in Britain are P. casertanum, P. subtruncatum, P. milium, P. personatum and P. nitidum and they are also those with the least obvious diagnostic characters while P. casertanum is subject to much variation within the species, once distinguished as varieties. Species restricted to lime-rich waters are P. amnicum, P. pulchellum, P. supinum and P. moitesserianum while in contrast P. personatum and P. obtusale live in soft waters. These soft water Pisidium are often found on acid rock in mountainous country, but in some tarns there are special Arctic Alpine relics like P. conventus and P. lilljeborgi. The different species of Pisidium are associated with specific environmental conditions of still or running water, high or low lime content, mud, gravel or humus bottoms and water bodies of differing volume. They are therefore of great interest to the freshwater ecologist.

June Chatfield

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London (now revised and published by Academic Press). The standard reference to Pisidium with keys to identification. JANUS, H., 1982. The Illustrated Guide to Molluscs. Starke (includes a key). JANSSEN, A.W. AND VOGEL, E.F. De, 1965. Zoetwatermollusken van Nederland. Drakkerijnieuw Leven, Den Haag. In Dutch but has some useful labelled diagrams for identification of Pisidium.

REVIEW

A History of Shell Collecting, by S. Peter Dance. (E. J. Brill - Dr. W. Backhuys, Leiden, 1986). About £25.

The main reason for a book review is, I suppose, to give the reader a good idea whether he wants to read, or more importantly, wants to buy the book. In the case of a volume such as the above, there are two possible ways of reviewing it.

The first is by analysing the facts presented, and pronouncing on their accuracy and completeness. To do this efficiently the reviewer would need to follow the lines of research represented and this would entail many hours in the British Museum of Natural History and elsewhere, facilities already fully employed by the Author; indeed, the writing of the book would have been quite impossible without them. Nowhere in the world except in London could the book have been written. Such a course of action for a reviewer would be quite impracticable and indeed, unnecessary, since the book has been put together with such obvious regard for scientific accuracy that criticism along those lines would be quite superfluous.

The other method would be by summarising the contents of the book and this is what I will try to do. Interest in the Mollusca seems to be almost as old as mankind and an actual study of the subject, either from the aesthetic or the scientific points of view, came very late in the history of man. Only in the Age of Reason did people think to enquire what exactly shells were and how the animals had their being.

In his preface Dance hopes that someone may write a more detailed history of the subject - a hope almost bound to disappointment considering the enormous amount of work and research put into his own book, although stories of some of the characters mentioned may continue to appear from time to time, and certain it is that much remains to be investigated.

Dance commences by detailing the discoveries of shells relating to prehistory - their attraction is 'as old as vanity'. It is remarkable that many of these shells had travelled immensely long distances to their final resting places and they have been found very useful in tracing ancient trade-routes. They seem to have been used widely as fetishes and in initiation ceremonies, partly because of their rarity and partly due to their fancied resemblance to other objects or to parts of the human body. Minoan models of shells survive, some 3500 years old, and at least one shell collection was found in the ruins of Pompeii. The word 'Mollusca' was coined by Aristotle in the 4th. century B.C. and his observations on the living animals, although they led to some wrong conclusions, were remarkably accurate considering that nobody had previously attempted anything of the sort. Nobody seems to have checked the facts or corrected them until the 17th. century. Pliny, who died in the destruction of Pompeii, wrote a lot on the subject, mostly copying the ancient theories, but added a useful account of the purple shells and the methods of extracting the precious dye.

In the middle ages shells are found as manuscript illustrations and in the

15th. and 16th. century explorers, especially the Dutch, brought home curiosities of all sorts for the 'cabinets' of dilettantes. Dürer was recorded as a collector in 1520 and some of the new discoveries were incorporated in the popular 'still life' paintings of such artists as Cornelioz, 1607. A collector named Roetiers of Amsterdam provides us with the first record of the precious wentletrap in 1663. Dealers in such curiosities were already in business and Dance gives some details of these and early collections in various countries. The famous potter Bernard Palissy (1509-89) collected shells and often incorporated models of them in his pottery - probably cast from actual specimens.

In England, the famous John Tradescant, gardener to Charles I was a great collector of natural objects, largely mollusca, and a catalogue of his belongings dated 1656 survives. His collection went to augment that of Elias Ashmole and thence to Oxford University. His shells are not now identifiable except for the holotype of Strombus listeri Gray, now in Glasgow.

Early printed books appeared from the 1550s, many with wood engravings - the craftsmen usually fell into the trap of portraying the shells as they saw them, so that the impressions came out sinistral - even Rembrandt did this. The results were mostly poor until Fabius Colonna of Naples 1616 provided accurate work resulting from detailed observation. Conchology however, languished for a time after this.

The foundations of scientific study were laid by three great writers: Buonanni, Rome 1681 provided a 'compendious introduction' - a real coffee-table book it would be called now; Martin Lister, physician to Queen Anne wrote the 'Historia Conchyliorum' 1685-92, accurately illustrated and with a scientific and forward-looking attitude. The engravings, some of them very fine indeed, were mostly executed by his wife and daughter and he attempted to classify his specimens by shape and colour. He made it his business to examine many collections and persuaded Dr. Hans Sloane to collect for him in Jamaica. Sloane became an enthusiast and most of his collection went to help the foundation of the Natural History Museum, where many survive.

The third great book was the product of Rumphius, a German, who lived in Amboyna and taught himself to become an observer of nature in the field. His 'Amboinese Curiosity Cabinet' 1705 is full of fine and accurate details of invertebrates; many of his names were binominal and later adopted by Linnaeus.

Shell cabinets became the possessions of most people of wealth and culture all over Europe; Dance describes the best of them including the Royal collections of the time, and the flush of books which further popularised the study.

The year 1757 marked the beginning of a truly scientific approach to what had previously been just a muddle of attractive objects. Michel Adanson published a book on the Natural History of Senegal, dealing largely with mollusca, which he classified according mainly to their anatomical characters and using a form of binominal nomenclature, anticipating by a year the famous 10th. Edition of Linnaeus' 'Systema Naturae', the starting point of modern zoology. Linnaeus' own collection was enormous and Dance tells the story of how much of it came to London in the care of the Linnaean Society.

The 'Systema' was not illustrated, but within a few years, spurred by Captain Cook's voyages of discovery and the quantities of novelties brought home, illustrated books became available and many people amassed large and beautiful collections. Dance gives examples of the rivalry and scurrilous dealings which took place and describes the gentle art of faking shells to enhance their value or create new species; Linnaeus was himself taken in on occasion. This period produced Martyn's 'Universal Conchologist' with some of the most beautiful plates ever published.

The most important collections are described. Just one such was that of the second Duchess of Portland; Banks, Solander and Captain Cook himself all had a hand in making her collection pre-eminent in the world. Solander, a pupil of Linnaeus, became her curator, prepared a great book on her shells, but died before its completion. On her death her collections were sold for £11,546, including £1029 for the Portland Vase (multiply these figures by about 40 for the modern equivalent values), and the sale catalogue, compiled by Lightfoot, used Solander's names and thus became of considerable importance to scientists.

A new star on the horizon, Lamarck, published papers critical of the Linnaean system and putting forward an altered concept involving a considerable increase in the number of taxons. Controversy and difficulties arose; for instance the Bolten and Roding catalogue of 1798, a few months before Lamarck's proposals, worked out its own system which, quite by chance, satisfied the binominal rules. The publication is very rare and was unknown to most taxonomists until W. H. Dale resurrected it over a hundred years later with the result that many well-known generic names had to be relegated. Melania became Thiara, Solarium was rejected in favour of Architectonica and so on. Unfortunately the Roding names are inept and clumsy.

With the opening of the 19th. century there became available practical handbooks on the finding, cleaning and preserving of shells. Dance gives us details, and writing of Broderip he says "Broderip's initial impulse to collect was his intense appreciation of the beauty of natural objects; but he did not maintain a shell collection for purely aesthetic purposes". Surely that speaks for at least the great majority of members of our Society. Dance provides, as always, examples of the prices given at famous auctions of the period for peerless shells, some of which can still be identified.

This leads us on to the gigantic figure of Hugh Cuming and all conchologists should read the story of his life. Born a Devon man in 1791, he early retired from his very profitable sailmaking business in Valparaíso in 1826 and fitted out a large yacht, the 'Discoverer' specifically for the purpose of shell collecting. Sailing for Polynesia he visited an incredible number of islands in a two year voyage, collecting all the time and after a further few months at his headquarters, set out again for two years up and down the west coast of South America, amassing both land and sea mollusca, returning with four hundred chests full of natural objects, very many new to science. He visited England in 1831, contacting Broderip and Sowerby, who commenced the task of writing up his novelties: the Proceedings of the Zoological Society bore witness to their efforts from 1832 till 1865, to the number of 2-3000 descriptions.

Cuming's third voyage was in 1836 to 1840 to the Phillipine Islands where he collected over three thousand species, including 550 land and freshwater, together with many thousands of crustacea, reptiles, 1200 birds, insects and 130,000 dried plant specimens.

Cuming himself wrote nothing scientific. Very many of his new species were described in the 'Thesaurus Conchyliorum', which occupied three generations of Sowerbys for 45 years, and the 'Conchologia Iconica' by Reeve, finished by Sowerby II in 18 volumes - all beautifully illustrated. Many other scientists studied the Cuming collection and described the new species - Dance mentions 28 of them.

The Cuming collection of 83,000 specimens, 'easily the most valuable ever to be brought together by one individual' was however, rejected by the British Museum which refused to pay £6000 for it in 1846: they did acquire it however, in 1866, under controversial circumstances, many scientists objecting to its doubtful labelling, Cuming being accused of relying on his memory rather than on written notes. Dance explodes the myth that Mrs. Gray ever let the labels blow about in the courtyard of the Museum.

This was a time of many Government Expeditions and the study of marine life was carried on intensively over world oceans. These investigations resulted in official reports, many beautifully illustrated, and many issued over a long period of years. Periodicals too, made their appearance, though the first of them, issued by G. B. Sowerby in 1838, had but a short life.

With increased commercialism in the late 19th. century, the practice of species-mongering became common, mainly among dealers. Slight variations from the norm were given new names, validly described in some publication, and sold at inflated prices. Auctions continued to provide excitement among the richer collectors until the 1890s, when G. B. Sowerby III & Hugh Fulton, both scientists of note, became the middlemen for nearly all important conchological transactions.

In a way, the mid-twentieth century became a second golden age for collectors, with excellent books arriving in a steady stream, thriving clubs and societies and attractive exhibitions in the museums and elsewhere. The most noteworthy collections, such as the Melville-Tomlin and the Salisbury, were acquired by the major museums where skilled curators ensure their proper arrangement for future study. The main portion of the book finishes on an optimistic note.

What follows is an invaluable series of appendices designed to supplement the theme of the book and assist the researcher. Much of the information offered here can be found nowhere else and it immensely increases the usefulness of the book. The appendices are as follow

No. 1 A list of the "shell cabinets of the early 18th. century arranged by location and vocation of owners". It is notable how many of these collectors were physicians or apothecaries.

No. 2 "Shell books in 1948". This comprises some of the entries in a catalogue issued by Wheldon & Wesley, and thereby hangs a tale. Most of the books were rare and expensive although the prices seem ridiculous to us now.

No. 3 "Conchology or Malacology" recapitulates the arguments in favour of either term and seems to resolve the long-standing debate on the matter.

No. 4 "Guide to Collections" lists many shell collections of scientific importance and their present whereabouts. This is a remarkably long list and entirely supplants that of Sherborn, probably the only author to have attempted such a task in past years. Several collections (von Bülow, Poulsen, Teissier) mentioned in the text, are omitted from the list - it is a fair assumption here that these collections were dispersed. Incidentally, for the record, the Lukis collection is now in the ownership of Eric Lukis of Guernsey, grandson of the collector, and the Alderson Pilidae are in the National Museum of Wales.

No. 5 is a copious bibliography, containing no fewer than 360 items. Curiously, it omits those two conchological bibles 'British Conchology' by J. G. Jeffreys 1862-9 and 'History of British Mollusca' by Forbes and Hanley 1849-53, both of which however, are mentioned elsewhere.

The book is excellently printed and bound and the type-face is a pleasure to read. A number of misprints occur but only one of these appears to be of significance; the date 1884 on page 145 should read 1844. The index is excellent and the illustrations, gathered together at the end (alas, after the index) are in good quality monotone. There is a coloured frontispiece.

As most members will know, the original edition of this book came out over twenty years ago and some people who own it may wish to know whether to buy the present issue as well. This will depend on how interested they are in the history of the subject. The re-arrangement of the book is considerable without being basic. Gone are the portraits in the text of old-time conchologists, mostly replaced by figures of famous shells. Gone also are the appendices on 'Collecting in the Deep Sea' and 'Some famous Rarities', both rather peripheral to the main tenor of the book; in any case, Dance wrote in 1969 a book called 'Rare Shells'

(Faber). What would you have?

The historical content has been enlarged quite a lot and the appendices on Famous Collections and Bibliography have been extended. Many of the plates are new, replacing those of beautiful shells, which are now available in colour in many other works. The new plates deal with historical illustrations.

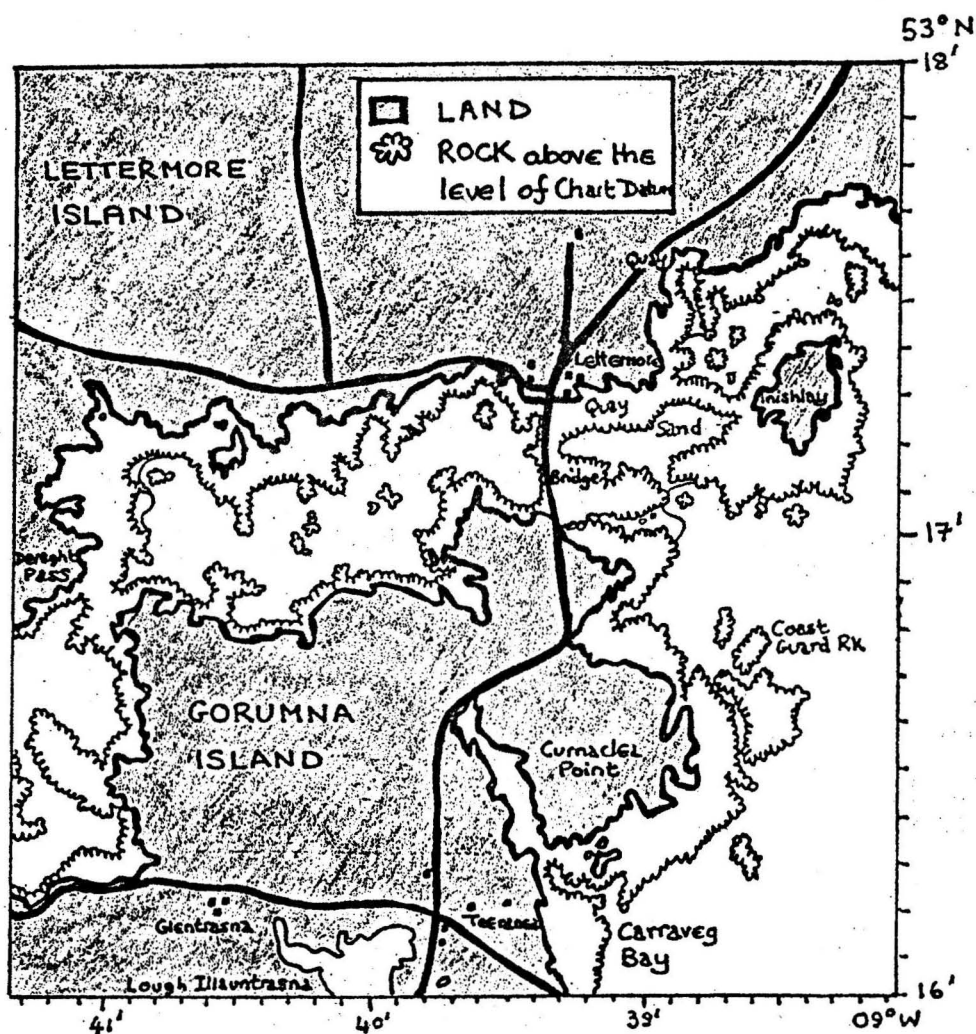
An expensive book but unique on its own subject.

T. E. Crowley

COLLECTING MOLLUSCA IN IRELAND: LETTERMORE, CO. GALWAY

In July and October 1986, the authors investigated a rocky habitat south of Lettermore Island, Co. Galway in order to collect and record the marine Mollusca. Lettermore Island lies some 30 miles west of Galway City in the beautiful area of Connemara. The island itself is linked at its southern end via a bridge to Gorumna Island, and also has a narrow passage to the west, Deraght Pass. Between these two points lies a large shallow lagoon. The site under investigation was the northern end of the bridge (53°17'.2N 09°39'.3W - see map) which has considerable tidal advantages. Due to a high sill of rock under the bridge (and at the western end, Deraght Pass), the tide continues to flow out of the lagoon up to 3 hours after low tide in Galway Bay. Since this flow close to the shore, while rapid, is shallow and wadeable, the site can be examined for up to 4 hours (2 hours either side of low tide) under conditions close to low water for the whole period. The rapid, deep current of water under the main central span of the bridge precluded any investigation there. Within the area examined were a variety of habitats - sandy mud, gravel, clean sand, rocks, boulders and small stones, together with the vertical surface of the pillars supporting the bridge. Samples of seaweeds and small algae (Fucus spp., Cladophora spp., Corallina officinalis, Gigartina stellata, etc.) were taken for later examination and washing in fresh water to extract the smaller species of mollusca. In addition, rocks and small boulders were carefully investigated for the presence of unusual bivalves.

80 species (75 alive) were found on the two visits to this small area, including three new or upgraded Sea Area records and one new British record (see list). There have apparently been no past records of molluscs from this particular site, although Sea Area 36 (Galway) in general has been extensively surveyed, particularly by University College Galway. A number of less common species were collected. Diodora graeca was very common (more than a dozen specimens) under small rocks over the whole area. Several specimens of Leptochiton cancellatus and Rissoa rufilabrum were obtained from the washed algae. A single specimen of Rostanga rubra was discovered on the underside of a rock, well camouflaged amongst its food, the red sponge Ophlitaspongia seriata. Single live specimens of Sphenia binghami, Thracia distorta and Modiolus barbatus were discovered amongst rocks at the base of the bridge, as well as three specimens of Arca tetragona looking like rough stones! Two live specimens of Gastrochaena dubra were found boring into a piece of soft stone. The most exciting discovery was of a single valve of Pseudopythina setosa (Dunker, 1864) during the authors' first visit, which is a new British record. Very little is known about this species (related to Galeomma turtoni) which lives under large rocks partly buried in sand. The northern limit of its distribution was thought to be Brest on the northern coast of Brittany, France. However, it is not unknown for species to have an Atlantic distribution which includes Brittany and the west coast of Ireland - the nudibranch Aeolidiella sanguinea being one example. An extensive search by the authors on their second visit in October failed to produce any more specimens of Pseudopythina! However, this record suggests that this small species has hitherto been overlooked, and may



well occur in suitable habitats on the SW coast of England and the West coast of Ireland.

The authors are grateful to Dr. Shelagh Smith for her assistance in identifying some of the species listed here.

Julia Nunn & Bernard Picton

LIST OF MOLLUSCAN SPECIES COLLECTED AT LETTERMORE

All species were found alive unless otherwise stated.

*indicates new or updated records not published in the 1982 Sea Area Atlas.

Leptochiton asellus; Leptochiton cancellatus; Lepidochitona cinereus; Tonicella rubra; Acanthochitona fascicularis; Emarginula fissura; Diodora graeca; Acmaea virginea; Patella ospera; Patella vulgata; Helcion pellucidum; Gibbula cineraria; Gibbula umbilicalis; Calliostoma zizyphinum; Tricolia pullus; Lacuna pallidula; Lacuna parva; Lacuna vineta; Littorina littorea; Littorina mariae; Littorina obtusata; Littorina neglecta; Littorina saxatilis; Rissoa rufilabrum*; Rissoa parva; Rissoa interrupta; Alvania semistriata; Cingula cingillus; Onoba semicostata; Skeneopsis planorbis; Omalogyra atomus; Rissoella diaphana; Rissoella opalina; Coriandria fulgida; Barleeia unifasciata; Bittium reticulatum; Cerithiopsis tubercularis; Trivia arctica; Turritella communis (B); Nucella lapillus; Ocenebra

erinacea; Buccinum undatum; Hinia incrassata; Odostomia eulimoides; Odostomia plicata*; Odostomia rissoides; Odostomia turrita*; Odostomia unidentata; Turbonilla lactea (B); Elysia viridis; Limapontia depressa; Berthella plumula; Goniodoris nodosa; Cadlina laevis; Archidoris pseudoargus; Jorunna tomentosa; Rostanga rubra; Nucula nucleus; Arca tetragona; Mytilus edulis; Musculus discors; Modiolarca tumida; Modiolus modiolus; Modiolula phaseolina; Modiolus barbatus; Chlamys distorta; Chlamys varia; Pododesmus squamula; Kellia suborbicularis; Mysella bidentata; Turtonia minuta; Parvicardium exiguum; Tapes decussatus; Venerupis senegalensis (B); Circomphalus casina (C); Hiatella arctica; Thracia distorta; Pseudopythina setosa (C)*; Gastrochaena dubia; Sphenia binghami.

LAND AND FRESHWATER MOLLUSCA FROM SMIRISARY, WEST INVERNESS (V.C. 97)

Smirisary in Moidart must be one of the most remote places in mainland Britain, and is definitely not for the car-borne conchologist. The last three-quarters of a mile of approach is not negotiable even by a cyclist and demands stamina and wellingtons!

The writer Margaret Leigh ran a croft in Smirisary for some years post-1941 (see her book Spade among the Rushes, 1948) and by sheer serendipity I was lent the former Leigh house in 1981. Subsequently, in 1982 and 1983 Dr. and Mrs. I. D. Wallace paid two short visits to Smirisary and our joint notes on the Mollusca noted are here set out.

One achieves Smirisary by a rough track along the southern shore of Loch Ailort, and then westwards past where the loch enters the Sound of Arisaig. Next, one reaches Glenuig (with church), then Samalaman House and finally Smirisary. Beyond lie the islands of Eigg and Muck.

In Margaret Leigh's time Smirisary was a working community of crofters but now no one lives there permanently (there are a few holiday houses) and only sheep and a few cattle graze where once the land was carefully cultivated. There are stunted oaks and plenty of hazel scrub, and at Achadh an Aonaich (NGR 17/643762), opposite Eilean Coille, there is a sheltered beach and behind it a little machair. As Mollusca were only collected incidentally the list is probably far from complete.

- | | |
|---|---|
| <u>Lymnaea palustris</u> (Müller). | In a spring-fed stream at Achadh an Aonaich 25.vi.1983 (Wallace). |
| <u>L. peregra</u> (Müller). | Smirisary burn, 13.vii.1981 and in the well Tobar Mhairearead (both NFMcM). |
| <u>Ancylus fluviatilis</u> Müller. | Smirisary burn with <u>L. peregra</u> (see above). In a stream draining bog S. of Loch na Bairness (NGR 17/656756) 16.ix.1982 (Wallace). |
| <u>Discus rotundatus</u> (Müller). | Two at ruined croft house, 20.vii.1981 (NFMcM). |
| <u>Arion ater</u> (L.), s.l. | Only all-black specimens seen. |
| <u>A. lusitanicus</u> Mabilie. | ("lusitanicus" of Quick). One at Glenuig boat-house 19.vii.1981 (NFMcM), det. S. M. Davies. The specimen was brown with black bands. |
| <u>A. subfuscus</u> (Draparnaud). | Several 4.vii.1981 (NFMcM). |
| <u>A. silvaticus</u> Lohmander. | About the byre at Leigh house 10.vii.1981 (NFMcM) det. S. M. Davies. |
| <u>Aegopinella nitidula</u> (Draparnaud). | Large specimens (up to 8.5 mm. in diam. were frequent among <u>Iris pseudacorus</u> near Glenuig Boat-house and on the garden wall at Samalaman House both 12.vii.1981 (NFMcM). |

<u>Limax maximus</u> L.	One at ruined crofthouse 20.vii.1981 (NFMcM).
<u>L. cinereoniger</u> Wolf.	One at base of cliffs opposite Eilean Coille (NGR 17/64-76-) 25.vi.1983 (Wallace).
<u>L. marginatus</u> Müller.	About Leigh house 21.vii.1981 (NFMcM).
<u>Deroceras laeve</u> (Müller).	About the Leigh house (NFMcM).
<u>D. reticulatum</u> (Müller).	as <u>D. laeve</u> (q.v.).
<u>Helicella itala</u> (L.).	On sand-dunes at Achadh an Aonaich (NGR 17/643762) opposite Eilean Coille 25.vi.1983 (Wallace).
<u>Ashfordia granulata</u> (Alder).	At ruined crofthouse 20.vii.1981 (NFMcM).
<u>Trichia striolata</u> (Pfeiffer).	Garden of Samalaman House and among <u>Iris pseudacorus</u> on shore of Loch Ailort near Glenuig, both 12.vii.1981 (NFMcM).
<u>Arianta arbustorum</u> (L.).	Smirisary and Glenuig July 1981 (both NFMcM).
<u>Cepaea hortensis</u> (Müller).	Cliffs S. of Smirisary 25.vi.1983 (Wallace).
	Rocks at base of cliffs S. of Smirisary (NGR 17/64-76-) 25.vi.1983 (Wallace). A population of this species was found among <u>Iris</u> at the top of saltmarsh between Glenuig and Samalaman House 12.vii.1981 (NFMcM), the numerous specimens were all of a beautiful chestnut-red and bandless (agreeing exactly in colour with the var. <u>fagorum</u> Weinland as illustrated in Taylor's <u>Monograph</u> ... pl. 28). Professor A. J. Cain has seen these shells and tells me that it is unusual to find such a uniform population. Despite careful search only these bandless red specimens were found at this site.
<u>Helix aspersa</u> Müller.	About the byre at Leigh house (NFMcM).

Noticeably, that determined colonist Potamopyrgus jenkinsi was not obtained by Dr. and Mrs. Wallace or by NFMcM.

Material collected by NFMcM. has been deposited in Liverpool Museum.

Nora F. McMillan, Liverpool Museum

CONCHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

996th. (Ordinary) meeting held on 17 January 1987 at B.M.(N.H.).

In the Chair: Mrs. E. B. Rands with 22 members and friends present.

Matters arising: Mrs. Rands reported that there was no further news about room bookings from the B.M.(N.H.).

Nominations and elections to Membership: None.

Lecture: 'Land snails of the Northern Sahara' by Dr. D. T. Holyoak.

Announcements and Correspondence: Mrs. Rands read a letter from the Kent Trust for Nature Conservation thanking the Society for providing records for the areas near the proposed sites for Channel Tunnel. They are appealing for any further records, observations or opinions relating in particular to the Folkestone and Ashford areas to be forwarded to them as soon as possible.

The Programme Card for 1987 is due out shortly. The next meeting is on 14th. February and the lecture is on Nucella lapillus by Dr. Crothers.

Meeting closed 4.50 p.m.

Exhibits

- D. T. Holyoak & M. B. Seddon - Land shells, fossils and flint implements from the N. Sahara.
J. Light - Live Marine Mollusca from the Isle of Skye.
M. Mitchell - Soviet Shells.
T. Pain - Mediterranean Cassidae.
R. C. Preece - Pomatias harmeri Kennard; the only two specimens known. Plio-Pleistocene.
E. B. Rands - Snail motif jumper received as a Christmas present.

997th. (ordinary) Meeting held on 14 February 1987 at B.M.(N.H.)

In the Chair: Mrs. E. B. Rands with 41 members and friends present.

Matters arising: Mrs. Rands reported that the B.M.(N.H.) are still formulating a reply to her letter of 23rd. November 1986 regarding room bookings.

Nominations and elections to Membership: 6 Full Members

- R. Q. D. Andrews, [REDACTED], Weybridge, Surrey, [REDACTED]
Mrs. S. Davies, [REDACTED], Portishead, Bristol, [REDACTED]
A. Duffy, [REDACTED], Le Feugeral, La Moye, Jersey, Channel Isles.
Miss Z. Everitt, [REDACTED], Fallowfield, Manchester, [REDACTED]
K. A. Turner, [REDACTED], Caterham, Surrey, [REDACTED]
Dr. B. J. Smith, [REDACTED], Canterbury, Kent, [REDACTED]

1 Junior Member

- Miss Ruth Robson, [REDACTED], Billingham, Cleveland, [REDACTED]

Lecture: 'Investigating shell variation in the dog-whelk Nucella lapillus' by Dr. J. Crothers.

Announcements and Correspondence: Mrs. Fogan asked members who paid by standing order to check that these had been changed to take account of the increase in subscriptions on the 1st. January. Mr. Woodward offered to deal with a letter regarding the sale of a collection of Australian and New Zealand shells. Mr. Woodward noted that there had been a children's television programme on obtaining pearls from mussels recently; this led to 'fishing' at a number of Margaritifera margaritifera sites. The Annual Symposium of the Underwater Association is to be held at London Zoo; the theme will be '21 years of Underwater Science'. Dr. Chatfield is running a weekend course on 'Looking at Land-Snails' at Selborne on 9-10 May 1987; further details are available from Dept. of Adult Education, University of Southampton. There will be an exhibition of the work of the naturalist F. B. Frohawk in the B.M.(N.H.) from 4 March to 29 May 1987. There will be a book in the Country Life series on Molluscs which has been translated and revised by Dr. Chatfield; this is due out at the end of the year.

Meeting closed at 5.05 p.m.

Exhibits

- E. O. Bishop - Nucella species from Victoria, British Columbia.
J. H. Crothers - Variation in Nucella lapillus.
W. Karo - Festilyria festiva Lamarck, 1811 from Somalia and Masirah Is., Gulf of Oman.
A. Knight - Electrophoretic and morphometric taxonomy in the Littorina saxatilis species complex.
J. Llewellyn-Jones - Nucella lapillus L. from around the British Isles. Its use for producing a purple dye.
P. E. Negus - Nucella tetragona from the Red Crag.
T. Pain - Variation in Buccinum undatum L., 1758

R. C. Preece - Argonauta sp. from Oman; Can you identify it?
 E. Sándor - Family Cancellariidae Forbes and Hanley, 1853.
 F. R. Woodward - Janthina pallida from Sennen Cove, 8th. July 1947.

MARINE MOLLUSC MAPPING SCHEME - SEA AREA PORTLAND S16

PROGRESS REPORT NO.7 - 1986

The Sea Area Atlas of 1982 updated my previous report (Conchologists' Newsletter 74, 257). Post-Atlas changes are as follows:

<u>Erato voluta</u>	c to A	Weymouth Bay 50°36'N 2°24'W, 1983 ARA
<u>Graphis albida</u>	a to A	Teignmouth 50°32'N 3°29'W 1982 DRS
<u>Littorina littoralis</u> agg		Both of the segregates <u>mariae</u> and <u>obtusata</u> have been recognised at several sites. OPRU, DRS, CW
<u>Littorina saxatilis</u> agg		All the segregates <u>arcana</u> , <u>neglecta</u> , <u>nigrolineata</u> and <u>saxatilis</u> s.s., together with the lagoon form <u>tenebrosa</u> , are now recorded from several sites. OPRU, DRS, JDN
<u>Paludinella littorina</u>	a to A	The Fleet 50°35'N 2°29'W to 50°37'N 2°33'W (J.Conch. 32: 260) 1986 JL, DRS
<u>Rissoa albella</u>	c to A	Weymouth Bay 50°36'N 2°24'W and Portland Harbour 50°35'N 2°27'W 1983 DRS
<u>Chrysallida obtusa</u>	a to A	Weymouth Bay 50°37'N 2°26'W 1984 CP, JDN
<u>Doto millbayana</u>	new A	Portland Harbour 50°35'N 2°28'W 1984 DRS
<u>Eubbranchus doriae</u>	new A	Portland Harbour. Some of the animals previously identified as <u>E. cingulatus</u> are now regarded as <u>E. doriae</u> (see J.Conch. 32: 143 for comment on these two species). 1975 et seq DRS
<u>Eulimella laevis</u>	a to A	Portland Harbour 50°35'N 2°26'W 1983 DRS
<u>Hermaea bifida</u>	new A	Portland Harbour 50°36'N 2°27'W 1985 DRS
<u>Lomanotus marmoratus</u>	new a	Torbay, the type locality, before 1845, Alder and Hancock
<u>Odostomia acuta</u>	a to A	Weymouth Bay 50°37'N 2°21'W, 50°36'N 2°24'W, and Portland Harbour 50°35'N 2°27'W 1983 DRS
<u>Philine angulata</u>	b to A	Torquay, before 1913 (Marshall, J.Conch. 14: 33).
<u>Astarte triangularis</u>	c to A	Weymouth Bay, ca. 50°37'N 2°19'W 1986 JL
<u>Lima loscombi</u>	c to A	north of Channel Is., ca. 50°N 2°30'W (Retiere, 1979, Thesis on benthic populations of the Brittany-Normandy gulf: 155)
<u>Tellina squalida</u>	a to A	Portland Harbour 50°35'N 2°27'W 1983 JL

There are now 413 species recorded in the area, of which 287 are post-1950 live records.

My own field work, mainly in The Fleet and Portland Harbour, has continued, and it is pleasing to report that others are now active in the area, particularly Mrs. Jan Light and Graham Saunders, who have between them organised and led several fruitful Society field and dredging trips, which have been reported in the Newsletter. The Oil Pollution Research Unit, Pembroke, allowed access to their data obtained during an environmental survey for BP, and Wessex Water Authority have many grab samples which I have been able to examine.

However, most of this effort has been within Weymouth Bay, and Exmouth to Start Point is very poorly explored. Many old occurrences from dredging off Exmouth and Teignmouth have never been repeated, and I am sure that a diving or

Recent relevant publications have been reports in this Newsletter and in Porcupine Newsletter, in J. Conch. (32: 260), in collected papers of the Fleet Study Group, and (in press) in the Dorset Proceedings.

Dennis R. Seaward, Area Representative, S16, Conchological Society. January 1987.

[REDACTED], Sherborne, Dorset, [REDACTED]

	pre 1900	1900-1950	post 1950
Live record	a	A	<u>A</u>
fresh shell	b	B	<u>B</u>
worn shell	c	C	C

There are new Area Representatives in the following sea areas of the Society's marine census scheme, to whom records for those areas should be directed. The names of the retiring representatives are given in brackets; I and the Society are grateful to them for their contributions towards the scheme.

WASH (Area S12): Dr. Joan Llewellyn Jones, [REDACTED], West Mersea, Colchester, Essex. (also Thames S13) (Mr. John Llewellyn Jones)

EAST CHANNEL (Area S14): Mr. D. R. Worth, [REDACTED], Beckenham, Kent, [REDACTED] (Mr. C. P. Palmer)

WIGHT (Area S15): Mrs. J. M. Light, [REDACTED], Godalming, Surrey, [REDACTED] (Dr. J. E. Chatfield)

LIVERPOOL BAY (Area S24): Mr. I. Wallace, Keeper of Invertebrate Zoology, Liverpool Museum, William Brown Street, Liverpool, L3 8EN (Dr. P. F. Lingwood)

NYPHE BANK (Area S39): Dr. D. Minchin, [REDACTED], Dartry, Dublin 6, Ireland. (Dr. Minchin is with the Fisheries Research Centre in Dublin, and his work takes him into the field for long periods, so that replies to correspondence may be delayed). (Mr. J. P. Hartley)

Previous Area Representative changes subsequent to the list in the Sea Area Atlas were given as follows: J. Conchology 31: 387 and 32: 143, and Conchologists' Newsletter No. 91 (p.236).

Area Representatives are pleased to receive information on marine molluscs in their areas; if you do not know who is representative for any particular place,

please write to me at: [REDACTED], Sherborne, Dorset, [REDACTED]

Dennis R. Seaward, Marine Recorder

GENERAL NOTES

MONSTER SLUGS!

Is it not time the myth that our big black slug Arion ater (L.) attains the horrifying size of 18 inches be laid to rest?

David Bellamy on ITV recently urged young naturalists to search for giant Arion ater, saying that they can grow to a length of 18 inches! (according to the Daily Post of 18 October 1986) and expects to see specimens at least twelve inches long.

My Cheshire garden is full of fine healthy well-fed Arion ater but NOT ONCE have I found one larger than a modest 2½ inches.

My "largest slugs" were two really superb examples of slugdom from old woodland near Preston, Lancashire. (Details are Tunbrook/Redscar Woods NGR SD53, coll. 3 July 1967. One was Limax cinereoniger Wolf (our largest British slug) and the other an equally large Limax maximus L.). I regret that I did not measure them but together they filled to overflowing a 1lb jamjar! Ellis received them with acclamation and having admired them, presented them to the Mollusca section of the British Museum (Natural History).

Consulting Ellis (British Snails, 2nd. ed. p.181, I find that dimensions for Arion ater are given as "to 20 cm.", that is approx. 7½ inches, according to my calculations.

Has anyone seen a specimen of Arion ater nearly eight inches long, let alone eighteen??

Nora McMillan, Liverpool Museum

UPLAND AFFORESTATION - A COMPLEX AND WIDE-RANGING PROBLEM

Council of the Conchological Society has recently written to the Department of the Environment to express its concern at the virtually uncontrolled afforestation of Upland Britain and also to ask the Department to support the all-party Early Day Motion, "That this House, in view of the major impact of coniferous afforestation on the environment, in particular on wildlife, landscape and archaeological interests, and on the public enjoyment of the countryside; and in view of the increasing concern over this impact, urges the Government to undertake a review of the financing, procedures and practices of afforestation in the U.K. so as to ensure in future a proper balance between the interest of rural communities, timber production and the environment".

The chief issue is that afforestation causes an ecological transformation in which the open ground environment is drastically altered and the characteristic community of wild plants and animals lost. 'Habitat' (Vol. 22, No. 7, 1986) reports that, "Since 1919 nearly 28 million acres of open heath, moorland and peat bog have been turned into forest, mainly alien conifers. The crucial point is

that new forests are quite different from the heaths, grasslands, peat bogs and sand dune communities they replace."

The recent acceleration in the planting of the uplands has come partly as a result of recent advances in ploughing and forestry techniques although the main drive for afforestation often has little to do with growing trees, coming instead from tax incentives and government grants. Forestry schemes are attractive to higher-rate tax payers since planting costs earn full tax relief and generous grants. 70% of total costs may be funded by the taxpayer. Timber quality is often ignored, the financial incentives being such that it often makes sense to plant on the cheapest land even if it is of poor quality for trees.

Most recent publicity has centred around the afforestation of the blanket bog Flow Country of Caithness and Sutherland, where to date about 83,000 acres have been planted, or are scheduled for planting. In September 1986 members of the International Mire Conservation Group (a body of peatland experts), after visiting the Flows, wrote to the Prime Minister expressing their alarm at "the rapid destruction of one of the world's outstanding ecosystems." Losses of such acid bog by afforestation may seem rather irrelevant in the narrowest conchological sense until the wider threat to the uplands is appreciated.

Recent announcements by the Ministry of Agriculture upon the future of rural areas have suggested that, as part of a campaign to reduce the levels of surplus agricultural land, £10 million a year is to be spent on encouraging farmers to plant trees on 90,000 acres of farmland. Unfortunately the Nature Conservancy Council (N.C.C.) considers that such proposals will be regarded as an ADDITION and not a substitute to forestry programmes in the uplands. The N.C.C. also indicates that in some areas, recent planning relaxations will encourage new planting on to the better hill and marginal 'in-bye' land (although not the arable 'prairies'). These changes have quite serious implications for the still wider attrition of upland habitats whilst at the same time doing nothing to alleviate the problems of lowland farming surpluses. This would seem to pose a threat to many of those marginal habitats (e.g. old unimproved grassland, calcareous mires and flows, semi-natural broadleaf woodland and open calcareous habitats) in western Britain where species now extinct, rare or local in the lowlands have retained strongholds. Such species include Acicula fusca, Vertigo substriata, Leiostyla anglica, Spermodea lamellata, Limax tenellus, Zenobiella subrufescens, Vertigo pusilla, Vertigo alpestris, Vitrea subrimata, Vertigo lilljeborgi and Vertigo geyeri. A declining freshwater species also at risk from the increased acidification of upland river systems by afforestation schemes is the pearl mussel, Margaritifera margaritifera. Areas at risk which are of particular interest to the Society include the nationally or internationally important calcareous regions of West Sutherland, Skye, the Lake District, the Pennines and areas of North and South Wales.

Readers may care to write to their M.P.'s to suggest that they too sign the earlier mentioned Early Day Motion.

Further Reading -

- (1) Nature Conservation and Afforestation in Britain. N.C.C. 1986. (Dept. N.F., Northminster House, Peterborough, PE1 1UA) Price £8.50.
- (2) The Theft of the Hills. S. C. Tompkins, Ramblers Association, 1986 (1/5 Wandsworth Road, London, SW8 2XX) Price £1.40 (including p.p.)
- (3) The Future of the Flows. Scottish Wildlife Trust, 1987. 25 Johnstone Terrace, Edinburgh, EH1 Price £2.80 (including p.p.)

M. J. Willing (Conservation Officer)

CONCHOLOGICAL SOCIETY - ANNUAL GENERAL MEETING

At the A.G.M. last March, the following Officers and new members of Council were elected: President, Mr. David C. Long; Secretary, Dr. Mary Seddon, School of Geography & Geology, The College of St. Paul & St. Mary, The Park, Cheltenham, Gloucestershire, GL51 9JZ; Council, Mrs. J. M. Light, Mr. C. P. Palmer and Mr. E. G. Philp. All other Officers and members of Council were re-elected.

REQUEST FOR ASSISTANCE

I shall be grateful for help in obtaining Limax flavus slugs, which I require as a source of raw material for the isolation and purification of a lectin important in histopathological studies of cancer. I aim to set up a breeding colony, but initially I require live specimens in order to carry out the necessary feasibility studies and development work, as well as to set up the colony. Dr. Peter Balding, Sigma Chemical Co. Ltd., Fancy Road, Poole, Dorset, BH17 7NH (telephone Freefone Sigma, ext. 226)

RARE PERIODICALS AND ILLUSTRATED BOOKS on recent and fossil shells as well as special lists on conchology available with Dieter Schierenberg BV, [REDACTED], 1016 HP Amsterdam, Netherlands. Tel: [REDACTED] - Telex: 13408 schie Catalogues free upon request.

MOLLUSCS OF THE CHANNEL - A REQUEST FOR INFORMATION

I am in the early stages of preparation of a Channel Atlas to show in some detail the distribution of marine molluscs in the Channel, from the Straits of Dover to the Scillies and Ushant/Roscoff, in collaboration with other Area Representatives concerned.

English shores are fairly well known, and offshore I am fortunate in having the benefit of the comprehensive surveys done over many years by Dr. Norman Holme, who has generously provided much recent unpublished data to add to his well known published Channel papers. There are also the several surveys published by French marine biologists such as Cabioch, Retière, Glaçon, Bouchet and Tardy, dealing mainly with benthic communities in various areas.

It is in regard to the French shore where I can find little information, and I should be glad to hear of personal records or references to faunal lists, etc.. If you spend a holiday on the French Channel coast, please spare some time to find out what molluscs are living there, and write to me.

Any help will be gratefully acknowledged.

Dennis R. Seaward, Marine Recorder, and Area Representative for Portland Sea Area
Barn Court, [REDACTED], Sherborne, Dorset, [REDACTED] April 1987

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PRODUCERS AND USES OF SHELLS. THE ABALONE, EAR SHELL, ORMER OR PAUA SHELL,

SOLE GENUS HALIOTIS PART 1

Since I was a boy I have been fascinated by this group of molluscs. My interest began on holiday on Herm in the Channel Islands in the 60's when I found my first small specimen when collecting shells along the tide line in Belvoir Bay. My enjoyment in finding these shells increased when snorkelling off Cadaques in Spain in the early 70's where the silvery insides of the shells flashed up at me from the sandy bottom. The experience not only improved my diving capabilities but also increased the number of specimens in my collection. The species I was finding, I was told, was Haliotis lamellosa Lamarck, but it is usually considered to be a form of Haliotis tuberculata L.. I am not prepared to go into the merits of one name or another in this article. What I do know is that they are lovely shells to collect.

The abalones belong to a group of very primitive gastropod molluscs. The shell, which ranges in size from small, a few centimetres, to large, twenty to thirty centimetres, round to oval, is flat and shallow with the body whorl large and saucer-shaped giving the overall effect of a human ear. This resemblance is the reason not only for the animal's scientific name but also for the name by which it is known in various languages e.g. 'Orecchia di San Pietra' (Ear of St. Peter) in Italian; Ormeau or Orielle de mer in French; Aliotis in Greek; Oreja de mer in Spanish; Deniz kulgai in Turkish; Paua shell in New Zealand; Awaki in Japanese; Abalone in America and of course Sea ear in English, Figure 1.

The exterior of the shell is usually rough, although in a few species it is very smooth as in Haliotis cracherodii, the Black abalone from California, with axial and or spiral lines, ribs or folds and ranges in colour from pale yellows and browns, to greens, reds and blacks in a multitude of combinations. The inside is lined with a thick layer of mother-of-pearl and is therefore nacreous, sometimes iridescent giving the shell the name of 'aurora shell' in some places and often has a large muscle scar. There is a row of four to ten round or oval holes depending upon the species along the left-hand margin through which the exhalent current escapes, some of the earlier holes may be closed. They have no operculum.

Abalones are usually found in or just below the littoral zone where they adhere very firmly to rocks, the underside of stones, harbour constructions, etc.. They feed herbivorously on the algal covering of rocks and because of this it was established at Hunterston in Scotland for the purpose of keeping clean the fish hatchery tanks there, a task which they performed very well.

There are about a 100 species in the genus and they live from temperate to tropical waters. The most important commercial species live in Australian, New Zealand, Californian, South African and Japanese waters. A small well-known fishery exists in the Channel Islands and the Mediterranean. Abalones are collected

wherever they are found both for the valuable irridescent mother-of-pearl used in making buttons, jewellery and other fancy goods such as souvenirs and inlays, as well as for food. The foot is considered a delicacy in most of the countries where it is fished. The favourite species which tend to be the larger specimens are fished commercially and include the following:

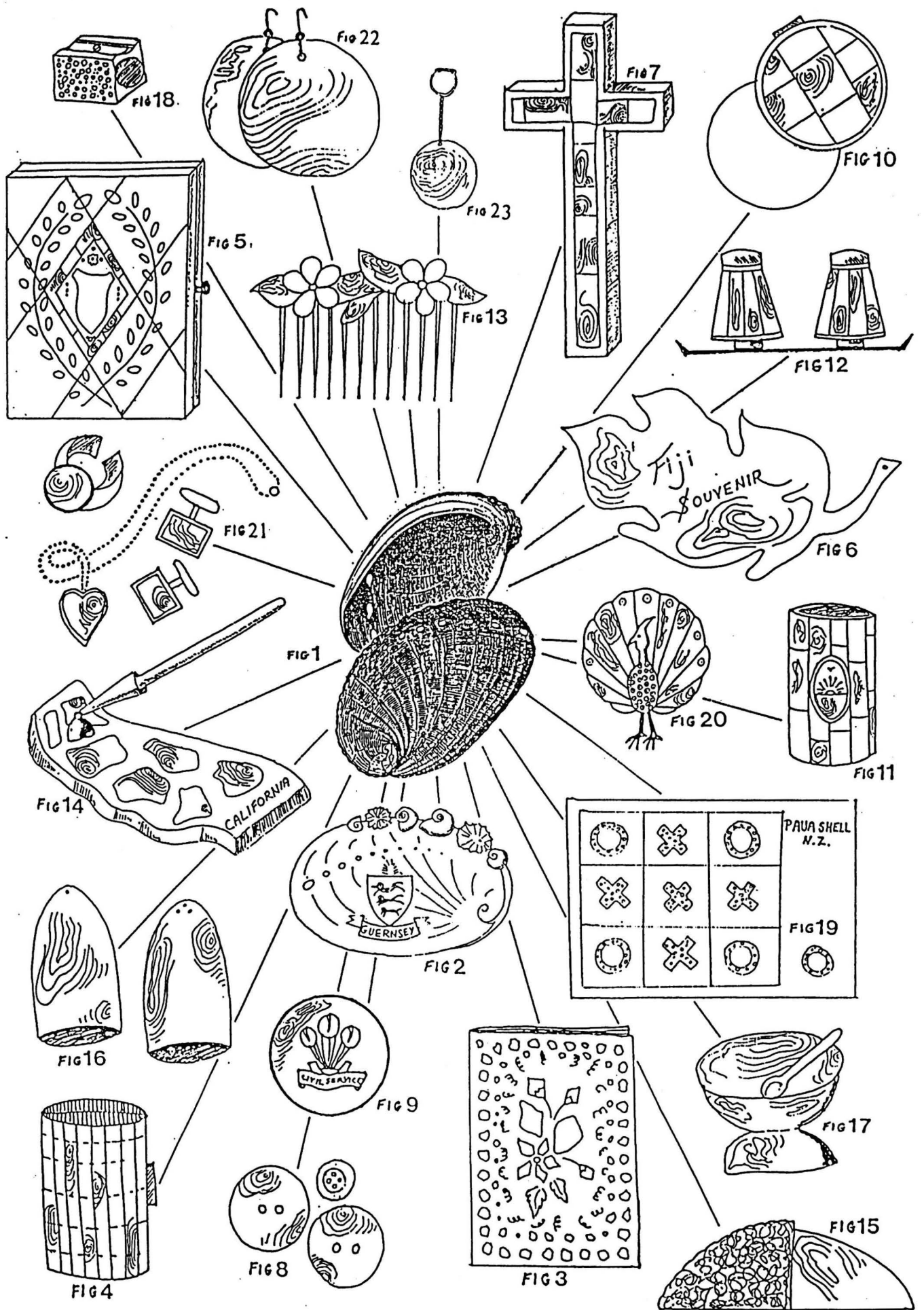
<u>Haliotis roei</u> Gray	Roe's abalone	- Australia
<u>Haliotis laevigata</u> Donovan	Smooth or whitened abalone, Mutton fish	- Australia
<u>Haliotis iris</u> Martyn	Iris or rainbow abalone, Paua	- New Zealand
<u>Haliotis corrugata</u> Wood	Synonym <u>H. nodosa</u> Gray Pink, corrugated or rough abalone	- California
<u>Haliotis fulgens</u> Philippi	Synonym <u>H. splendens</u> Reeve Green abalone	- California
<u>Haliotis rufescens</u> Swainson	Synonym <u>H. ponderosa</u> C.B.Adams Red abalone	- California
<u>Haliotis midae</u> L.	Midas's abalone or Perlemoen	- South Africa
<u>Haliotis gigantea</u> Gmelin	Giant abalone	- Japan
<u>Haliotis discus</u> Reeve	Disk abalone	- Japan
<u>Haliotis tuberculata</u>	form <u>lamellosa</u> L. Tuberculate abalone, Sea ear or Ormer	- Mediterranean

There are a number of species which are smaller but are collectors' items for obvious reasons, the Donkey's or Ass's ear H. asinina, H. varia the varied or variable abalone, H. pulcherrima the beautiful abalone, H. diversicolor the many or variously coloured abalone, H. elegans the elegant abalone and many more.

As I have already mentioned my first introduction to this species was while on holiday in the Channel Islands when I was a boy with my parents in the 60's. I can remember searching the rocks at low tide. We used to search very diligently but often didn't find one because they were so well camouflaged. On finding one we then had the very difficult task of getting it off the rock without damaging the shell. A sharp blow before the animal had been disturbed and therefore settled itself was the easiest, quickest and safest way but once failed 'for ever hold thy peace' was our motto as the shell was so firmly embedded onto the rock, they can apply a pressure of 100lbs per sq. inch, that not even a thin bladed knife could be forced between the two, and any further serious attempts invariably damaged the shell. We did find and collect one or two small specimens but the best way of obtaining a large specimen was to buy one as a souvenir. In my collection there is a very attractive ash tray, Figure 2, bought and brought back from Guernsey. It is now illegal to take live abalones or ormers of any size from the rocks or beaches around the Channel Islands due to the fact that they are becoming very rare from over-collecting and fishing.

In the Victorian age small pieces of abalone were used as inlay for what was then considered very fashionable papier maché and lacquer work as well as in more refined fancy goods. The broken pieces were usually embedded in the papier maché forming a border while larger less brilliant pieces taken from the pearl oyster Pinctada margaritifera L. were shaped in the form of flowers, especially roses, then painted and used as a centre piece. I have a number of such items most of which would have been found on one of the large heavy and typical writing desks found in studies and libraries of that period. They include a pen and ink stand, a diary dated 1858, Figure 3, and two attractive writing pad-like cases which would have contained envelopes, writing and blotting paper. Also common at that time were snuff boxes and boxes, wooden panels, lamp shades and room screens all inlaid with abalone.

Cheaper inlay work this time with Far Eastern influence followed in the early 1900's and Edwardian period. Some of the most popular pieces being musical boxes



and photo albums which can still be obtained, often in reasonable condition. Again small pieces of abalone and any other mother-of-pearl available was used for the borders and a painted picture typified by a small Japanese house, a waterfall and Mount Fuji as the centre piece. Other items of that time were cigarette cases, Figure 4, and lighters where they used small squares or rectangles of extremely thin shell in parallel rows or lines. Although the cases and lighters remain, the mother-of-pearl has often been removed, fallen off or is damaged so badly that it is hardly possible to recognise it or even the fact that it had covered the outside of the article at all. The problem of abalone mother-of-pearl is that although it shimmers with iridescence and is highly coloured the patterns are extremely irregular due to darker layers of horny organic protein material called Conchiolin being mixed in with it. This therefore tends to lower the quality and items made completely of it tend to become slightly vulgar. This is why the Victorians tended to use either small pieces or use it mixed in with the whiter mother-of-pearl from the pearl oyster *Pinctada margaritifera*. I have in my possession a beautiful Victorian card case using the principal of mixing the two types, owned originally by Miss A. Kain, The Albany (A4), Piccadilly, London and illustrated in Figure 5.

Today although abalones are found and used in small quantities for food and artifacts all around the world there are basically three main areas that use it in large quantities on a commercial scale and they are New Zealand and Australia, California and Mexico. There are a number of areas where smaller more limited use is made of the shells such as in the Channel Islands where farmers at one time used them to frighten away small birds from the standing corn by stringing two or three shells together and suspending them by a string from the end of a long stick, so that they would both flash and make a clattering noise when moved by the wind. In Fiji they make dishes and ash-trays, Figure 6. In Israel, where the industry is probably based completely on imported abalone, they make religious artifacts and souvenirs such as the cross illustrated, Figure 7, and I have also seen a lovely mother-of-pearl Nativity scene using an abalone as a background. Japan produces abalone buttons, Figure 8, and the back of Civil Service badges, Figure 9, made during the First and Second World Wars from the Giant abalone. Where abalone is used on a commercial scale today, the way in which it is used can be divided into two main sorts, either articles made from the raw shell or articles where broken pieces either large or small are embedded into a clear resin base and then used to make the article. In Mexico they tend to use the abalone cut into squares or rectangles which are laid side by side and fixed on to the tops or sides of pill boxes, Figure 10, cigarette cases, Figure 11, cruet sets, Figure 12 and attractive hair combs, Figure 13. In California they tend to use large pieces of abalone set into resin to make such things as desk top pen-holders, Figure 14, trays, jewellery such as cheap rings and necklaces as well as some quite horrible, at least I think so personally, large wall hangings such as sea-horses, ducks, etc.. The last place I want to mention is New Zealand where both techniques are used for making all sorts of artifacts. In front of me I have a beautiful glossy catalogue from a company called Ariki which uses the N.Z. Paua shell. The articles they are producing have become highly sophisticated and include such things as paper-weights, Figure 15, the cruet set, Figure 16, the mustard or salt cellar, Figure 17, the pencil sharpener, Figure 18 and the O's and X's game, Figure 19, as well as small boxes, toast racks, caddy, tea and mustard spoons, compacts, dishes, coasters, clock surrounds, handles for such things as letter-openers, cheese slices, can openers, cloth brushes, combs, handmirrors, penknives, nail files, nail clippers, etc.. Some of the jewellery is very beautiful and very elegant such as the Peacock brooch, Figure 20, rings, locket on chains and cuff-links, Figure 21, bangles, bracelets, pendants and slightly rougher pieces such as earrings, Figure 22 and the key ring, Figure 23.

Like any article trying to cover an enormous amount of ground the list of artifacts made from abalone will not be complete, but what I have tried to do is to show a range of objects which use or have used the shell for decoration both in the

present and past. PART 2 of this article on the abalone will follow this one and will deal with its other major use, that of food.

John E. Llewellyn-Jones

PERFORATELLA RUBIGINOSA (SCHMIDT 1853) IN THE LATE BRONZE AGE

AT RUNNYMEDE, EGHAM, SURREY

In this note I record the first known occurrence of Perforatella rubiginosa (Schmidt 1853) as a subfossil in Britain. Excavations at Runnymede Bridge (NGR: TQ [51] 017719) on the south bank of the River Thames in 1978 by Stuart Needham and David Longley (for the Department of the Environment [now English Heritage] and the Surrey Archaeological Unit) revealed the rich remains of Late Bronze Age settlement. They date from the first half of the first millennium B.C. and consist of occupation horizons of pottery, bone and flint, considerable quantities of organic debris, and a spectacular double row of timber piles interpreted as a water-front. The remains are stratified within river channel deposits which are variable but consist essentially of steeply-bedded organic sands and finer materials.

The deposits were sampled for Mollusca and they are extraordinarily rich. To date, a total of 37,238 shells from more than 60 species has been identified and counted, coming from a wide range of land and freshwater habitats. Detailed interpretation is at an early stage and is proving difficult, but it is being assisted by the fact that insects, plants and ostracods are also well preserved. The molluscan assemblages and other biological remains indicate that the deposits are almost entirely of freshwater origin. There are, however, some layers of fine muds which may be semi-aquatic, laid down in periods of temporary flooding at certain seasons while for the rest of the year the area was land. Interestingly, it is in these layers that many of the Perforatella shells occur.

The Perforatella shells are distributed as follows:

Number of Perforatella rubiginosa shells

Final occupation <u>ca. 600 B.C.</u>	24
Pile rows of the water-front <u>ca. 700-800 B.C.</u>	3
Occupation horizon <u>ca. 830 B.C.</u>	11

A further 26 shells are stratified throughout a second series of samples from the same Late Bronze Age sequence.

The Perforatella shells were identified by Dr. Michael Kerney (British Museum [Natural History]) in a collection of various shells of uncertain identification that I had taken to ask his advice on. I had identified them as Trichia plebeia - apparently a common mistake with this species! The identification was confirmed by Mr. Fred Naggs (also at the BMNH). Many of the shells are adult although there are some young.

The main associated land and amphibious molluscs are Lymnaea peregra, Lymnaea truncatula, Carychium minimum, Zonitoides nitidus, Trichia hispida, Succineidae, Vallonia pulchella and Arionidae. Also present in small numbers are more than 20

species from a wide range of dry-land habitats, mostly catholic but some woodland and open-country. The freshwater assemblages are very rich with over 30 species, including some fine specimens of Gyraulus acronicus and Myxas glutinosa.

From the ecological observations of Verdcourt (1982) and Naggs (1983), it looks as if the Perforatella at Runnymede belong with the amphibious and damp terrestrial component of the assemblages indicative of mudflats and grassland rather than with the true dry-land component. On the other hand, as noted by Naggs (1983), when the ecology of the species in Europe as a whole is considered it is seen that there is a very wide range of habitats from exclusively freshwater intertidal to woodland, so it would be rash to assume that only one kind of habitat was being utilised throughout the Runnymede sequence. (See also the habitat comments in Kerney and Cameron 1979, p.190.)

It is worth mentioning that the large numbers of associated Trichia hispida were of a form with which I was totally unfamiliar. They were large and strongly striate, more like Trichia striolata in their sculpturing, and yet in form all were like T. hispida. Of several hundred shells there were no obviously T. striolata adults. There was no Ashfordia granulata, Monacha cantiana or Trichia plebeia. Helicellinae other than Helicella itala were absent.

In conclusion, Perforatella rubiginosa lived in Britain alongside the River Thames at Runnymede during the centuries from around 830 to 600 B.C. It has not been found in Neolithic deposits at Runnymede which are equally rich in Mollusca, and it was not recorded by Preece and Robinson (1982) from nearby earlier Post-glacial deposits at Staines. Nor is its later history known, although in view of its occurrence at other sites along the Thames (Naggs 1983) it may well have been living continuously in the area since the Late Bronze Age. It would be interesting to know if it is still living at Runnymede.

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HOW TO CALL THE INAPPENDICULATE FORM OF PISIDIUM HENSLOWANUM?

The form of P. henslowanum (Sheppard) without umbonal fold is generally called var. or f. inappendiculata Moquin-Tandon. Ellis (1978:72) replaced it by nucleus Deshayes. Was he right in doing so?

Two preliminary questions arise. First, what did Moquin-Tandon mean with his var. inappendiculata? Secondly, what is the identity of nucleus Deshayes?

Replying to these questions means going back to a synonymy of 130 years ago. In his standard work on the non-marine molluscs of France, Moquin-Tandon (1855:581) enumerated no less than seven varieties of P. henslowanum, all without umbonal fold! They are: inappendiculatum Bourguignat, 1854, with two varieties, major and

minor; Dupuyanum Normand, 1855, a printing error: the year of publication is 1854; pallidum Gassies, 1855; Bonnafoxianum De Cessac, 1855; Jaudouinianum Gassies, 1855; recluzianum Bourguignat, 1855 (originally written: reclusianum). Baudon (1857:46) added another variety: nucleus Gassies, 1855.

Clessin (1872:70) criticizing this synonymy presumed that none of these varieties belongs to henslowanum. Revision of authentic specimens by later authors has confirmed Clessin's view. A résumé follows.

1. Inappendiculatum. The whereabouts of Moquin-Tandon's sphaeriids are unknown. Bourguignat's Pisidia have been revised by Favre (1943). All specimens labelled henslowanum var. inappendiculata appeared to belong to other species, mainly to subtruncatum. Revision of some contemporary French collections (Locard and Gassies, both in the Mus. N.H. Paris; Bérillon, Mus. Bayonne) confirmed this conclusion. As a matter of fact, the French malacologists of the 19th. century did not yet recognize subtruncatum as a distinct species.
2. Pallidum. No specimens of this species are extant in the Gassies collection (Mus. N.H. Paris), but the 6 "cotypes" in de Prime collection (Mus.Comp.Zool. Cambridge, Mass.) belong to subtruncatum.
3. Bonnafoxianum. The small De Cessac's collection in the Guéret Museum (département Creuse) has no scientific value any more. But it appears from authentic specimens in the Gassies collection (Mus. N.H. Paris) and in the Prime collection (Mus.Comp.Zool. Cambridge, Mass.) that bonnafoxianum is a large form of subtruncatum.
4. Dupuyanum. Normand (1854:5) published it a year before the publication of subtruncatum Malm. Specimens labelled by Normand are in the Royal N.H. Museum, Brussels, and in some other collections. They all prove that dupuyanum is a senior synonym of subtruncatum. For reasons of nomenclatorial stability Malm's name has to be maintained, in my opinion.
5. Jaudouinianum. Is not supinum (Woodward 1913:100) but, judging from the types in the Gassies collection, a heavy form of casertanum. It is the same as f. ponderosa Stelfox.
6. Recluzianum. Is a marine species (Jeffreys 1862:4).
7. Nucleus. The author is not Deshayes (Woodward 1913:93) but Gassies. In the main collection of the latter no specimens are extant. Baudon (1857:49) states that it is a small form of jaudouinianum and that it is very solid in all its parts. For these reasons it cannot be a form of henslowanum.

Conclusion: Ellis was right in dropping Moquin-Tandon's inappendiculata, which has proved to be a junior synonym of subtruncatum, but he made an error in replacing it by nucleus Gassies.

As to the question how to call the inappendiculate form, I think that not only nomenclatorial but also taxonomic arguments have to be taken into account.

If inappendiculata is considered to be a forma, an infraspecific entity without taxonomic status and independent from the Code, the most practical way seems to be to continue using the unmistakable name inappendiculata followed by: auctorum. If, on the other hand, this form is considered to be a geographical subspecies, then, I think, the first author who has clearly distinguished henslowanum inappendiculatum from subtruncatum has to be taken as the author of the subspecies. I do not know any author prior to C.M. Steenberg (1917:103) who fulfils this requirement.

There are, indeed, reasons to consider inappendiculata a subspecies. In the former Ascherlebeener See, a shallow lake north of Halle (E. Germany), which has existed from the beginning of the Weichselian until the early Holocene, henslowanum has been represented during tens of thousands of years by inappendiculatum exclusively (Kuiper, 1968). It could be considered there a historical race, known

from some other Weichselian deposits in W. Europe as well. As to its recent distribution inappendiculatum generally constitutes a small percentage of the henslowanum populations. In Denmark, however, especially in the Western part, where henslowanum is very common, the inappendiculate form tends to become the dominant form. On the isle of Mors, the latter completely replaces the form with umbonal fold. In this part of the species area, inappendiculatum has got the aspect of a geographical subspecies. It would be interesting to pay attention to this zoogeographical phenomenon in the British Isles, too.

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J. G. J. Kuiper (Paris)

CONFESSIONS OF A TAXONOMIC SINNER - MEA CULPA

It comes to pass, every now and then, that one has to gather up one's published errors and publicly proclaim one's guilt. These are long overdue.

1) In 1974 (Veliger 17 [2]:p.118) I proposed a new genus Progadilina for certain Lower Jurassic scaphopods with encircling annulations and a trigonal cross-section. In designating Dentalium trigonale Moore 1866 as type species I wrongly cited a British Museum (Natural History) specimen, registered no. G23960, as holotype. This specimen was figured by L. Richardson in 1906 (Quart. J. Geol. Soc. Lond. 62: pl.45, fig. 4), and I erroneously believed that he had figured the holotype, but he had figured the better preserved BM specimen. Subsequent enquiries revealed that Moore's type is still in the Geology Museum in Bath where the rest of Moore's collection is housed. The registered no. of Moore's holotype is M973. Both the BM and the Bath specimens are D. trigonale Moore, but it is the latter which is the holotype.

In connection with this matter, Emerson 1978 (Nautilus 92 [3]: p. 118), in a review of the scaphopoda, mentioned Progadilina Palmer, but inadvertently cited Dentalium undulatum Münster 1844 as type species. D. undulatum is the type species of Plagioglypta Pilsbry and Sharp 1897. Both Progadilina and Plagioglypta have

closely spaced encircling annulations along the length of the shell; but Plagioglypta is round-sectioned while Progadilina is trigonal.

2) In 1985 I published a "Guide to the Shell Characters of British Chitons" in Conchologists' Newsletter No. 93, pp. 259-264. On p. 260, the third paragraph from the bottom begins "A uniformly whitish" and ends with the sentence "If no slit is visible" This last sentence should be deleted: it is nonsense. When I wrote it I must have still been comparing a white L. cinereus with a white L. asellus in my head, and consequently attributed 'no slit' to L. albus. In addition, the genus Lepidopleurus is now replaced by Leptochiton following revision by Kaas.

3) The chiton article was written at least twelve years ago when I was still living at [REDACTED], Sutton. In 1974 I moved fifty yards to [REDACTED], but forgot to change the address when I resubmitted the article. After March 22, 1987, I retired from the B.M.(N.H.) and my only address will be [REDACTED], etc..

I am grateful to Diana Smith of the Geology Museum, Bath, for information relating to Moore's type; to Mark Mitchell for pointing out the "Lepidopleurus" error; and to Jan Light for spotting the inconsistency concerning L. albus. If mistakes are pointed out there is consolation in the thought that at least one person read the article - apart from the editor of course.

Phil' Palmer

THE DIFFERENCES BETWEEN HINIA INCRASSATA AND HINIA PYGMAEA

This article grew out of discussion, between three members of the marine group, concerning the real differences between "Nassarius" incrassata (Ström 1768) and "Nassarius" pygmaea (Lamarck 1822). Quotation marks have been used since neither species belongs in the genus Nassarius of Dumeril 1806, type species Buccinum arcularius Linné 1758. This is a species from the SW Pacific and eastern Indian Ocean having a turreted spire, an enormous calus covering the columella, and a posterior, as well as an anterior, canal. In addition, Nassa Lamarck 1799 is preoccupied by Nassa Bolton 1798 for something else.

Our three British nassariids, having a reticulated pattern on non-turreted shells, belong in the genus Hinia of Leach 1847, type species Buccinum reticulatum Linné 1758. Linné used Buccinum in a much broader sense than we do, mostly for carnivorous gastropods with a short anterior canal. Sceptics are recommended to compare their shells of Hinia reticulata with figures of Nassarius arcularius in Abbot and Dance 1982, pp. 178-180 (the last figure erroneously named N. coronatus). I think that most will agree that they are not congeneric.

Further generic splitting is possible should anyone hold that the two smaller British nassariids are distinct from the bigger H. reticulata, since H. incrassata is the type species of Tritonella Adams 1853. My view is that Tritonella should be regarded as being synonymous with Hinia at our present level of knowledge - notwithstanding the different veliger larvae.

Since no one has trouble with H. reticulata it will be ignored and attention concentrated on H. incrassata and H. pygmaea. Two sample collections, one of each species, were made from Flustra removed from fishing nets at Hastings, E. Sussex, between 1973 and 1975. All the H. pygmaea were alive but only hermit crabs occupied the shells of H. incrassata. Only 20 specimens were measured from each sample since the results were needed in a hurry to settle a problem, so proper statist-

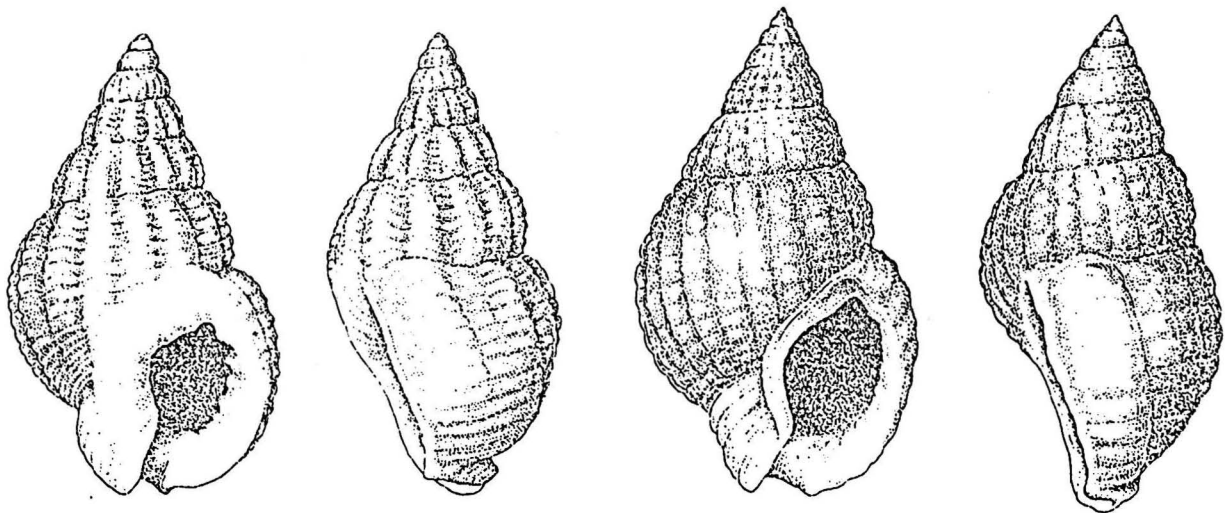
icians may not be too impressed. Nevertheless, the results may prove to have some interest for other marine workers and, perhaps, promote similar studies of these two species, say, in the SW peninsula where H. incrassata has a very different appearance from those at Hastings.

In the following table all measurements, except apical angle, are in millimetres and are the mean of 20 specimens. The figure in brackets is standard deviation (S) for that character based on n-1.

<u>Shell character</u>	<u>H. incrassata</u>	<u>H. pygmaea</u>
Apical angle	48 ⁰	42 ⁰
Height	14.87 (0.55)	11.5 (0.25)
Width at aperture	8.8 (0.55)	6.36 (0.32)
Width:Height %	59.56 (2.48)	57.07 (3.18)
Ribs on last whorl	15.7 (1.56)	17.7 (1.16)
Spiral ridges on last whorl	13.8 (0.92)	11.1 (0.73)
Whorl inflation	14.79 (1.43)	9.13 (1.53)
Width of last varix	2.0 - 2.5	1.5 - 2.0
Spire varices	Most with none, a few with.	Most with 1-3, a few without.
Groove around anterior canal	Deep, 0.5, bounded by a prominent spiral ridge.	No groove.
Diam. of first whorl of protoconch	Prominent and bulbous 0.45	Small, 0.3
Anterior canal	Dark brown spot on and in the canal.	No dark spot.
General colour	Pale brown with 3 darker, intermittent spiral bands, prominent on white varices.	Dark brown with darker apices, but no spiral bands.
Animal	White, speckled with brown; eyes at $\frac{1}{3}$ length of tentacles; 2 short caudal tentacles.	Colour similar; caudal tentacles long and branching.
Habitat	Intertidal and littoral fringe.	Off shore.

It is evident that, at Hastings, the shell of H. pygmaea is smaller, more pointed, has more ribs on the last whorl but fewer spiral ridges than H. incrassata; that whorls of H. pygmaea are less inflated, mostly with more varices, and lacking a groove and brown spot on the anterior canal; has a smaller protoconch, and is altogether darker in colour than H. incrassata. In most of these characters H. pygmaea is less variable than H. incrassata, so that a sample of, say, 100 specimens of the former appear to be very uniform; while 20 of the latter look 'all over the place' in size, shape and colour. It is the variety of forms of the latter which causes difficulties, some H. incrassata can begin to look like H. pygmaea.

Information on the animal was obtained from Forbes and Hanley, "British Mollusca", vol. 3, pp. 391-396; while the habitat remarks are based on the following. An egg mass of Buccinum undatum, dredged roughly 1-2km off Winchelsea, Sussex, containing two living H. pygmaea right in the centre of the mass, apparently feeding on the embryos and eggs. A dead Calliostoma zizyphinum near LWM on the east coast of Bryher, Scillies, contained two small live H. incrassata, apparently feeding on the carcass. Figures of the shells are from Fretter and Graham's "British and Danish Prosobranchs", currently containing the best illustrations of British prosobranch gastropods.



Hinia incrassata (Ström 1768)

Hinia pygmaea (Lamarck 1822)

Phil' Palmer

COLLECTING MARINE MOLLUSCA ON THE NORTH COAST OF IRELAND

In September 1986, the authors investigated a number of localities on this coastline in order to record the marine Mollusca. There were two main aims: Smith is compiling records for a detailed atlas of marine Mollusca of west Scotland (co-author D. W. McKay), the area extending northwards from 55°N and therefore including the coast of Ireland from near Larne west to Burtenport. In addition there were many large and obvious gaps in the records of Mollusca from Sea Areas 29a and 33 as published in the Sea Area Atlas of the Marine Molluscs of Britain and Ireland (Seaward, 1982).

The north coast of Ireland is largely exposed, varying from the moderately exposed east to north-facing shores of the North Channel to the very exposed cliffs of Malin Head and the Fanagh peninsula. Much of the shore is composed of or backed by cliffs (limiting access), interspersed with sandy beaches of which Magilligan Strand between Lough Foyle and Port Stewart is the longest. Offshore is mostly sand. Cutting into the coast are a number of sea loughs: Lough Foyle, the largest, with low sandy or muddy shores; Lough Swilly, fjordic, long and twisting with a variety of shores; Mulroy Bay, narrow and shallow with constrictions causing long delays to the tide; Sheephaven, open, surrounded by rock and sand.

Over a period of six days (16 -21 September 1986), coinciding with good Spring

tides, we visited 26 sites covering a wide range of habitats - rock, boulder and cobble, muddy shell gravel, gravel, sand and mud. Sites were chosen not only with habitat in mind, but also location relative to the 6' x 12' grid used by Smith and McKay in order to give as even a spread of effort as possible. Further, we studied maps carefully in order to have best and quickest access to our chosen spots. The details of these sites are given in the table and the map indicates localities. Most sites were surveyed fairly rapidly in less than an hour, because the ecology of individual sites was not complex; few habitats. Samples of seaweeds (*Fucus*, chiefly *F. serratus*, and small algae including *Cladophora* spp., *Corallina officinalis*, *Gigartina stellata*, *Chondrus crispus* and *Palmaria palmata*) were taken for examination and washing in fresh water to extract the smaller species of Mollusca. Shell sand was taken from two sites (Magilligan Strand, White Park Bay) for extraction of (mostly) dead shells. On some days it was possible to cover 5 or 6 sites, taking advantage of the differences in times of low tide. When we visited the most complex and rich sites, at most we could only visit two others. Being based in Belfast, we travelled about 1,400 miles during the survey period, Sheephaven being the western limit for reasonable commuting.

203 species were found (119 alive), including most of the commoner littoral Mollusca. There were, compared with the 1982 Atlas, 26 new records for Sea Area 29A (plus 10 upgrades to alive) and 25 for Sea Area 33 (plus 15 upgrades to alive) (see list below). Although a larger number of species were found east of Malin Head in S29A (160 compared with 120 to the west in S33), only 70 (44%) were alive, whereas of those found in S33, 102 (85%) were alive. 40 of the 90 "dead shell" species found by us in S29A have been recorded recently from offshore and a considerable number of further species appear in the literature. Offshore data for S33 is rudimentary and much of the literature refers to Mulroy Bay, an area not included in the September survey because it is at present under more detailed investigation by Nunn. With the exception of Portaleen, the eastern sites were notable for their uniformity; between 20 and 35 species being recorded from rocky shore sites (average 29) (see below). The western rocky shores, on the other hand, of which only 4 were surveyed, had 31-78 species, an average of 58. Notes on selected species of Mollusca are given below. Nunn has also recorded Mollusca from Rathlin Island, Mulroy Bay and Burtonport, obtaining further records not discussed here, but which will be included in more comprehensive publications (also to be included will be records from other workers including Ulster Museum staff, Brisco, McKay and others).

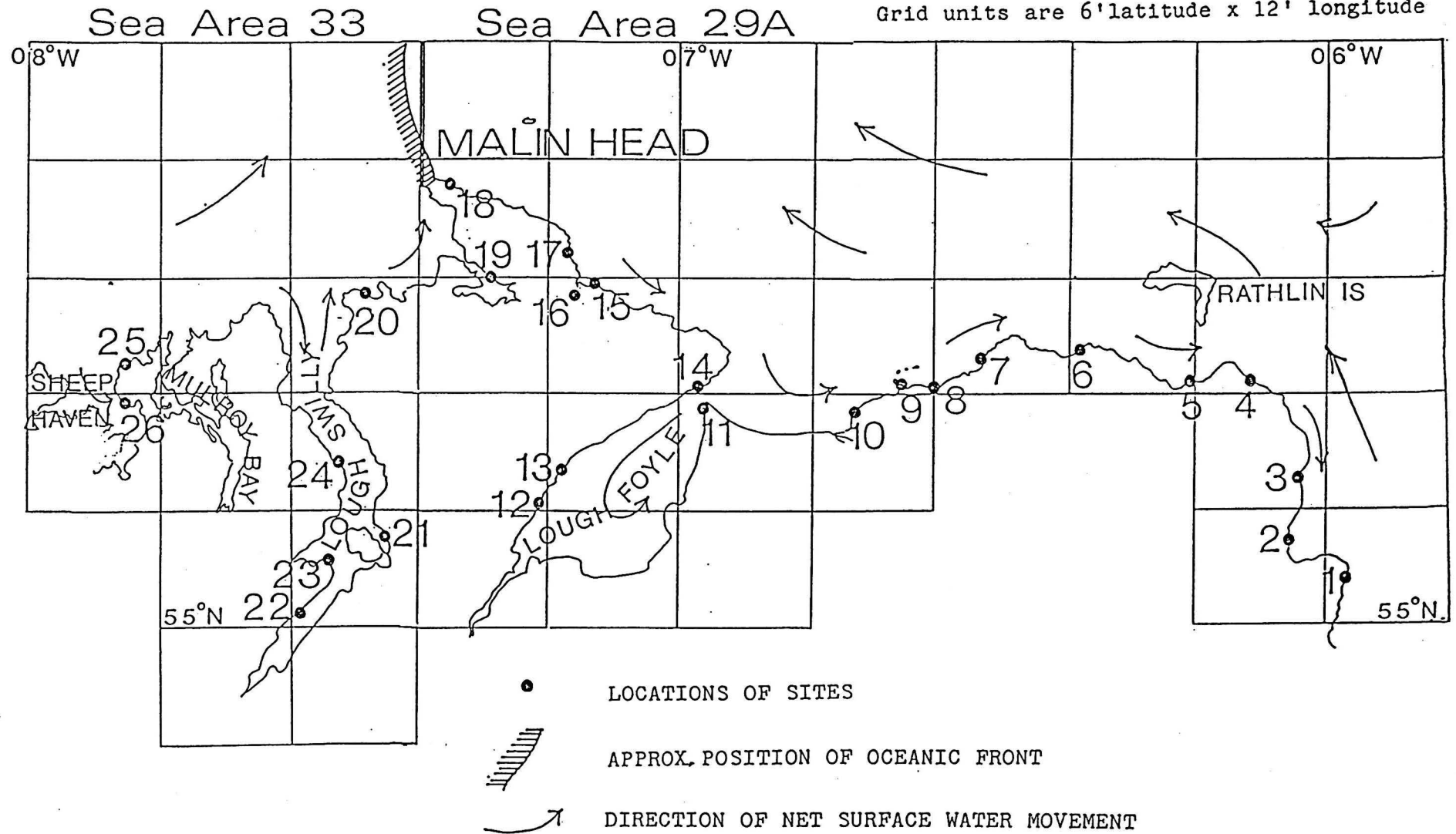
The considerable difference between the fauna west and east of Malin Head is particularly interesting. The area to the west is much more diverse and is distinguished by the presence of "southern" species seldom encountered east of Malin Head or in Scottish waters. Geology and degree of exposure may have some effect on diversity. The eastern sites were (with exceptions, see table) fairly uniformly exposed or moderately exposed, and some western sites had more and/or more congenial habitats. However, especially when comparing with similar habitats in the neighbouring part of Scotland, the main reason for the change would appear to be hydrological. An oceanic front extends from Malin Head northwards to Mull. West of Malin Head temperatures are controlled by oceanic water, warmer surface water being brought up from the south especially during Summer. This water tends not to mix with the colder underlying layers, thus forming a thermocline. East of Malin Head, the coast is exposed to strong tidal streams and the flow of water into and out of the Irish Sea (net movement northwards) leads to mixing of water and more constant temperatures, in particular the summer temperature is significantly colder.

The authors hope to extend their survey of the northern Irish coastline past 08°W to Burtonport to complete the records for the Atlas of Mollusca of the West Coast of Scotland.

DESCRIPTION OF SITES (numbers of species of Mollusca found are shown in brackets, 'living' first)

1. GARRON POINT (55°02.7'N 05°57.6'W): irregular low cliffs and gullies, ledges with high level crevices, moderately exposed, few boulders, Chalk. (28,0)
2. CUSHENDALL (55°04.4'N 06°03.2'W): Conglomerate platform with gullies, moderately exposed, a poor habitat. (24,0)
3. CUSHENDUN (55°07.0'N 06°02.2'W): large weed-covered boulder bed with some bedrock at low water, disappointing. (28,0)
4. MURLOUGH BAY (55°12.7'N 06°06.0'W): irregular Sandstone rocks and gullies, moderately exposed. (20,0)
5. BALLYCASTLE (55°12.6'N 06°12.2'W): Basalt bedrock and boulders, moderately exposed. (25,0)
6. WHITE PARK BAY (55°14.5'N 06°23.0'W): irregular Chalk bedrock and boulders, moderately exposed, hard work, most species in weed washings. (33,0)
7. GIANT'S CAUSEWAY (55°14.4'N 06°30.6'W): basalt bedrock and large boulders, exposed. (30,0)
8. WHITE ROCKS STRAND (55°12.5'N 06°36.6'W): azoic sand, backed by Chalk platform, covered and scoured by sand, and cliffs, exposed. (5,42)
9. PORTRUSH (55°12.7'N 06°37.5'W): Basalt and Dolerite irregular bedrock with overhangs and rockpools, exposed. (33,1)
10. PORTSTEWART (55°11.2'N 96°44.2'W): Basalt bedrock (exposed cliffs) and low water boulders covered with Laminaria, moderately sheltered. (27,1)
11. MAGILLIGAN POINT (55°11.5'N 06°57.6'W): sand, moderately exposed, boulders, sheltered, interesting shellsand. (14,130)
12. MID LOUGH FOYLE (I) (55°06.4'N 07°12.4'W): muddy gravel and boulders, sheltered. (5,8)
13. MID LOUGH FOYLE (II) (55°09.0'N 07°09.4'W): muddy gravel and boulders, sheltered. (7,20)
14. GREENCASTLE (55°12.3'N 06°58.5'W): Schist bedrock with small pools and some crevices, moderately exposed, strong tidal current, very short shore, poor. (29,3)
15. DUNMORE HEAD (55°17.5'N 07°07.8'W): Pillow lava and Schist, very irregular bedrock with rock pools, boulders, very exposed, poor. (32,0)
16. CULDAFF RIVER (55°17.2'N 07°11.2'W): muddy sand, very sheltered, brackish. (3,2)
17. PORTALEEN (55°19.0'N 07°10.3'W): Schist bedrock, irregular platform and gullies, Laminaria-covered boulders, overhangs and pools, fresh water run-off, moderately sheltered, diverse fauna. (45,1)
18. ESKY BAY (55°22.5'N 07°20.9'W): Schist and Gneiss irregular bedrock with deep gullies and pools, boulders, very exposed. (23,1)
19. TRAWBREAGA BAY (55°18.0'N 07°17.3'W): muddy gravel and sand flats, boulders in

MAP OF THE NORTH COAST OF IRELAND
Grid units are 6' latitude x 12' longitude



estuary, very sheltered, not surveyed in detail. (21,13)

20. ROCKSTOWN HARBOUR ($55^{\circ}16.2'N$ $07^{\circ}29.0'W$): Granite island connected by high level boulder storm beach, irregular bedrock with a series of large pools, outer area very exposed, sand off, harbour of muddy sand and boulders fairly sheltered, rich area not fully surveyed. (60,2)

21. FAHAN PIER ($55^{\circ}05.4'N$ $07^{\circ}28.4'W$): mud, sand, boulders, very sheltered, slightly reduced salinity. (6,27)

22. SHELLBROOK ($55^{\circ}00.0'N$ $07^{\circ}37.5'W$): muddy shell gravel, stone pier, sheltered. (29,8)

23. WHALE HEAD ($55^{\circ}02.6'N$ $07^{\circ}33.7'W$): muddy gravel, small boulders, moderately sheltered. (7,10)

24. LAMB'S HEAD BAY ($55^{\circ}08.5'N$ $07^{\circ}32.2'W$): Schist bedrock, sand, large weedy boulder area with pools, moderately exposed. (62,2)

25. DOAGH ($55^{\circ}13.5'N$ $07^{\circ}51.1'W$): Granite, irregular rock with small rock pools, very exposed. (31,1)

26. DOWNIES ($55^{\circ}11.6'N$ $07^{\circ}51.1'W$): Schist bedrock and weed-covered boulders on gravel, very rich in places. (78,1)

NOTES ON SELECTED SPECIES

A) Southern species at the northern limit of their range

Monodonta lineata: this species was not found further east than Esky Bay, close to Malin Head. It is known to be absent from most of the northeast and east coast of Ireland apart from Carlingford Lough which is situated in an area of stratified water bounded by an oceanic front. It has not been found in Scotland. It is, however, abundant at many sites in Ireland west of Malin Head and can be regarded as a true southern species.

Barleeia unifasciata: abundant west of Malin Head, a few specimens to the east but still on the Malin peninsula. Not found in Scotland.

Coriandria fulgida: abundant west of Malin Head, occurs sporadically in SW Scotland especially the south coast of Islay, possibly as the result of favourable water movements. It lives in the same habitats as Barleeia, has a similar reproductive regime and is more abundant, possibly it "travels" better.

Haminoea navicula: found on this survey only as a fresh dead shell in Lough Swilly, but known to be common sublittorally in nearby Mulroy Bay (Picton, pers. comm.).

B) Less common species

Littorina arcana: specimens of Littorina saxatilis agg were taken from most exposed sites. Upon dissection only a few from Doagh were found to be anatomically consistent with arcana.

Lacuna crassior: this species was found under an overhang on Alcyonidium diaphanum (preferred food [Picton, pers. comm.]) at Portrush. It has been recorded several times offshore around here where there appears to be a strong local population. It is not uncommon offshore but shore records, especially in the north, are sparse.

Alvania semistriata: locally abundant under boulders in silt, west of Malin only, but it is not a southern species.

Cerithiopsis pulchella: dead shells in shell sand at Magilligan Point. It is interesting to note that over the years many mollusc species have been recorded from here and Magilligan Strand (now largely closed to the public as part of an artillery range). The spit at the mouth of Lough Foyle is a good stranding place for offshore species.

Pyramidellids: nearly always sparse, usually picked up from weed samples taken for their epifauna of Spirorbis. Turbonilla lactea locally common in silty gravel with terebellids under boulders.

Epitonium trevelyanum: a shell containing a fresh dead animal was found amongst shell sand from Magilligan Point. This is an offshore species not often found even as an empty shell. Several fresh dead shells of the commoner Epitonium clathrus were found in the same sample and it is probable that this species lives in the Lough Foyle area.

Raphitoma purpurea: three specimens were found under boulders at Lamb's Head Bay. It was noted that the animals were a handsome white with black spots. Although known to occur on the shore it is more common offshore and is probably a crevice-dweller (found in one instance inside a plastic glove).

Nudibranchs: several species of less common nudibranch were found, including Doto onusta (a segregate of Doto coronata), Palio nothus (which is probably sometimes overlooked on the shore because when out of water under a boulder is a small anonymous dark green blob), Discodoris planata (a squashed-looking Archidoris) and Cuthona gymnota.

Epilepton clarkiae: large sipunculids (with which it is commensal) living in silt under boulders set off hunts for this small bivalve at several sites. All in vain! But a minute specimen was found in weed washings.

Tellimya tenella: several valves of this species, very similar to Tellimya ferruginosa, were found in samples of shell sand. It has been found offshore more than once in the Firth of Clyde and north of Ireland and is probably not uncommon, merely not recognised.

Barnea candida: this was found living in intertidal peat in Lamb's Head Bay in 1976 (Smith). The peat has since been eroded away with complete loss of this small population. Worn dead shells are not uncommon in Lough Swilly.

NEW SEA AREA RECORDS (full list of species available on request)

This list contains records not published in the 1982 Sea Area Atlas, although it is known that some records given as new or upgrades are in fact not so. All species were found alive unless otherwise stated. This list is restricted to littoral species found during the September 1986 survey and does not include the many new offshore records (mainly from the Ulster Museum) also not in the Atlas. Nomenclature as revised by Smith. ***indicates new Irish records; **indicates upgraded Irish records; *indicates new Area records; species without asterisks are upgraded Area records; B/A indicates that there is also a new live record from offshore; () indicates earlier records found by Nunn.

Sea Area 29A

(Lepidochitona cinereus) *
(Tonicella rubra) *

Sea Area 33

(Leptochiton asellus) *
(Lepidochitona cinereus) *

Acanthochitona fascicularis *
Tectura testudinalis *
Monodonta lineata *
Jujubinus clelandi (B) *
(Lacuna parva) *
Rissoa rufilabrum (B)
(Rissoa interrupta) *
Onoba aculeus *
Barleeia unifasciata
Rissoella diaphana
Rissoella globularis (B) *
Coriandria fulgida
Cerithiella pulchella (B) *
Cerithiopsis tubercularis
Marshallora adversa
Odostomia turrita *
Odostomia unidentata (B) *
Turbonilla lactea (B) *
Epitonium trevelyanum *
Graphis albida (B) *
Aclis minor (B) *
Melanella frielei (B) ***
 (requires expert check)
Vitreolina philippi (B) *
Velutina plicatilis (B/A) ***
Trophonopsis barvicensis (B/A) *
Akera bullata (B) *
(Runcina coronata) *
(Retusa truncatula)
(Limapontia capitata) *
Doto onusta ***
Nuculana minuta (B) *
Musculus costulatus
Modiolarca tumida
Pododesmus squamula
Limaria loscombi (B) *
Mysella bidentata
Tellimya tenella (B) ***
Parvicardium scabrum (B)
Spisula elliptica
Spisula subtruncata
Abra nitida (B)

(Tonicella rubra) *
Callochiton septemvalvis *
(Diodora graeca)
Tectura testudinalis
(Tectura virginea)
(Helcion pellucidum)
Margarites helicinus
(Tricolia pullus)
Lacuna parva
(Littorina neglecta) *
Littorina arcana *
Rissoa rufilabrum *
(Rissoa interrupta) *
Alvania semistriata *
(Cingula cingillus)
Onoba aculeus *
(Barleeia unifasciata)
(Skeneopsis planorbis) *
(Omalogyra atomus) *
(Rissoella diaphana) *
(Rissoella opalina) *
(Coriandria fulgida) *
(Cerithiopsis tubercularis) *
(Marshallora adversa)
Chrysallida indistincta **
Odostomia eulimoides *
Odostomia turrita *
Odostomia unidentata *
Odostomia albella **
Turbonilla lactea *
Lamellaria latens
Lamellaria perspicua
Trivia arctica
Trivia monacha
Raphitoma linearis
Raphitoma purpurea
(Retusa truncatula)
Acanthodoris pilosa *
Onchidoris bilamellata *
Onchidoris muricata *
Discodoris planata *
Jorunna tomentosa *
Facelina bostoniensis *
(Musculus discors)
(Modiolarca tumida) *
Modiolus adriaticus (B) *
Modiolula phaseolina *
Chlamys distorta
Pecten maximus (B/A) *
Pododesmus patelliformis
Ostrea edulis
(Kellia suborbicularis)
Epilepton clarkiae *
Acanthocardia echinata
Parvicardium exiguum
Mactra stultorum
Ensis ensis (B)
Gastrana fragilis (B) *
Abra nitida *
Paphia aurea

It was a lovely morning with the sun out and, to make things even better, the last part of the M25 had been opened up to the M1. So we set off in good time but even the best laid plans can go wrong and just before turning off for Northampton we had a back tyre blow-out which brought us to a rapid halt. And so after fixing the tyre and losing our way, as always, in the centre of Northampton we arrived at 10.30 rather than 10 a.m.. Luckily for us the talk, which was beautifully illustrated by Jan Light, had not begun due to the task of arranging tables, microscopes etc. for the use of visiting members. The lecture was to introduce new members or non-marine members with the sort of places one can find various species of molluscs around the shores of the British Isles.

After the lecture and the lights were on again I was able to look around and meet the participants and one or two other Society members who were at Northampton either to continue sorting the Peter Oliver collection or as host. Two of these were Tom Pain and Gordon Osborn respectively. Then there were the organisers Jan Light, Phil Palmer, Celia Pain and Julia Nunn and the participants who included myself, my mother Dr. Joan Llewellyn-Jones, Mrs. Christine Street and son Stephen, Daniel Light, Rupert Hough (Junior), Rosalind Holt, Bill Pocock, Geoff. Cox, Graham Saunders and Judith Nelson. It was also at this point that we were handed our envelopes. In them there was a set of small species identification sheets, mollusc information sheets, a set of diagrams to go with the two lectures and several useful equipment and book lists (one included with this article).

The rest of the morning was spent looking down microscopes, sifting shell-sand from around the country and talking with friends and colleagues over tea or coffee and biscuits. Lunch time was spent over sandwiches and chat followed by a very informative lecture by Phil Palmer and Shell structure, development and the sorts of conditions which affect them, again illustrated by well-prepared slides and diagrams of which one is produced here. Afterwards a short time for questions and answers and then we had to clear up, pack up, say our thanks and goodbyes, and another extremely useful, interesting and informative day had ended.

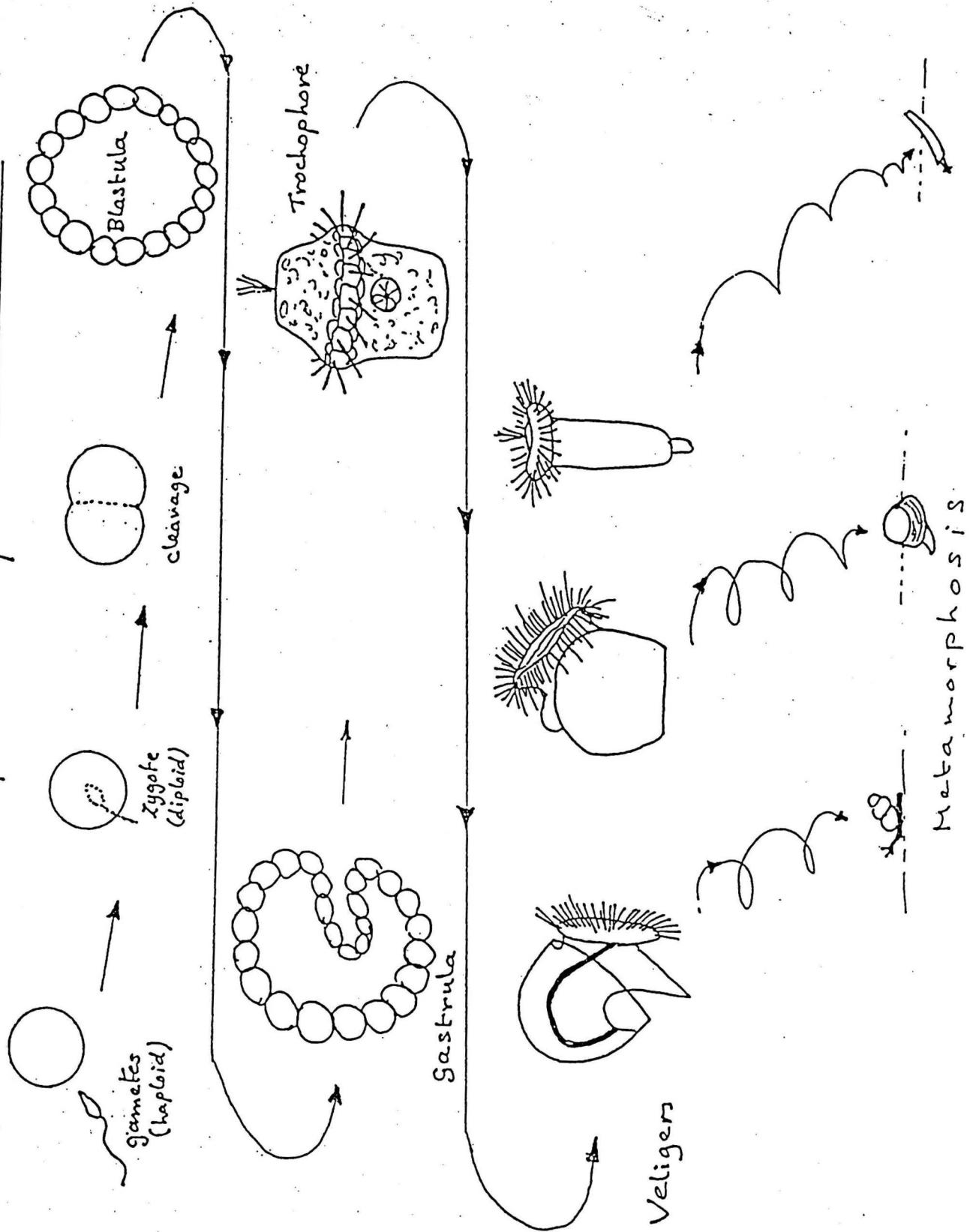
May I thank on behalf of all those attending all those who worked so hard to organise the day, those who so kindly provided refreshments all day long, and all those who came to make the day so friendly and rewarding. I will certainly be one of the first to sign up for the next one.

LIST OF PUBLICATIONS USEFUL FOR THE IDENTIFICATION OF SMALL BRITISH GASTROPODS

AND ON MOLLUSCAN BIOLOGY

- Fretter, V. & A. Graham, 1976-1987. The Prosobranch Molluscs of Britain and Denmark. Journal of Molluscan Studies, Supplements.
Part 1: Pleurotomariacea, Fissurellacea and Patellacea. (Supplement 1, 1976)
Part 2: Trochacea. (Supplement 3, 1977)
Part 3: Neritacea, Viviparacea, Valvatacea, terrestrial and freshwater Littorinacea and Rissoacea. (Supplement 5, 1978)
Part 4: Marine Rissoacea. (Supplement 6, 1978)
Part 5: Marine Littorinacea. (Supplement 7, 1980)
Part 6: Cerithiacea, Strombacea, Hipponicacea, Calyptraeacea, Lamellariacea, Cypraea, Naticacea, Tonnacea, Heteropoda. (Supplement 9, 1981)
Part 7: Heterogastropoda (Cerithiopsacea, Triphoracea, Epitoniacea, Eulimacea) (Supplement 11, 1982)
Part 8: Neogastropoda. (Supplement 12, 1985)
Part 9: Pyramidellacea. (Supplement 16, 1986)

Planktotrophic development in Mollusca



Part 10: (To include: additions, corrections, key to prosobranchs and indexes. To be published in 1987.)

(All of the above are available from the Malacological Society, c/o. Dr. J. D. Taylor, Zoology Department, British Museum (Natural History), Cromwell Road, London, SW7 5BD)

Hubendick, B. & A. Waren, 1976. Främgalade snäckor från Svenska västkusten. Göteborg, Naturhistoriska Museet. 42pp. (Illustrates Kattegat and Skagerak molluscs, many of which are found in British waters. The line drawings are excellent. Available at 25 Swedish Kroner from Dr. B. Hubendick, Naturhistoriska Museet, Box 11049, 40040 Göteborg, Sweden.)

Nordsieck, F., 1972. Die europäischen Meeresschnecken: Opisthobranchia mit Pyramidellidae, Rissoacea vom Eismeer bis Kapyerden, Mittelmeer und Schwarzes Meer. Stuttgart, Gustav Fischer Verlag. ISBN: 3-437-20098-4. (Line drawings, good to indifferent in quality, with descriptions in German. Nordseick is a 'splitter'. This book should be available through good book-sellers if it is still in print. This is the only volume of Dr. Nordseick's that covers the Pyramidellids, etc.)

Ziegelmeier, E., 1966. Die Schnecken (Gastropoda, Prosobranchia) der deutschen Meeresgebiete und brakigen Küstengewässer. Helgolander wissenschaftliche Meeresuntersuchungen, 13: 1-61. Reprinted 1973. (Very nice photographs of common North Sea species, and descriptions in Dutch. Available, if still in print, from Biologische Anstalt Helgoland, Hamburg 50, West Germany.)

BOOKS ON MOLLUSCAN BIOLOGY

Hughes, R.N., 1986. A functional biology of marine gastropods. London, Croom Helm. ISBN 0-7099-3746-6. (Available from good booksellers.)

Solem, A., 1974. The shell makers: introducing molluscs. New York, London, etc., John Wiley. ISBN 0-471-81210-2. (Very readable, biased towards land snails. Available from good booksellers if still in print.)

Yonge, C.M. & T.E. Thompson, 1976. Living marine molluscs. London, Collins. ISBN 0-00-219099-0. (very readable. Available from good booksellers, if still in print.)

J. E. Llewellyn-Jones

SLUGS AND SNAILS AND THE NATIONAL TRUST

The very extensive land ownership of the National Trust in England, Wales and Northern Ireland (about 530,000 acres) not surprisingly includes many important sites for non-marine molluscs. In fact, The Trust owns sites for many rarities, such as Vertigo alpestris, V. moulinsiana, V. lilljeborgi, Truncatellina callicratis britannica, Lymnaea glabra, Phenacolimax major, Ena montana, Helicodonta obvoluta and Limax tenellus. However, the majority of our properties are only poorly known for their mollusc fauna, and even our most important sites do not receive the kind of attention necessary to ensure that we are doing all that we should to protect their interests.

Our own staff are very thin on the ground, and there is a great need for int-

erested local naturalists to help us in our conservation work. If any Conchological Society members are interested in helping, then please let us know. The type of information we need to know includes a list of species present on each site, their relative abundance and localisation, and how these may change with time. If changes are occurring, then we need to consider whether they are the result of our activities, and whether or not the changes are desirable.

Contact with the local Trust warden or land agent is the first step for any would-be helper, since anything which involves collecting specimens, or disturbing habitats while searching for molluscs, requires written authority from the Trust - our Bye Laws specifically prohibit these activities unless prior authorization is given. If you are interested in helping, but don't know the local N.T. staff, then contact the Trust's Cirencester Office, where either myself or my colleagues can link you up with the relevant people. The address is:
National Trust Estates Advisory Office, Spitalgate Lane, Cirencester, Glos. GL7 2DE

Keith Alexander

CONCHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

998th, (Ordinary) Meeting held on 14th. March 1987 at B.M.(N.H.)

In the Chair: Mrs. E. B. Rands with 37 members and friends present.

Appointment of Scrutineers: Mrs. Pain and Mr. Worth were appointed.

Nominations and elections to Membership: 3 Full Members

J. D. Briggs, Montgomery Canal Ecological Survey, Preston Montford Field Centre,
Montford Bridge, Shrewsbury, SY4 1DX

J. M. Douglas, [REDACTED], Basildon, Essex, [REDACTED]

D. Howie, [REDACTED], Chadwell Heath, Romford, Essex, [REDACTED]

1 Institutional Member

Dieter Schrierenberg, [REDACTED], 1016-HP Amsterdam, Netherlands.

Report of the Council by 'acting' Secretary: read and accepted.

Report of Treasurer: Copies of the Accounts were circulated and the report read by the Treasurer. The auditors had been unable to see the accounts due to illness. The report and accounts accepted subject to the satisfaction of the auditors.

Report of Non-marine Recorder: read and accepted.

Report of Marine Recorder: read and accepted.

Report of the Junior Members Officer: read and accepted.

Report of the Field Meetings Officer: read and accepted.

Election of Auditors: Dr. Lloyd-Evans and Mr. Edwards were elected.

Presidential Address: "Rubbish".

Announcements and Correspondence: The Italian Malacological Congress will be held in May 1987. Wheldon and Wesley (Booksellers) are holding Open Days on 6-12th. April 1987. The President thanked Council and members for many enjoyable meetings during her term of Office. The Treasurer gave a vote of thanks to Mrs. Rands for all her work on behalf of the Society.

Result of the Postal Ballot: All Officers were elected. The new President is Mr. Long. The new Hon. Secretary is Dr. Seddon. The new members of Council are Mrs. Light, Mr. Palmer and Mr. Philp. Mr. Long took the Chair.

Any other business: Mr. Long reminded members to bring their signed membership cards to the next meeting on 11th. April when Dr. David Reid of B.M.(N.H.) would be talking on Mollusca of Mangrove Swamps. Lunch is not provided at the meeting on Saturday 23rd. May. The President auctioned books for the benefit of the Society.

Meeting closed at 5.17 p.m.

EXHIBITS

- | | |
|--|---|
| B. Colville | - Some snails from Porto Santo (Madeiran Islands) |
| T. E. Crowley | - Palissy ware dish and two shell miniatures |
| D. Guntrip | - Molluscs in strandline debris from River Hamble |
| D. T. Holyoak | - South European forms related to <u>Clausilia bidentata</u> |
| Joan Llewellyn-Jones | - Key-ring containing a Clausiliid |
| J. Llewellyn-Jones | - Molluscs from unlikely places |
| D. C. Long | - Molluscan distribution in a disused canal in Gloucestershire
Two recent publications on Japanese Turrids |
| M. Mitchell | - Canadian chitons |
| T. Pain | - Genus <u>Clavator</u> Martens, 1860 (Acavacea, Pulmonata),
Madagascar |
| E. B. Rands | - Freshwater molluscs from flood debris at Radwell, Bedfordshire |
| A. Rundle and
E. B. Rands | - "Minigrip" plastic bags |
| D. R. Seaward | - Photographs of living <u>Paludjinella littorina</u> and <u>Truncatella subcylindrica</u> from The Fleet, Dorset |
| M. B. Seddon | - Land and freshwater shells from river floodline rubbish (N. Spain and Morocco) |
| C. Street | - Shells from Guernsey (February 1987) |
| M. J. Willing | - The afforestation threat to upland habitats |
| The L. W. Stratton material from the Society's Archives. | |

GENERAL NOTES

OXYCHILUS HELVETICUS (BLUM) IN IRELAND

A note in the Irish Naturalists' Journal (vol.19, p.197, 1978) "Oxychilus helveticus (Blum). A snail new to Ireland" recently caught my eye and reminded me that among Stelfox MSS. there is a record of this species "in a greenhouse at Hillsborough, 1911". This is subsequent to the two papers on Hyalinia helvetica (as it was then) referred to in Dr. Kerney's INJ note. The species is not mentioned in Stelfox's 1929 list (pp.6-10 in Praeger, Proc. Royal Irish Academy 39B, pp. 1-94) nor in the earlier Ulster List of Stelfox & Welch (ed. by McMillan & Mitchell Proc. R.I.A. 80B, pp. 125-152), possibly because it is a "greenhouse" record.

Since writing the above, however, I find that Stelfox examined the radula of one of the Hillsborough specimens, and wrote to R. A. Phillips that the radula was of the rogersi form and not the continental (Phillips in litt. 11 March 1911). In view of this statement it seems that the record should be accepted, despite the lack of specimens in the Stelfox collection (in Liverpool Museum).

Nora F. McMillan, Liverpool Museum

TASMANIAN OYSTER MAN HAS SUCCESS IN THE BAG

A Tasmanian oyster farmer has successfully grown Pacific oysters in bags. The farmer, Mr. John Aalders of Smithton on Tasmania's north-west coast, has about 2000 bags of maturing oysters on his lease in the shallows near the mouth of the Duck River. Each bag is a tube of black plastic Netlon mesh. One end is sewn with waterproof nylon to form a sack that encloses 50 maturing oysters for the final three to four months of growth. By bagging his near-mature oysters and securing the bags with metal ring-clips to netting racks, Mr. Aalders believes he has eliminated much of the hard work and expense from harvesting and, as a result, is confident his profits will increase.

Mr. Aalders took up oyster farming after working for 10 years with the State's Forestry Commission. And, being new to the industry, he was on the lookout for fresh ideas and methods to increase his yield and lighten his workload. He learned from Colin Sumner, a marine biologist with the Tasmanian Fisheries Development Authority, that large-scale oyster and mussel growers in France used plastic mesh sacks of a type also manufactured in Australia. He obtained a trial shipment of mesh sacks from the Netlon Division of Boral Cyclone Ltd. in Melbourne to carry out trials early last year and then ordered 2000 more.

'Netlon sacks are the key to economical oyster growing at Smithton, without a doubt,' Mr. Aalders said recently. 'I get young Pacific oysters, already attached to sticks, from nurseries along the coast. Each stick holds from 50 to 150 baby oysters. As they develop the shell grows round the stick and the base of the shell develops a characteristic shape. Ideally, the oysters should be taken from the sticks after they have partly matured and laid out on trays in the shallows for some months. But unless you've got a breakwater around your lease the heavy seas wash them out of the trays and you lose them.'

From 'Australian Fisheries', September 1980. Submitted by Betty M. Smith

ABALONE BREEDING PROJECT BEGINS IN TASMANIA

A research project to develop techniques for breeding blacklip abalone in hatcheries has begun in Tasmania. The project is being carried out by the Tasmanian Fisheries Development Authority with the aid of a \$10900 grant from the Commonwealth Government's Fishing Industry Research Trust Account. TFDA marine biologist Colin Sumner said recently that the project was based at the TFDA Taroona laboratory, but abalone were being collected from various sites round Tasmania. Colin Sumner and John Grant, a TFDA senior technical officer, are carrying out the research. Members of the Tasmanian Abalone Divers' Association are helping by collecting adult abalone and harvesting food supplies for use in the laboratory. The objectives of the project are to: find techniques for conditioning adult blacklip abalone to provide brood stock; develop methods to consistently induce spawning; study in detail the larvae biology and metamorphosis of blacklip abalone; and find an optimum diet for rearing metamorphosed larvae following settlement, and for growing juveniles. Mr. Sumner said that despite overseas studies on related species in Japan, France and the United States, knowledge of breeding, spawning, larval development and settlement of blacklip abalone was scant. Abalone culture had been contemplated for some years in Australia but the basic knowledge needed for culture was lacking. Japanese ranching technology might be applied to increase production from the existing fishery, or American and French techniques, by which abalone were grown to commercial size under culture, could be feasible. But either approach required the basic information being sought in the present study. The project would also give a fuller understanding of the population dynamics of abalone in south-eastern Australian waters. This would give a firmer base on which to make management decisions.

A recent issue of the TFDA journal Fintas said that methods used by John Grant

for Japanese abalone culture would be tested and adapted where necessary. Adult abalone would be collected in the field and kept in the laboratory at a range of constant temperatures. As they matured a method of assessing their maturity would be determined. Natural stocks would be monitored for gonad condition and when mature would also be used for spawning, using ultra-violet irradiated seawater as a stimulus. This had proved successful for commercial Japanese species. Hydrogen peroxide, which had been used as a spawning stimulus in some American studies, would also be tested. Fertilisation methods would also be tested, and development for fertilisation to post-settlement would be studied in detail and recorded by photographs. Mr. Grant said recently that the larvae would be fed on microscopic diatoms collected on corrugated plastic sheeting in the D'Entrecasteaux Channel. Once the diatoms grew the plates would be transferred to laboratory tanks, where the larvae would be able to settle on the plates and graze on the diatoms. Nursery experiments would determine food preferences and breeding rates of spat. Growth in size and weight would be monitored, artificial habitat preferences investigated and optimum population densities established.

From 'Australian Fisheries', September 1980. Submitted by Betty M. Smith

ANNUAL GENERAL MEETING MARCH 1988

Members are reminded that they can nominate candidates for election to the Council. Rule No. 12. Candidates for nomination to the Council shall be paid-up members of The Society and shall be nominated by two members. Nominations, other than those made by the Council itself, shall be sent in writing to the Hon. Secretary at least six weeks before the A.G.M., and shall be accompanied by a signed declaration of the candidate's willingness to serve. NOTE: Nominations must be received by the Hon. Secretary NOT LATER THAN 31 December 1987.

THE TENTH INTERNATIONAL MALACOLOGICAL CONGRESS will be held from August 27 to September 2, 1989, in Tübingen, Southwest Germany. Papers dealing with any aspects of Malacology are invited for oral or poster presentation. Malacologists wishing to attend should be prepared to submit provisional titles of papers, together with one or two sentences exposing the questions dealt with therein (instead of an abstract for which it would be too early), before September 30, 1988. Address inquiries to the current president of Unitas Malacologica: Dr. Claus Meier-Brook, Tropenmed. Inst.d.Univ., Wilhelmstr. 31, D-7400 Tübingen, F.R.G. I hope that an announcement as early as this will enable many colleagues to consider participation and to plan their research for the years to come.

COLLECTION OF TROPICAL MARINE SHELLS OFFERED FREE TO JUNIOR MEMBERS

Mr. R. A. Pollard of 'Estcourt', Amberd Lane, Staplehay, Taunton, Somerset, TA3 7HH (Telephone: 0823 86863) is offering his collection of tropical marine shells free to any junior member who can arrange to collect it by car. The collection is now stored in a number of cardboard boxes. Please contact Mr. R. A. Pollard directly.

R. C. Preece, Officer-in-charge of Juniors

RARE PERIODICALS AND ILLUSTRATED BOOKS on recent and fossil shells as well as special lists on conchology available with Dieter Schierenberg BV, [REDACTED], 1016 HP Amsterdam, Netherlands. Telephone: [REDACTED]; Telex: 13408 schie. Catalogues free upon request.

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CHARLES DARWIN ON MOLLUSCS IN THE GALAPAGOS ARCHIPELAGO

The name of Charles Darwin, apart from his authorship of The Voyage of the Beagle (1839) and Origin of Species (1859), is usually associated with work on vertebrates - giant tortoises, Darwin's finches and apes - but recently, having cause to read Darwin's account of the giant tortoises of the Galapagos Islands in The Voyage of the Beagle, I came across a page on molluscs.

Darwin joined the HMS Beagle for a voyage round the world (1832-1836) immediately after he left University. After a false start studying medicine in Edinburgh, he moved to Cambridge to train for the Church. There he came under the wing of Professor Henslow who encouraged him in his studies of botany and geology and it was through Henslow that the young Charles Darwin came to be invited by Captain Fitz Roy to join the HMS Beagle as a naturalist. In his autobiography, Darwin states that this voyage was the most important event in the whole of his life and determined his change of course from being a clergyman to an author and researcher. It was whilst on the Beagle that Darwin saw the evidence which he used to formulate his theory of evolution by natural selection that made such an impact on Victorian society, the scientific world and the Church.

In the Galapagos Islands during 1835 Darwin collected some molluscs which he later sent to Hugh Cuming for identification and it was Cuming's report that he drew on when writing about molluscs in The Voyage of the Beagle. As with other aspects of the fauna, the molluscs also exhibited species endemic to the Galapagos Islands and pointing to recent speciation. Hugh Cuming, himself a collector on a grand scale (Dance 1966), had already collected 90 marine species there himself and 47 of them were not known to occur anywhere else, in spite of the fact that marine molluscs with their planktonic floating veliger larvae are well equipped for dispersal. Darwin concludes with a discussion on zoogeography and recognising conchological sea-provinces. The quotation from Darwin's book The Voyage of the Beagle on the molluscs of the Galapagos archipelago is presented below.

June Chatfield

To finish with the zoology: the fifteen kinds of sea-fish which I procured here are all new species; they belong to twelve genera, all widely distributed, with the exception of *Prionotus*, of which the four previously known species live on the eastern side of America. Of land-shells I collected sixteen kinds (and two marked varieties), of which, with the exception of one *Helix* found at Tahiti, all are peculiar to this archipelago; a single fresh-water shell (*Paludina*) is common to Tahiti and Van Diemen's Land. Mr. Cuming, before our voyage, procured here ninety species of sea-shells, and this does not include several species not yet specifically examined, of *Trochus*, *Turbo*, *Monodonta*, and *Nassa*. He has been kind enough to give me the following interesting results: of the ninety shells, no less than forty-seven are unknown elsewhere - a wonderful fact, considering how widely

distributed sea-shells generally are. Of the forty-three shells found in other parts of the world, twenty-five inhabit the western coast of America, and of these eight are distinguishable as varieties; the remaining eighteen (including one variety) were found by Mr. Cuming in the Low archipelago, and some of them also at the Philippines. This fact of shells from islands in the central parts of the Pacific occurring here, deserves notice, for not one single sea-shell is known to be common to the islands of that ocean and to the west coast of America. The space of open sea running north and south off the west coast, separates two quite distinct conchological provinces; but at the Galapagos Archipelago we have a halting-place, where many new forms have been created, and whither these two great conchological provinces have each sent several colonists. The American province has also sent here representative species; for there is a Galapageian species of *Monoceros*, a genus only found on the west coast of America; and there are Galapageian species of *Fissurella* and *Cancellaria*, genera common on the west coast, but not found (as I am informed by Mr. Cuming) in the central islands of the Pacific. On the other hand, there are Galapageian species of *Oniscia* and *Stylifer*, genera common to the West Indies, and to the Chinese and Indian seas, but not found either on the west coast of America or in the central Pacific. I may here add, that after the comparison by Messrs. Cuming and Hinds of about two thousand shells from the eastern and western coasts of America, only one single shell was found in common, namely, the *Purpura patula*, which inhabits the West Indies, the coast of Panama, and the Galapagos. We have, therefore, in this quarter of the world, three great conchological sea-provinces, quite distinct, though surprisingly near each other, being separated by long north and south spaces either of land or of open sea.

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A NOTE ON GULELLA EXCRUCIATA CONNOLLY (STREPTAXIDAE)

A comparative anatomical study of the genus *Gulella*, in fact a study of the whole of the Streptaxidae is much needed. Only relatively very few of the large number of species described have their anatomy even broadly described. Ortiz de Zarate Lopez and Ortiz de Zarate Rocandio (1955) describe that of many Fernando Poo species and there is a classic paper by Degner (1934) surveying the species of Liberia. I have described the anatomy of several East African species (Verdcourt, 1956, 1961b, 1963, 1979, 1985). In the Holm collection (see Verdcourt, 1985) a specimen of a fairly large species, *Gulella excrucata* Connolly, 1931 was preserved with the animal more or less outstretched. Data for this specimen are as follows: Kenya, Mt. Elgon, E. side at Kaptega R., 1930 m., 19 Dec. 1964, leg. A. Holm. Other material I have seen extends the distribution of the species to Uganda: Ruwenzori, Bwamba and Kenya: Kericho, Itare R.; further material from Mt. Elgon includes the type collected by G. D. Hale-Carpenter and some specimens from Endebess. Since it is not an uncommon species the shell of the Holm specimen was sacrificed in order to obtain as much information as possible.

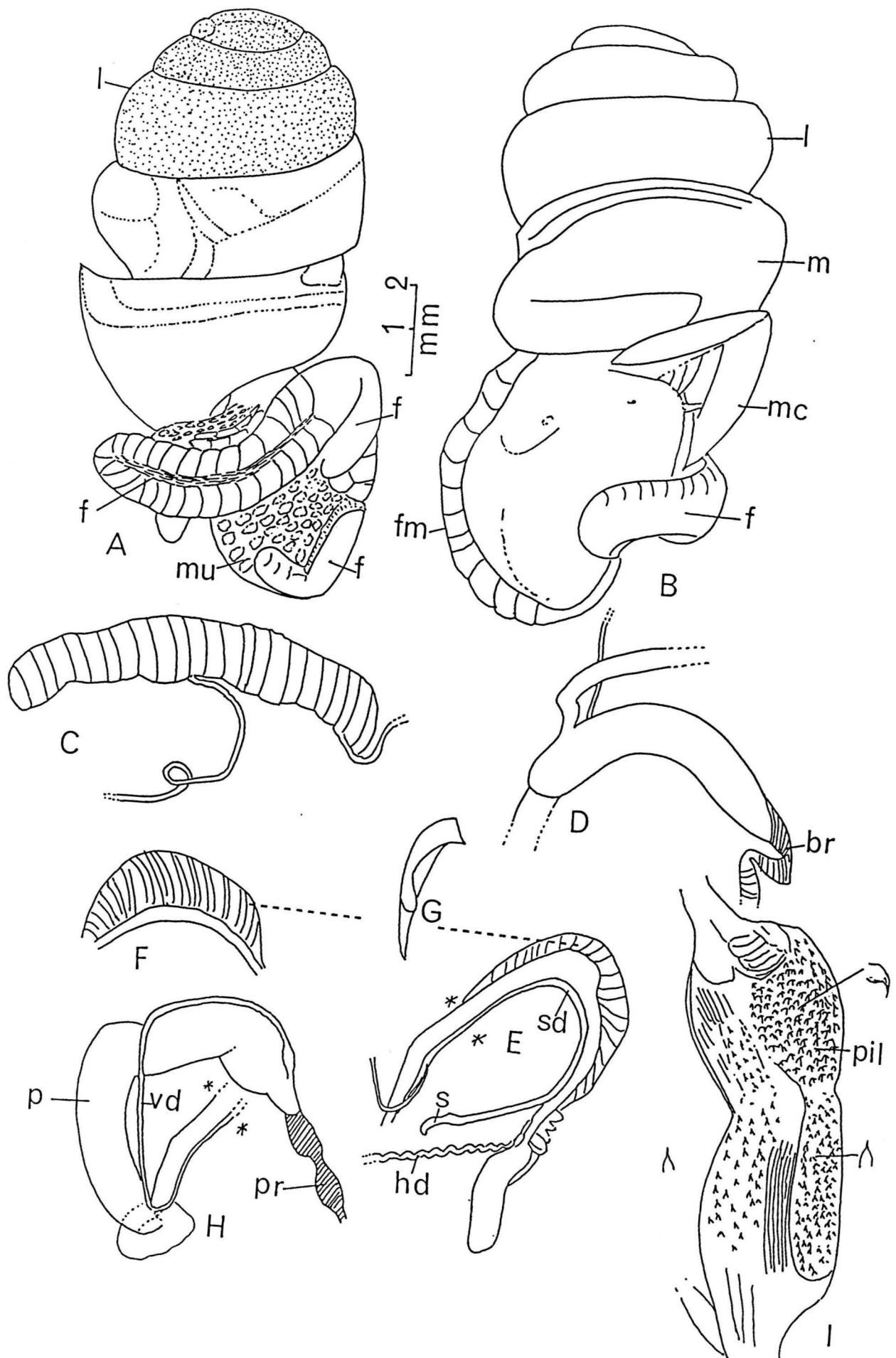
Unlike many Streptaxids of this size the body is entirely white save for the

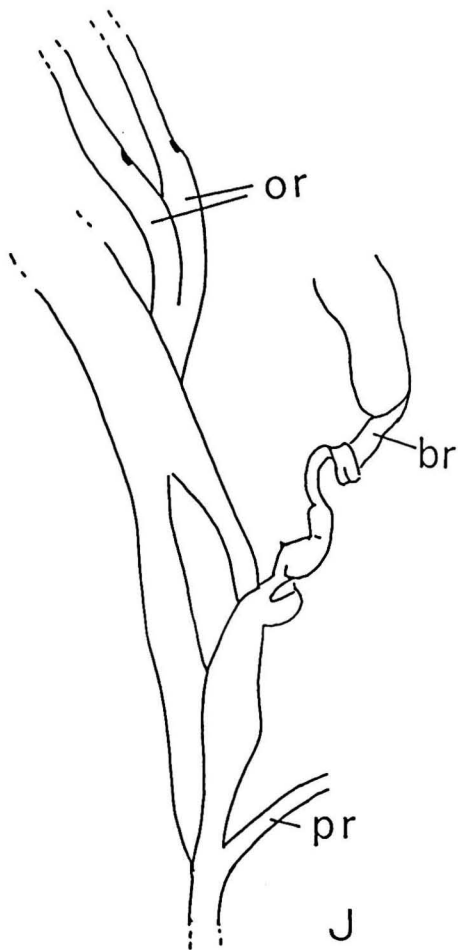
brownish liver - no bright green, orange, red or yellow is present, at least not in the preserved material. The foot is remarkably long and narrow, 15 mm. even in the preserved state and clearly capable of much longer extension in life making it suitable for preying on narrow Stenogyridae which are abundant on Mt. Elgon.

The radula is about 5 mm. long with 80 rows of typical streptaxid aculeate teeth, 19 in each half-row with no properly developed central tooth; the teeth increase in size to numbers 7, 8 and 9 then decrease to 19. The large salivary gland is closely similar to that of all other Streptaxidae I have dissected. The penis lacks an appendage and has no external characters of particular note but inside the pilasters bear very numerous papillae bearing minute prickles, the distal more deflexed, the proximal straighter. This arrangement is very different from a species such as *G. io* (see Verdcourt, 1979) where very few prickles occur. The closest similarity is with *G. cavidens* (von Martens) figured by Degner (1934). Far too few species have been examined to assess the value of this penial armament in classification but it certainly varies greatly and it seems certain a pattern will eventually emerge. The mere presence or absence of a penial appendage is not of itself a clear-cut character. Even in section *Primigulella*, which will I think prove to be a good genus, the position of the appendage is not the same in the three species dissected, *G. pilula* (Preston) and *G. usagarica* (Crosse) having it at the base (Verdcourt & Venmans, 1956; Verdcourt, 1961) and *G. grossa* (von Martens) at the apex (Thiele, 1911). Moreover, appendages occur in species in other sections and also in *Ptychotrema* Mörch, but not in all. *P. (Parennea) subtusangulatum* Degner has an appendage from the base pointing downwards (Blindsack in German) also with prickles but *P. deruptum* Degner, *P. mucronatum* (von Martens), *P. martensi* (D'Ailly) and *P. elegantulum* (Pfr.) do not. *Gulella dautzenbergi* Connolly has an appendage from the base directed upwards. In *G. incisa* Degner the appendage is obvious from the inside since the lumina are clearly distinct but the outer walls are not separated and the appendage is not obvious from the outside. At the end of his account of the Streptaxidae, Degner (1934, 272) comments that *Ptychotrema* and *Gulella*, although quite easily told apart by their shells, appear to have no absolute distinguishing characters in their genital anatomy. Pilsbry (1919) depicts a distinct basal appendage in *Varicostele bequaertiana* Pilsbry but *Streptostele buchholzi* von Martens has a very small rounded one and there is none in either *S. truncata* Germain or *S. lenta* (Smith) (Verdcourt, 1982). Appendages also occur in *Gonaxis gibbosa* Bgt. and in *Stenomaronia* (Germain) (Verdcourt, 1961a). Clearly some hundreds more species of the family need examining before it will be possible to assess which characters are likely to be useful.

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CAPTIONS

- A, B Whole animal removed from shell
 C Salivary gland
 D Buccal mass
 E, F Female part of genitalia
 G Eighth radular tooth (much enlarged)
 H Penis
 I Penis opened to show armament
 J Part of musculature

- br buccal retractor
 f foot
 fm foot margin
 hd hermaphrodite duct
 l liver
 m mantle
 mc mantle collar edge
 mu muzzle
 or ocular retractors
 p penis
 pil pilaster
 pr penial retractor
 s spermatheca
 sd spermathecal duct
 vd vas deferens

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B. Verdcourt

SNAILS AND TAILORS

Folk tales which poke fun at tailors occur in many guises, but the most interesting from my point of view are those concerning snails. The best-known of these can be found in 'anglo-scottish' folk tradition.

Four and twenty tailors
 Went to kill a snail,
 The best man among them
 Durst not touch her tail;
 She put out her horns
 Like a little Kyloe cow,
 Run, tailors, run,
 Or she'll kill you all e'en now.

(Oxford Book of Nursery Rhymes No. 496, p.401,
 edited by Iona & Peter Opie).

I became very interested in the origins of this Nursery Rhyme when I purchased a copy of a painted bee-hive landing-board at the National Bee-keeping Museum, (Muzeji radovljiske občine), at Radovljica, in Yugoslavia. The painted beehive-boards are part of a long-standing tradition in Slovenia, the earliest boards were simply painted in different colours in an attempt to 'guide' the bees to their own hive. In the early part of the 19th. century religious figures and events began to be painted in order to give divine protection to the bees. Subsequently, the scenes broadened in scope to illustrate contemporary scenes and sayings, often in a humorous way.

The National Bee-keeping Museum informs me that the bee-board showing a tailor in a tree fighting a snail with an iron and a pair of scissors symbolises 'tailors work very slowly', see illustration below. Iona Opie, however, feels that the illustration tells the same story, as above, of despised and timid tailors not even being able to face up to a snail.



The following rhyme originates from the village of Obloke and is poem number 8619 in the collection of poems published by Dr. Karel Streckelj, SLOVENSKE NARODNE PESMI, 4 zvezek, Ljubljana 1923.

Enkrat so bli žnidarji trije o joj!
 So polza na korajžo klicali.

Once there were three tailors,
 They called a snail to show his courage.

Preden se žnidari na vojsko spuste,
Si žnidari grevengo obude.

Before the tailors go to war,
They get their weapons ready.

Žnidari polžu nasproti stoje,
Sivanko za orožje v rokah drže.

The tailors stand against the snail,
They hold a needle in their hands as a weapon.

Polž pokaže svoje roge,
Vsi znidari orozje dol polože.

The snail shows his horns,
The tailors lay down their weapons.

Polž pa začne pene tišat,
Vsem znidarjem začnejo hlače disat.

The snail starts to foam,
The trousers of all the tailors start to smell.

Junger pravi: Jest ne grem,
Kselj pa pravi: Ne upam se.

The apprentice says: I don't go,
The assistant says: I don't dare.

Mojster je tako zaupil,
Da se je v hlače vsral.

The master shouted so,
That he made it in his trousers.

Poberi se proč, peklenska pošast,
Saj nijmaš do nas nobene oblast.

Go away you monster from hell,
You have no power over us.

Pomagaj nam, ti turški bog,
Se iz teh rev ino nadlog.

Help us, oh you Turkish god,
Out of this misery and trouble.

Translation into English by Janez Fajfar, Ethnologist, National Bee-keeping Museum, Radovljica.

The southern half of what is now Yugoslavia was under Turkish domination during the period of the Ottoman Empire. The description of the snail as a Turkish god is, therefore, probably a derogatory term used by the Slav population to illustrate the then political situation.

The origins of these two very similar folk poems have been lost in time. However, Janez Fajfar suggests that they may both originate from Irish/Celtic traditions. The pre-Roman population of the South-Eastern Alps was composed mainly of

Celts, differing from the Illyrians who formed the greater part of the peoples further south. The Slavonic tribes were the last and most numerous of a series of invading tribes from the east who pushed the Celts into the mountains. The Slavonic tribes are thought to have mixed with the locals and thus inherited some of their traditions. Christianity was also spread throughout the area by another group of Celts, the Irish. In about 760 A.D. the then Archbishop of Salzburg, an Irishman, sent a fellow countryman, Modestus to spread Christianity among the Slovenes in Carantanis, now Carinthia, Austria. The Irish also established Benedictine and Cistercian monasteries in the area after 900 A.D.

From this, it can be seen that a great deal of contact between the Irish and Slovenian peoples has taken place over the centuries. It would be no surprise, therefore, to find similarities in their folk cultures and traditions. Unfortunately there appears to be no evidence to prove that the 'Anglo-Scottish' version of this folk tale has any origins in Irish Folk Culture. This version probably originates from the Scottish folk traditions, the Kyloe cow being a variety of Hebridean cattle. The origins of this name, however, are unknown.

Adrian Norris, Leeds City Museums

THE CASE FOR ANTALIS TARENTINUM LAMARCK, 1818

In British coastal waters there are two dentaloid scaphopods known which are widely distributed, fairly common, and are sometimes found in drifts of shells on beaches. Neither are intertidal although freak low tides may occasionally uncover sands containing these scaphopods. These are Antalis entalis (Linné 1758) and Antalis vulgaris (Da Costa 1778).

The first, Antalis entalis (Linné) is an elegant, curved, white shell, up to 50 mm in length from aperture to apex, having a narrow apex with a ventral notch and faint striations visible with a hand lens for about 10 mm: it has a northern and western distribution. The second, Antalis vulgaris (da Costa) is not so elegant, curved, white, up to 35 mm in shell length and with a bluntly truncated apex containing a short pipe, while the shell is very distinctly striated for about one third of its length: it has a southern and eastern distribution, but overlaps considerably with the first species. Figures 1 and 2 illustrate the essential features, but it is with fig. 2, Antalis vulgaris, with which I am concerned because a similar form occurs in the Mediterranean which is invariably considered to be a synonym of Da Costa's A. vulgaris.

In 1818 Lamarck, in "Animaux sans Vertebres" vol. 5, p. 345, described a scaphopod from southern Italy and named it Dentalium tarentinum. Several specimens occur in the British Museum (Natural History) zoological collections, and I have a few examples also from the same general area; so there are a number of specimens available for examination.

It is easy to see why so many authors consider A. tarentinum to be a synonym of A. vulgaris because they do show an overall similarity, both species having rather well incised striations extending part of the way down the shell from the apex. Nevertheless, there are differences which, in the context of the geographical separateness of the two species, are worth considering when assessing the status of A. tarentinum.

Antalis vulgaris, fig. 2

Antalis tarentinum, fig. 3

Apex truncated in mature individuals

Apex not truncated, no pipe, but a

and furnished with a short pipe.

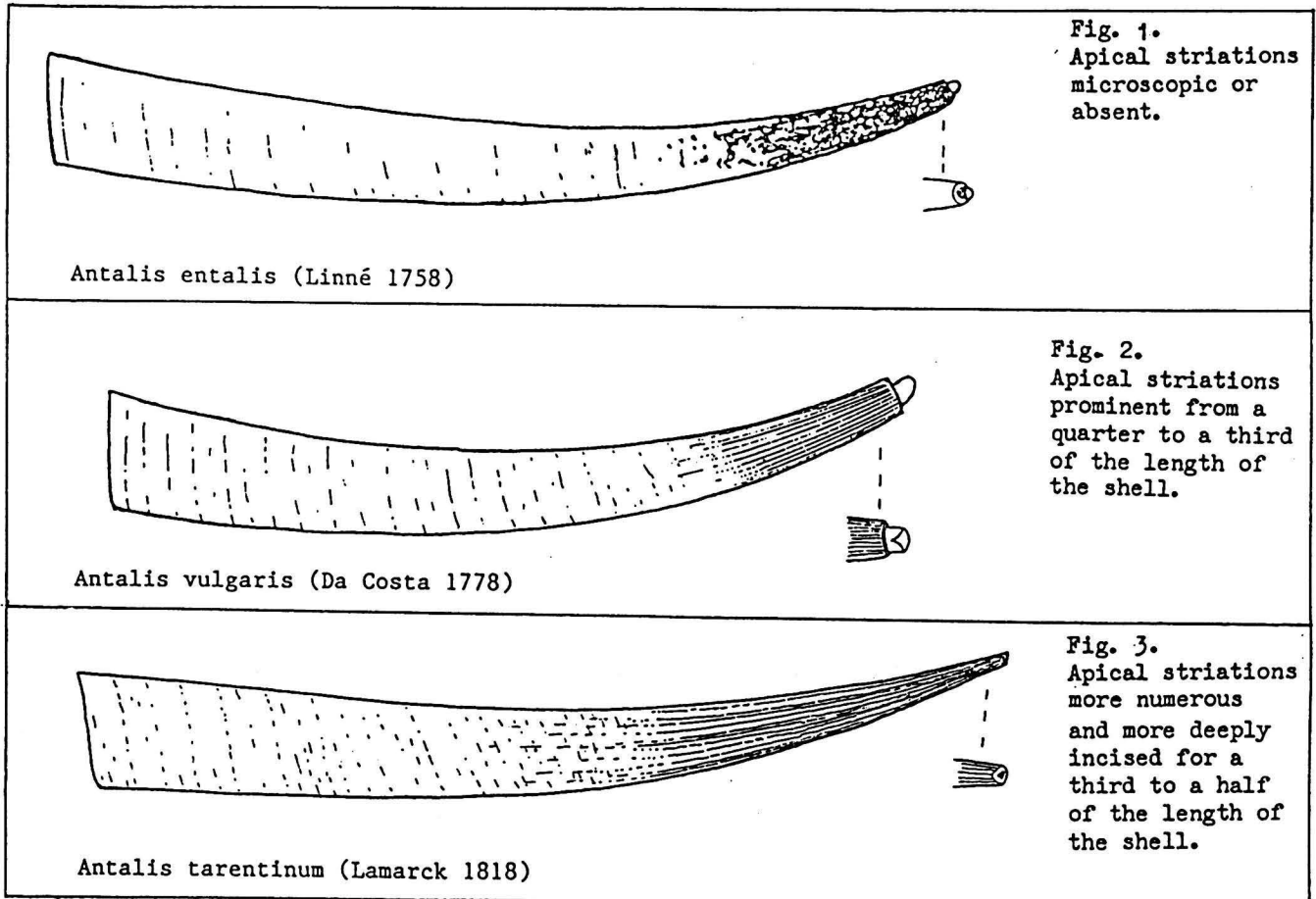
Apical striations distinct, extending a third of length of shell.

Colour usually whitish-grey.

v-shaped notch.

Apical striations more sharply impressed, more numerous, and extending half-way down the shell.

Colour usually pinkish, particularly near the apex.



It is clear that there are real, if subtle, differences in the shells; but I have not had a living *A. tarentinum* to compare with *A. vulgaris*, so I can say nothing about the anatomy. However, the two essential shell differences are: the apical striations formed by the leading anterior edge of the mantle when the animal was juvenile; and the apical modifications, formed by the posterior part of the mantle during maturity. It seems likely that differences in the shells of the two named forms are accompanied by differences in the anatomy, particularly in the posterior part of the mantle which produces a pipe in *A. vulgaris* and a v-shaped notch in *A. tarentinum*.

It may be that investigation will show that these two scaphopods are no more than geographical subspecies; but it would be interesting to map the distribution of the two species and see if *A. vulgaris* extends down the Atlantic coast into the Mediterranean and grades into *A. tarentinum*, or if the distribution of the two forms is disjunct. The literature is no help since "*A. vulgaris*" is recorded all the way from the east coast and channel, around the Iberian Peninsula into the Mediterranean, and it is not clear if the form - *vulgaris* has been 'lumped' in with

the form - tarentinum. Since the latter name never appears on species lists one suspects that uncritical 'lumping' has masked an interesting distribution of these two scaphopods.

C. P. Palmer

COLLECTING MOLLUSCS IN SOUTH WESTERN SPAIN

Introduction

During the period 24th. to 26th. April 1987 I was with the Gibraltar Ornithological and Natural History Society (of which I am a member) on the organised visit to Spain's most important National Park - Parque Nacional Doñana. The park is near Huelva and the route taken was through Medina Sidonia towards Sevilla then to El Rocio and on to Matalascañas. The return journey followed a different route passing Bonanza near Sanlúcar de Barrameda.

The trip was organised mainly as an ornithological event so there were not many stops made along the routes and those that were made were necessarily brief. Having stated this, I spent all the time available at each location searching for and collecting molluscs and it has been possible to obtain reasonably good ideas of molluscan populations for these locations.

The best approach to adopt for reporting the findings is to mention each area examined and give short notes and species present, this is the policy I have used.

a. Laguna de Medina, Medina Sidonia, 24th. April, 11.00 - 11.30 a.m.

The area around the actual lagoon was relatively dry except around the edges of fence-posts where some moisture was present. The most abundant species, both live and dead, was Theba pisana (Müller 1774). Cochlicella barbara (L. 1758) was also present though only one specimen was seen live. Two live Oestophora spp. were found under rocks. Otala lactea Müller 1774 was represented by only one dead specimen. The following were all scarce and no live examples were seen: Rumina decollata (L. 1758), Cernuella virgata (da Costa 1778), Cernuella neglecta (Draparnaud 1805) and Helicella conspurcata (Draparnaud 1801).

b. Matalascañas, Gardens of Cortijo Rafael Hotel, 24th. April, 3.00 - 3.30 p.m.

The gardens consisted mainly of grass lawns with several shrubs under which all the species collected were found. Helix aspersa Muller 1774, Theba pisana (Müller 1774) and Otala punctata were the most abundant. It is interesting to note that although fairly large H. aspersa were present (largest 32 x 35 mm) most were small and one adult shell measured 19 x 21 mm. The following completes the list of species found: Helicella apicina (Lamarck 1822), Rumina decollata (L. 1758), Cochlicella barbara (L. 1758), Oestophora sp. (rare), Helicella conspurcata (Draparnaud 1801).

c. Parque Nacional Doñana, 24th. April.

The tour of the park consisted of a four hour ride in a Land Rover during which several very short stops were made. I was not able to see any land molluscs at all and although the intensive searching over a period of hours may have turned up some species the majority of the Park would seem to be unproductive due to the dryness and mostly sandy and marshy habitats. The sandy areas consist of dunes with little cover vegetation. In fact, the typical Doñana habitat extends beyond the Park where the only mollusc I found was a single badly broken shell of Rumina

decollata (L. 1758).

In Doñana itself I was only able to find three (possibly Pliocene) fossil shells which were probably deposited or left behind by the sea which once covered most of the Park. Two of these are Donax vittatus (da Costa 1778) and Cerastoderma edule (L. 1758), the third I have not been able to identify, see figure one.

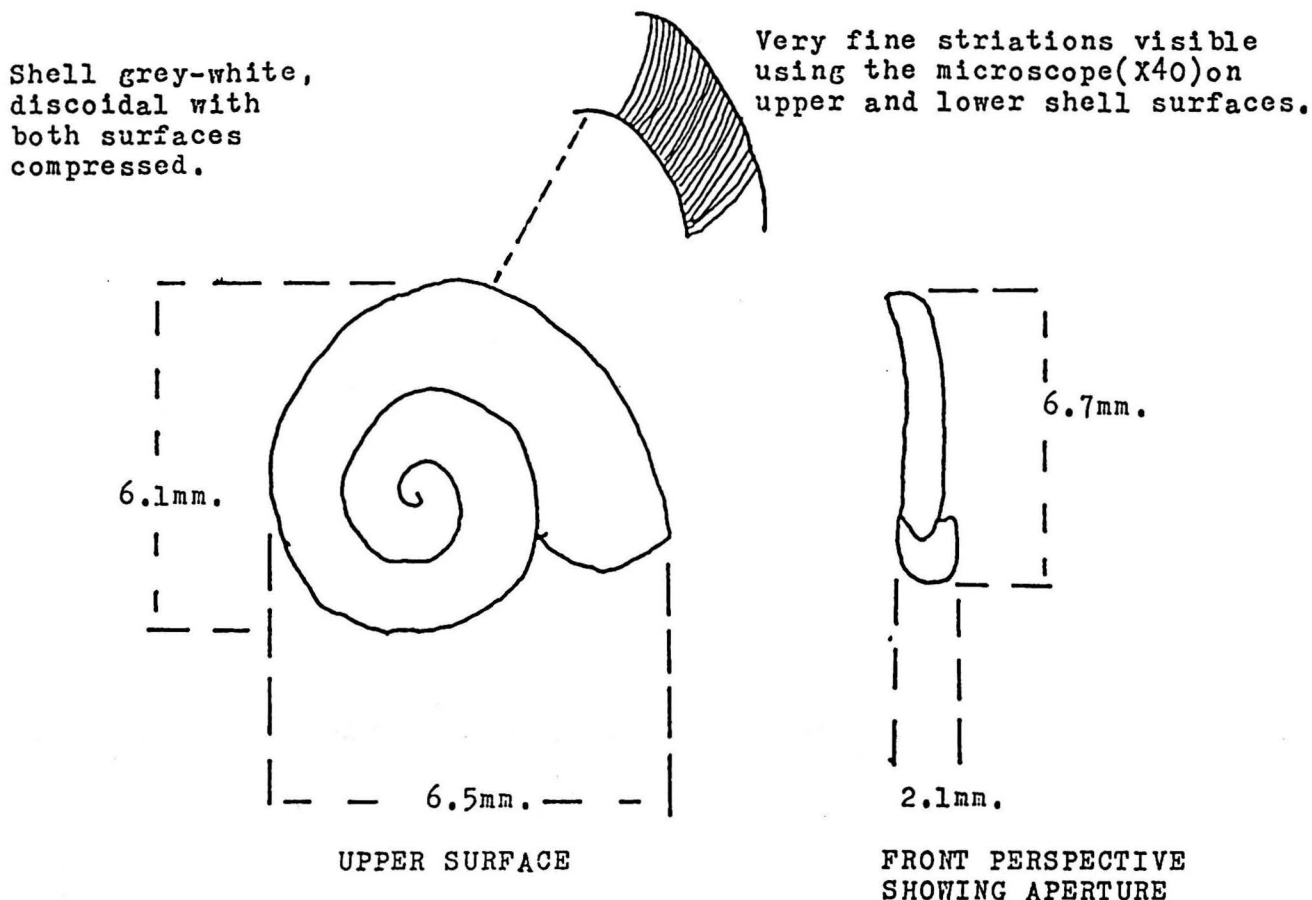


FIGURE ONE (not to scale). Actual specimen measurements given on diagrams.

d. Salinas de Bacuta near Huelva, 25th. April, 10.00 - 11.00 a.m.

The area is marshy with artificially constructed salt collection pans. I saw one dead Theba pisana (Muller 1774) by the side of a salt pan, one dead Hydrobia acuta (Draparnaud 1805) and several dead Cerastoderma glaucum (Poiret 1789).

Following the road past the salt pans one arrives at fairly undisturbed beaches on one side and an extensive sandy beach on the other. The latter beach only produced several dead C. glaucum and a badly worn Phyllonotus trunculus (L. 1758). The muddy beaches were productive and twenty five species were collected in a relatively short time period. All the specimens collected were dead and easily obtained, being on the mud surface. Had there been more time it would have been very interesting to have dredged the mud and thus collect live specimens which would have resulted in a much better picture of the molluscan fauna being gained.

The following list shows the species found:

A: abundant

S: scarce

R: rare

Gibbula racketti (Payraudeau 1826)
Turritella communis Risso 1826
Turritella mediterranea
 Monterosato 1890
Calyptrea chinensis (L. 1758)
Cymbium olla (L. 1758)
Dentalium vulgare da Costa 1778
Dentalium inaequicostatum
 Dautzenberg 1891
Dentalium rubescens Deshayes 1825
Glycymeris pilosa (L. 1758)
Modiolus barbatus (L. 1758)
Chlamys varia (L. 1758)
Chlamys glabra (L. 1758)

R	<u>Chlamys hyalina</u> (Poli 1795)	R
A	<u>Pecten maximus</u> (L. 1758)	A
	<u>Anomia ehippium</u> L. 1758	A
A	<u>Ostrea edulis</u> L. 1758	A
A	<u>Crassostrea angulata</u> (Lamarck 1818)	A
S	<u>Loripes lucinalis</u> (Lamarck 1818)	R
S	<u>Acanthocardia tuberculata</u> (L. 1758)	A
	<u>Cerastoderma edule</u> (L. 1758)	A
S	<u>Mactra corallina</u> (L. 1758)	A
S	<u>Donax vittatus</u> (da Costa 1778)	A
A	<u>Chamelea gallina gallina</u> (L. 1758)	A
S	<u>Clausinella fasciata</u> (da Costa 1778)	R
A		
R		

In addition to the above, two left valves were found which I have not been able to identify, although they probably belong to the Mactracea. Figure two illustrates the longer of the two; the smaller being 6.1 cm. in length and 4.0 cm. from umbo to lower margin. The unusual feature is the radiating sculpture of raised ribs originating at the umbo and terminating at the margin which results in crenulation on the interior surface of the lower margin. As with the specimen illustrated in figure one I would welcome comments on identification and further information.

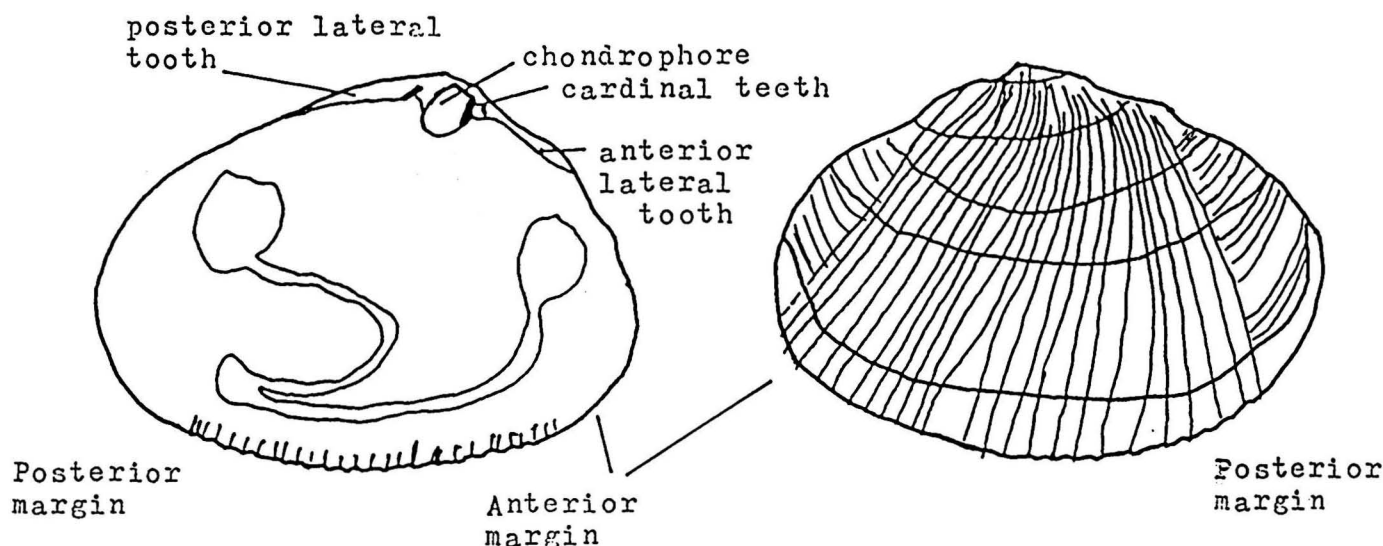


FIGURE TWO drawn actual size. Note that the pallial line is not confluent with the pallial sinus and that there are two cardinal teeth present. The concentric growth line nearest the margin is the thickest and most raised. Average height of ridges is 0.75 mm.

CONCLUSIONS

The trip proved to be very rewarding and enjoyable as I enjoy all aspects of nature. I was however, slightly disappointed at not having found more molluscs and would have liked to have spent more time at each site visited.

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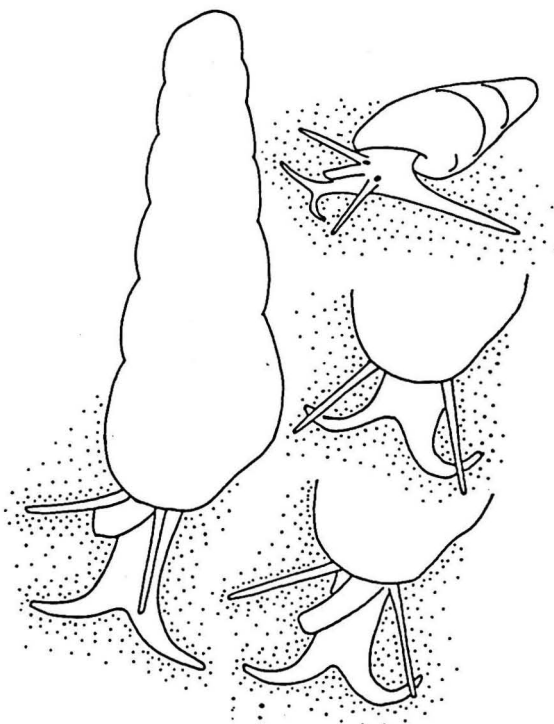
Alexander Menez, 8th. June 1987, 79 Rosia Dale, Gibraltar

GRAPHIS ALBIDA - A SKETCH OF THE ANIMAL

I found a live example of Graphis albida (Kanmacher, 1798) at Teignmouth in South Devon in April 1982.

At the time, I had no description or illustration of the live animal, although the shell is well known. I did some quick rough sketches of its unusual features, and took a few photographs of the tiny animal (shell length $1\frac{1}{4}$ mm), but the animal died before I had the opportunity to do a more detailed examination.

Later, I read the account in Jeffreys' British Conchology of a live animal from Exmouth, South Devon, and more recently, Fretter and Graham describe it in The Prosobranch Molluscs of Britain and Denmark (p. 405), but I am still not aware of any drawing of the live animal, so I have prepared the accompanying sketch from those which I did at the time, and from my photographs, the intention being to show the extraordinary processes on the front of the foot, which are capable of extension and variation in the degree to which they recurve.



The large black eyes are placed centrally within the tentacle base, not in a basal posterior swelling. Body colour white. The tentacles were held as shown, not at right angles to the body (cf., Fretter and Graham).

The sketch does not show the operculum which is inconspicuous, or the mantle tentacle, nor is the shell sculpture shown.

Dennis R. Seaward, April 1987

CREATION OF A VOLUNTARY MARINE CONSERVATION AREA ON THE HELFORD RIVER

The Helford River, in south-west Cornwall, has long been known as an area of outstanding marine biological importance, being a sheltered arm of the sea, or ria, in which conditions are almost fully marine, and where water pollution was considered to be minimal. Within the inlet there are valuable shores of sand and muddy

sand at Helford Passage, Penarvon Cove, Treath, and in Gillan Harbour (Holme, 1983). Some of these shores have, or had, considerable areas covered by eel-grass (*Zostera marina*) towards low water mark, and extensive areas are still covered by this species at Helford Passage (Gardiner, 1927; Turk, 1976, 1986). In addition to the many animals (including a number of commensal partnerships) burrowing in the sediment shores there are surface-living organisms such as ascidians and anemones attached to stones on the more sheltered flats, and at Helford Point the shore is covered by stone 'clitter' which provides a variety of habitats for additional species. Of special interest is a species of goby (*Gobius couchi* Miller & El-Tawil) described for the first time from Helford Point. There are good rocky shores at the mouth of the River, near Rosemullion Head and Nare Point. The River has been particularly productive of mollusc records, nearly 200 species having been listed up to the year 1910 (Holme & Turk, 1986), with many records added subsequently.

During recent years a decline in the intertidal fauna and flora of the River has been noted, suggesting that conditions were no longer so favourable. It was thought that this deterioration could also affect the local fisheries, oyster farming, food and bait collection, as well as the use of the river for recreation. A number of possible causes of the decline were suggested, but it was not possible to identify the main factor or factors responsible.

Following a proposal to designate the River a Voluntary Marine Conservation Area, it was decided, at a meeting called by Cornwall County Council, in July 1985, of individuals and organisations concerned with the River, to form a Steering Group, and to mount a twelve-month survey of the whole River in order to assess the influence of such factors as water pollution, visitor pressure, yachting and boating, bait and shellfish collection, and fishing. In addition, studies were to be carried out on the intertidal fauna and flora, with an emphasis on photography, in order to form a baseline from which future changes could be followed.

Two graduate scientists, Roger Covey and Susan Hocking, were employed for the survey, supervised jointly by Stella Turk of the Cornish Biological Records Unit and Norman Holme of the Marine Biological Association, Plymouth. The two graduates were employed during the course of the survey by Cornwall County Council, who sponsored the project, funding being provided by the World Wildlife Fund, in part through the Heinz 'Guardians of the Countryside' Campaign. A contribution was also received from the Duchy of Cornwall.

The survey has now been completed, and a Report and Summary were considered at a meeting of the Steering Group at Helston on July 23rd. 1987. The report could not identify any single factor as responsible for the deterioration of the marine life of the river, but isolated a number of activities which in combination, and especially if following or followed by extremes of weather, were calculated to cause the most harm. These were: (1) TBT anti-fouling paints; (2) Silage, slurry, sewage and other effluents; (3) Education and research (Although "Fewer groups now visit the Helford River because the fauna has become depleted"); (4) Traditional collection of cockles and other shellfish, known as "Trigging", carried out on Good Friday and at other times during the year; (5) Bait collection. However it was considered that many present activities in no way conflicted with the aims of protecting marine life in general, and that some, e.g. oyster cultivation, helped to ensure water quality.

At the meeting on July 23rd. it was decided, after discussion of the Report and the issues which it raised, that a Voluntary Marine Conservation Area should be established. The aim of the Conservation Area would be to try and achieve by voluntary means the harmonious use of the River whilst monitoring the quality of its marine environment. Consideration is now being given by the various bodies with an interest in the river, including the Parish Councils, to the way in which

the Conservation Area can best be run and to the kind of measures which should be considered.

The "Helford River Survey Report" by Roger Covey and Susan Hocking can be purchased from The County Planning Officer, County Hall, Truro, TR1 3BB.

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N. A. Holme & S. M. Turk, 11 September 1987

CONCHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

999th. (Ordinary) Meeting held on 11th. April 1987 at B.M.(N.H.)

In the Chair: Mr. D. C. Long with 37 members and friends present.

Apologies for absence: Dr. Coles, Dr. Colville, Mr. Dance, Dr. Holyoak, Mrs. Light, Mr. Norris, Mr. Osborn, Mr. Seaward, Dr. Seddon, Mrs. Turk.

Matters arising: the audit of the accounts is still not completed.

Nominations and elections to Membership: 1 Full Member
K. Brown, [REDACTED], Isleworth, Middlesex, [REDACTED]

Lecture: Mollusca of Indo-Pacific mangrove swamps by Dr. D. G. Reid.

Announcements and Correspondence: The dates and venues of the field meetings were announced. Details will be given with the next Newsletter. The next meeting will be held in Leeds City Museum on the 23rd. May 1987. The details are in the last issue of the Newsletter. Members were reminded about showing signed membership cards to gain free entry to the B.M.(N.H.) for meetings. A letter has been received from Mr. Atland of Malta offering to sell shells.

Any other business: Mrs. Fogan asked if there was a lift available to the Leeds meeting in May. A magazine was auctioned on behalf of the Society.

Meeting closed 4.48 p.m.

EXHIBITS

- D. C. Long - Australian saltmarsh molluscs
- Article on mangrove molluscs of SE. Queensland
- T. Pain - Potamididae (Mud-whelks)
- D. G. Reid - Worldwide Littorinidae and Indo-Pacific mangrove molluscs
- A. J. Rundle - Plastic bags and lens equipment

1000th. (Ordinary) Meeting held on 23rd. May 1987 at Leeds City Museum
Joint meeting with the Yorkshire Conchological Society

On behalf of the Director Mr. A. Norris welcomed the two Societies to the Leeds City Museum on the occasion of the 1000th. meeting of the Conchological Society, 111 years after the first meeting in Leeds.

The President of the Yorkshire Conchological Society Mr. J. Armitage took the chair and welcomed members of the national Society to Leeds, recalling that the last joint meeting was over twelve years ago. He thanked Drs. Barry and Ann Colville for hosting an informal gathering of both Societies on the previous evening and Mr. Norris for organising the joint meeting. After welcoming the two Speakers he handed the chair to the President of the Conchological Society.

In the Chair: Mr. D. C. Long with 34 members and friends present.

Apologies for absence: Mr. Crowley, Dr. Kerney, Mrs. Light, Dr. & Mrs. Lloyd-Evans, Mr. & Mrs. Negus, Mr. Palmer, Mr. Philp, Mr. Pitchford, Dr. Preece, Mr. Osborn, Mr. Scase, Mr. Seaward, Mrs. Turk, Dr. Willing.

Lectures: 'A thousand Meetings ago' by Mr. S. P. Dance
and 'The Midland Connection' by Mr. F. Woodward.

Announcements and Correspondence: The dates and venues of the field meetings were announced; the meeting on 3rd. October is to Chichester Harbour. There is a field meeting of the Sussex Trust for Nature Conservation at Pagham Harbour on 10 October; members of the Conchological Society are welcome to attend. The next indoor meeting will be held on 17 October at the B.M.(N.H.).

Mr. Norris announced that the Museum collections of Mollusca were on exhibition at another site and members were invited to visit them after the meeting.

The President gave a formal vote of thanks to the Yorkshire Conchological Society, to Drs. Barry and Ann Colville for their fine hospitality and to Mr. Adrian Norris for all his work in organising the events over the weekend and arranging the accommodation for the many visitors. Meeting closed at 3.45 p.m.

CALL FOR NOMINATIONS FOR NEW MEMBERS OF THE INTERNATIONAL COMMISSION ON ZOOLOGICAL
NOMENCLATURE

The following members of the Commission reach the end of their terms of service at the close of the XXIII General Assembly of the International Union of Biological Sciences to be held in Canberra in October 1988: Prof. Dr. R. Alvarado (Spain; specialist field Echinodermata); Dr. G. Bernardi (France; Lepidoptera); Prof. C. Dupuis (France; Heteroptera) and Dr. L. B. Holthuis (The Netherlands; Crustacea). A further vacancy arises from the death of Prof. B. S. Zheng (People's Republic of China; Ichthyology).

The addresses and specialist fields of the present members of the Commission may be found in the Bulletin of Zoological Nomenclature, 44 (1): 2-3 (March 1987). Under Article 3b of the Commission's Constitution a member whose term of service has terminated is not eligible for immediate re-election unless the Council of the Commission has decided to the contrary.

The Commission now invites nominations, by any person or institution, of candidates for membership. Article 2b of the Constitution prescribes that:

'The members of the Commission shall be eminent scientists, irrespective of

nationality, with a distinguished record in any branch of zoology, who are known to have an interest in zoological nomenclature.'

(It should be noted that 'zoology' here includes the applied biological sciences [medicine, agriculture, etc.] which use zoological names).

Nominations, giving the dates of birth, nationality and qualifications (by the criteria mentioned above) of each candidate should be sent by 31 March 1988 to:
The Executive Secretary, International Commission on Zoological Nomenclature,
c/o. British Museum (Natural History), Cromwell Road, London, SW7 5BD, U.K.

BULLETIN OF ZOOLOGICAL NOMENCLATURE, Volume 44, Part 1, 23 March 1987. APPLICATIONS

Comment or advice on these applications is welcomed for publication in the Bulletin and should be sent to the Executive Secretary, ICZN, c/o. British Museum (Natural History), London, SW7 5BD, U.K.

Case 2563 Conus floridanus Gabb, 1869 (Mollusca, Gastropoda): proposed conservation of the specific name

W. O. Cernohorsky, Auckland Institute and Museum, Private Bag, Auckland 1, New Zealand

Abstract. The purpose of this application is the conservation of the widely accepted marine prosobranch name Conus floridanus Gabb, 1869 by the suppression of an unused senior subjective synonym, Conus anabathrum Crosse, 1865.

Case 2548 Harpa articularis Lamarck, 1822 (Mollusca, Gastropoda): proposed conservation of the specific name

Harald A. Rehder and Richard E. Petit, Department of Invertebrate Zoology, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560, U.S.A.

Abstract. The purpose of this application is to conserve the well known harp shell name Harpa articularis Lamarck, 1822, which is threatened by the unused senior synonyms Harpa delicata and Harpa urniformis Perry, 1811.

OPINIONS AND DIRECTIONS

Opinion 1425 Suppressed: Spiroglyphus Daudin, 1800 and Stoa De Serres, 1855 (Mollusca, Gastropoda) and specific names published in combination with them

Opinion 1429 A ruling on the authorship and dates of the Sowerbys' Mineral Conchology of Great Britain

Direction 119 Tornatellina Pfeiffer, 1842 (Mollusca, Gastropoda): Official List entry completed

Volume 44, Part 2, 25 June 1987. APPLICATIONS

Comment or advice on this application is welcomed for publication in the Bulletin and should be sent to the Executive Secretary, ICZN, c/o. British Museum (Natural History), London, SW7 5BD, U.K.

Case 2542 Trapeziidae Miers, 1886 (Crustacea, Brachyura) and Trapeziidae Lamy, 1920 (Mollusca, Bivalvia): proposal to remove homonymy

G. J. Morgan, Western Australia Museum, Francis Street, Perth, Western Australia 6000

Abstract. The purpose of this application is to remove the homonymy between the two families Trapeziidae Miers, 1886 (Crustacea) and Trapeziidae Lamy, 1920 (Mollusca) by ruling that the stem of the molluscan generic name Trapezium Megerle von Mühlfeld, 1811 is Trapez-.

Opinion 1436 Harpidae Hawle & Corda, 1847 (Trilobita) and Harpidae Bronn, 1849 (Mollusca, Gastropoda): a ruling to remove the homonymy

MARINE MOLLUSC MAPPING SCHEME - SEA AREA WIGHT S15, PROGRESS REPORT NO. 1

This is my first report since taking over responsibility as area representative for S15 in July 1986. Armed with a list of addresses I sent a circular out to Natural History Societies and similar organisations within S15 inviting co-operation in areas such as field work. The response was rather disappointing and I concluded that most Societies were quite content with things the way they were. All the positive replies that I did receive were followed up and resulted in a few records, and information regarding sites worthy of investigation. One Society requested an illustrated lecture.

There are a number of developments to report. In July 1986 Dave Guntrip was sorting through some flood debris on the shore of the River Hamble at Warsash. He was waiting for a ferry at the time! Amongst the debris he found dead shells of Truncatella subcylindrica and a living specimen in the wall immediately above the tideline. This represents a pleasing addition to the only two other populations currently on record for the South Coast; these are living in the Fleet, Dorset and in Pagham Harbour, West Sussex.

My own field work has involved several visits to Pagham. This is a sprawling locality with a number of different habitats and merits further study. In particular there is a small lagoon which experiences tidal percolation of seawater through shingle from the main shore. There is a thriving population of the uncommon sea anemone Nematostella vectensis.

A field trip to the Isle of Wight to look at the variety of shores resulted in the finding of a previously unrecorded colony of Leucophytia bidentata living in Bembridge Harbour. In the past year there have been moves afoot to set up a Voluntary Marine Nature Reserve at Bembridge and St. Helen's but the plan met with considerable local opposition and the idea has been shelved.

The seas off Bembridge have also been the focus of attention by the Department of Oceanography at Southampton University. I have had access to molluscs sorted from gravel samples from a number of dive sites off the east coast of the island extending down to Whitecliff Bay. Amongst these samples live-collected specimens of Turbonilla lactea have been newly recorded. I shall report on all updates for S15 when the list of revisions to the Marine Atlas has been published.

Looking through the archives which I inherited it seems that no fieldwork resulting in recording has been carried out on the Isle of Wight since 1976 when Celia Pain submitted cards relating to a dredging trip. Is this correct? I would like to hear from anyone who has been actively recording the marine molluscs on the island in the last ten years.

The field meeting at Pilsey Island in Chichester Harbour revealed another unrecorded colony of Leucophytia bidentata living interstitially with Ovatella myosotis in shingle at HWM above an area of saltmarsh. To date there are still no live records for Truncatella subcylindrica or Paludinella littorina from this area despite the finding of a few dead shells. Further likely sites where the right habitat exists will be investigated.

A glance at the map and the boundaries of S15 (broadly, St. Alban's Head west of Swanage to Peacehaven east of Brighton) indicates a length of coast which it would take some time for me to cover single-handed! I very much hope that this

report will stimulate some reaction from members living along or near the coast of S15. Some of you must know of sites that are worthy of investigation. I would like to hear from you, and the Field Meetings Officer would certainly appreciate information regarding possible venues. Does anyone have contact with a member of the seafaring community who might take a group out to do some dredging? Any information leading to the capture of new records would be much appreciated.

I would like to thank the following for help with records and in the field: Dr. R. N. Bamber of Fawley Marine Lab., Mr. P. Burns - Warden at Pagham, Mr. M. Goodchild, Mr. I. J. Killeen, Mr. C. P. Palmer, Mr. D. R. Seaward, Dr. M. Sheader and Ms J. Mallinson of Southampton University and Mr. R. V. Wells.

Jan Light, Area Representative, S15, Conchological Society
[REDACTED], Godalming, Surrey, [REDACTED]. October 1987

GENERAL NOTES

SURVEY OF SNAILS AND SLUGS IN GARDENS IN GREATER MANCHESTER

Starting in September 1987, a survey will be carried out from the Department of Environmental Biology of The University of Manchester, to determine the patterns of distribution and abundance of different species of land gastropods in the Greater Manchester Area. We are particularly interested in the occurrence of the worm-slug Boettgerilla pallens, first recorded in this country in 1972, which has been found in the area. Data collected will be used to support current research in the department on terrestrial gastropod ecology.

Local primary and secondary schools will be involved in the collection of data on the commoner species, and we would also welcome help from members of the Conchological Society in the Greater Manchester area, to ensure that the survey is as wide ranging as possible. An information pack including identification guide and recording cards will be available to anyone wishing to participate in the survey.

A report of the survey including 2Km distribution maps will be available to participants.

If you would like to help please write to:

Ms M. North, c/o. Dr. S. E. R. Bailey, Department of Environmental Biology,
University of Manchester, Oxford Road, Manchester, M13 9PL

AN UNINTENTIONAL SINISTRAL TYPE

I have recently published an account of the fossil mollusca found by Mrs. M. D. Leakey and her co-workers at Laetoli, Tanzania (in Leakey, M.D. & Harris, J.M., Laetoli. A Pliocene site in Northern Tanzania: 438-450 [1987]). In this there is a glaring error. Plate 11.17 shows in front view the holotype of Subulona pseudinvoluta Verdc. as a sinistral shell; plate 11.18, a back view, correctly shows it dextral. In the past such an error was a persistent bug-bear to all authors. The engraver got it the wrong way round, the lithographer got it the



wrong way round; even photographers have been known to print negatives back to front. Projectionists frequently showed lantern slides and transparencies back to front. These days, when all is printed from camera-ready copy, it is difficult to see what could have happened since in the page proofs the figure correctly shows a dextral shell! The only explanation I can think of is that the figure was on transparent film which became detached and was stuck back on by the sort of person I am surprised should be employed by Oxford University Press. Anyway be warned, such things can still happen.

B. Verdcourt

A COCKLE "WRECK" ON THE CHESHIRE COAST

"Wrecks" of marine molluscs occur not infrequently on the coast of south Lancashire and less commonly on the Cheshire coast also. A major "wreck" of one species only (Cerastoderma edule) occurred at the end of January 1985 when a drift-line of dead/dying cockles stretched along the shore of the north coast of the Wirral peninsula, Cheshire. This "wreck" was centred on NGR SJ278928 (Mockbeggar Wharf on maps), and was 6 to 8 ft. wide and at least 2 ft. deep. A sample (weight just over 2 kg.) held 121 large living specimens, 2 dead but still paired specimens, and 29 little ones. Some of the large specimens were measured and all were 35mm. high and 40mm. long. The smaller ones were up to 16mm. high and 18mm. long, with no intermediates. Presumably, therefore, only one age-group was very severely affected.

Along the south Lancashire coast at the same time the "wrecks" were composed of Macra corallina (Southport & Formby Point) and at Crosby M. corallina and Cerastoderma edule were both very abundant. A Merseyside newspaper described the Southport molluscs as "three inch long delicacies known as Smooth Venus" and stated that "this particular type of shellfish is normally found on South West beaches but we think that freak weather conditions lately have brought them here".

Several of my colleagues in Liverpool Museum nobly helped by bringing in samples of the "wreck" in their part of Merseyside, and I am grateful to M. Largan, G. MacInnes, I. D. Wallace and C. Felton.

Nora McMillan, Liverpool Museum

A NEW ADDITION TO THE BRITISH MARINE MOLLUSC FAUNA LIVING IN THE FLEET, DORSET

This preliminary note is to report the discovery of a colony of the prosobranch Caecum armoricum De Folin, 1869, in the Fleet, Dorset. I had been puzzled by the very protruding septum of a Caecum which I took to be C. glabrum (Montagu), when I came across the fine illustrations of caecids in the paper on the molluscs of Algeciras Bay by Van Aartsen, Menkhorst and Gittenberger (Basteria, Suppl. 2, 1984), in which C. armoricum matched what I was finding in the Fleet. Dr. Van Aartsen has kindly confirmed this identification.

The species is well described and illustrated by Van Aartsen and Hoenselaar in Basteria 48: 23-26 (1984). Previous records are from the Atlantic coast of Portugal, Spain and France as far north as the St. Malo area.

The Fleet colony appears to be restricted to a distinct and unusual micro-habitat, and a more detailed description will appear in due course.

In the meantime, the septa of Caecum specimens should be examined closely for the presence of C. armoricum or C. clarki (see Marine Recorder's Report, J. Conch. London, 31 (1984), p. 387). see 104:73 C-clarkii

Dennis R. Seaward, 4th. August 1987

OFFICIAL LISTS AND INDEXES OF NAMES AND WORKS IN ZOOLOGY

A revised and updated edition of the Official Lists and Indexes of Names and Works in Zoology has now been published. For the first time all the names and works on which the International Commission on Zoological Nomenclature has ruled since it was set up in 1895 are brought together in a single volume. Entries are arranged in four sections giving in alphabetical order the family-group names, generic names, specific names and titles of works which have been placed on the Official Lists or the Official Indexes. There are about 9,900 entries of which 134 are for works. In addition, there is a full systematic index and a reference list to all relevant Opinions and Directions. The volume is 366 pages, size A4, case-bound.

Copies can be ordered from:

The International Trust for Zoological Nomenclature, c/o. British Museum (Natural History), Cromwell Road, London, SW7 5BD, U.K. Price £60 or \$110

or

The American Association for Zoological Nomenclature, c/o. NHB Stop 163, National Museum of Natural History, Washington D.C. 20560, U.S.A. Price \$110 (\$100 to members of A.A.Z.N.)

AMENDMENT TO LIST OF MOLLUSCS COLLECTED ON 21st. JUNE 1986 IN WEYMOUTH

(Conchologists' Newsletter No. 100 [March 1987] p. 426)

I have been informed of the following changes to the list of molluscs published in the Newsletter:

Mangelia attenuata: this specimen has now been identified as Haedropleura septangularis (dead)

Nucula tenuis: this species is not considered to be present in Sea Area 16, being a mis-identification for another commoner Nucula sp., and so is withdrawn from the list.

Julia Nunn

RARE PERIODICALS AND ILLUSTRATED BOOKS on recent and fossil shells as well as special lists on conchology available with Dieter Schierenberg BV, [REDACTED], 1016 HP Amsterdam, Netherlands. Telephone: [REDACTED] - Telex: 13408 schie. Catalogues free upon request.

CHRISTMAS 1987 AND THE NEW YEAR

The Newsletter Editor sends seasonal greetings and good wishes for 1988 to every reader.

YOUR NEWSLETTER NEXT YEAR

Firstly, my thanks to all those who sent contributions during 1987. It is, of course, very helpful to have a stock of varied articles and notes available when planning the future quarterly issues. I should be pleased to have some items from Junior Members and beginners as well as the more experienced people, for there is scope in the Newsletter for material at all levels of knowledge. So please send in your articles, long or short, reports and notes during the coming year.

P. E. Negus

BOOKS FOR SALE

A catalogue of books for sale is being compiled. They belong, mainly, to the estate of the late Mrs. Margaret Brockbank and there is some urgency about the quick sale of these books. If you are interested in receiving a copy of the catalogue please send a large S.A.E. immediately to Mrs. E. B. Rands, 51 Wychwood Avenue, Luton, Bedfordshire, LU2 7HT.

A SUB-FOSSIL MONODONTA LINEATA FROM PERWICK BAY, ISLE OF MAN

Reading the recent account of the distribution of this species in Ireland served to remind me that the recovery of a single shell from a cave at Perwick Bay, Isle of Man cSC 205673 has not been published in conchological literature. The find was made by Mr. F. J. Radcliffe in 1969 when he was visiting all the 'raised beach' caves recorded in Lamplugh's Memoirs of the Geological Survey: The Isle of Man in the hope of finding early traces of human activity. (He subsequently excavated a dominantly limpet shell midden in the outer part of the cave. This was dated to 1880± 150 b.p. at Birmingham University²). The shell was recovered from a beach deposit in the innermost recesses of a very low inner cave. Similar deposits, undisturbed, underlay the midden but in the inner cave they had seemingly been churned over during mining trials likely to be of 17th. - 19th. century date. There is, however, no reason to attribute its presence to human agency. By considerable acrobatics we convinced ourselves that the beach deposit in the inner cave was some twelve feet above HWMOST, a confirmation of Lamplugh's statement that this was a raised beach cave, although there are hints that the local story of variations in sea level is less simple than was thought e.g. the lower edge of the prehistoric shell midden at Port St. Mary (just along the coast) had been encroached on at a date likely to be after 6000 B.C.

We are grateful to Mrs. N. F. MacMillan for the identification of the shell as Monodonta lineata. Its context was not precisely dateable but this note is offered as a reminder that the distribution of living creatures is not static. The shell is now preserved in the Manx Museum which also holds samples from a number of shell middens (mainly limpets) ranging in date from mesolithic to medieval.

These could be available for study but only by prior arrangement made well in advance because of limited staff availability.

1. Conchologists' Newsletter ix. 1987: 102, 37.
2. BAR Report: British Series 54 (i) 1978 Davey, P. (ed.) Man and Environment in the Isle of Man. 62-8.

Dr. L. S. Garrad, Assistant Keeper, The Manx Museum

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SHELLS AND THE ART OF CARVING CAMEOS

Cameos are carvings of a figure in relief on shell or stone. The opposite of a cameo is an "intaglio" or negative carving. The latter form is very rarely encountered in shell, but quite common in stone, typical examples being stone seals. Shell cameos were originally intended as substitutes for gemstone cameos, although shell carving has developed into an important branch of the jewellery trade. Most cameos were set in gold mounts, usually as brooches or pendants, and sometimes lavishly surrounded with gemstones or seed pearls.

Shell cameo carving began in earnest during the Renaissance when the Helmet shells (*Cassis* spp.) became available in Europe as discoverers and traders penetrated the West Indies, where they could be gathered. By the Eighteenth century cameo carving was a firmly established art in Italy, and the main centre was the town of Torre del Greco, near Naples, at the foot of Mt. Vesuvius. Traditional carvers have worked here for two or three centuries, with skills being passed down through families in what is still continuing as a healthy craft industry. Cameos are also made in Genoa and in Rome, where craftsmen can still be seen selling their wares under the arches of the Colosseum.

Cameos are made from a wide range of tropical shells. During the Renaissance period, mussels of different types were allegedly employed for the purpose and pearl-oysters (*Pinctada* spp.) have also been used. However, the finest cameos undoubtedly come from the Helmet shells (*Cassis* spp.). The main requirements of a cameo shell are three layers of colour: the outside colour, which is often carved away to reveal the white middle colour, unless it is left to suggest hair; the middle colour which is invariably white, and the ground colour, upon which the figure or head cut in the middle colour will stand in relief. The shell most favoured by carvers is *Cassis* cameo, Stimps. This species has an "onyx ground", a dark coating which may be blackish to claret-coloured, beneath a pale external layer which allows a carving to stand out well in relief. The inner lip of a large shell often provides sufficient material for several brooches. *Cassis rufa* L., commonly known as the Bull's Mouth is favoured for its tawny-red ground concealed under a white external coating. The red layer, which tends to become thinner and paler as it extends backwards, is known as a "sardonyx ground". The males of this species are generally preferred, being more substantial than females, and whole shells sometimes have cameos engraved upon them. *C. cornuta* L. gives a white figure on an orange ground, but is prone to the problem of layers separating or "doubling" under the pressure of the cutting tools. *C. tuberosa* L., has a white outside colour, a white middle colour and a brown ground, but it is only used as a substitute for *C. cameo*. The expanded pink outer layer of *Strombus gigas* L., is also employed by cameo cutters and specimens offering the greatest colour contrast between the carved figure and its background are generally preferred. Unfortunately, in the case of this particular species, the pink tint quickly fades after prolonged exposure to light.

Many of the cowries have also found favour with cameo carvers, and they enjoyed a revival at the turn of the Nineteenth Century at the School of Coral in Torre del Greco, when new colour combinations were being sought. Cypraea tigris L. is frequently used, its brown spotted and white mottled outer colour concealing a white middle colour and a brown ground. Other cowries used include: C. pantherina Lightfoot, offering a grey outer colour, a white middle colour and a dark-brown ground; C. annulus L., which has a grey outer and middle colour on a deep blue to violet ground; C. caput serpentis L., with a mottled brown and white outside colour, a white middle colour, and a violet ground; C. moneta L. which gives a golden-yellow outside colour, a matt white middle and a violet ground. Ovula ovum L. is another shell occasionally used, with its glistening white outside colour, matt white middle and beautiful port-wine ground. The shell of Nautilus pompilius L. is also used for fine carvings by Parisian carvers.

Cameo shells are generally very hard, but relatively easy to work, and because of their hardness, very fine detail can be obtained. Carvers often work from models first made in white wax, laid on a contrasting oval or circle, as desired. A round cameo is known as a "perla" and an oval one a "garbo". A piece of shell is cut to the appropriate size and mounted with a resinous cement on to a wooden "dop stick". The subject is sketched out with a pencil and the material cut away with sharp steel engraving tools. The stick is grasped in the left hand and held firmly against a steady bench with the tool resting in the hollow of the right hand. The warty projections on the top of certain shells occasionally pose problems during carving, but are often skilfully incorporated into the carvings by turning them into women's breasts or eagles' heads or anything else which suits the subject. When the carving is complete, it is carefully polished with a soft polishing material such as rottenstone, traditionally applied to a piece of lime or cedarwood.

Shell cameos are now imitated in injection-moulded plastic by many countries. The difference between the two is quite obvious, and in any case the plastic imitations are usually sold in the cheapest of settings. However, some of the most beautiful examples of true shell cameos, exhibiting the highest standards of workmanship can be seen in the collections of the Victoria and Albert Museum.

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Mark Lewis

VALENTIJN AND THE HISTORY OF SHELL COLLECTING

After reading the very interesting book of Mr. Dance "A History of Shell Collecting" I was a little disappointed that he only mentions Francois Valentijn (1656-1727) very briefly (page 187) as one of many Dutch 18th. century collectors. Nothing is said about the, for the early malaco-history highly important, conchological work he wrote. I am referring to chapter 11, 12 and 13 of the third volume of his book "Oud- en Nieuw Oost-Indiën". (Old- and New East-Indies) which was published in 1726. Later these chapters were reprinted separately (1754) and even translated in German (1773). As trivial as this work may seem in scientific point of view, it is vital for a good understanding of the Dutch shell collecting scene in the early 18th. century. In the first two chapters he describes the molluscs from the East-Indies, the West-Indies and Europe, here also he discusses all conchological literature known to him. But the most important part is chapter 13 in which Valentijn lists about 90 (!) Dutch shell collectors, starting with the famous

Rumphius. He personally visited many of these collectors and accurately mentions the most precious shells in their cabinets. At the end of this chapter he depicts 132 (in all 13 plates) of his rarest shells of which he believed were only or mostly present in his collection. I was informed by Mr. R. Moolenbeek (pers. comm.) that he recognised several of these shells in the malacological collection of the Zoological Museum of Amsterdam.

For these reasons alone, the neglect of this work in Mr. Dance's book, is a pity although I can understand that Dance can't discuss everything in full length and that the old Dutch language must be very difficult for an English student. But there is more; a very interesting passage on page 563 records the existence of a "Conchological Society" as early as 1720! To my knowledge this must have been the first club or society entirely devoted to shells and shell collecting. Only a select group of six collectors from the city of Dordrecht belonged to this society. As I am lucky to possess a copy of Valentijn's work, I will show both the original passage in old Dutch language and my translation of it in English.

Original passage

Onder deze Liefhebbers doet men iets, dat ik niet wete, dat in de andre Steden gedaan werd, te weten, dat wy ordentelyk, de eerste Woensdag in ieder Maand, 's Winters ten twee, en 's Somers ten drie uren na de middag, byeen-komen, om elkanders Cabinetten, met 'tgeen daar ondertusschen mogt by gekomen zyn, te zien, en om dan over die Liefhebbery; tot verder uitbreiding, en opheldering der zelve, met malkanderen te spreken. Een gezelschap, onder ons Ao. 1720. in de Winter ten Huize van de Heer van Segwaart begonnen; en waar in wy veel genoege vinden, gelyk het ook een klaar bewys is, dat wy uitdrukkelyk ons Werk van deze zaak maken. En dit ons gezelschap hebben wy den 4 Augst. Ao. 1723. ten Huize voornoemd ook de naam van de Liefhebbers van *Neptunus-Cabinet* gegeven; om andre Liefhebbers daar toe mede op te wekken.

"Among these dilettantes one does something, which to my knowledge has not been done in other cities, that is, that we gather orderly, the first Wednesday of every month, in winter at two and in summer at three o'clock in the afternoon, to see each others cabinets, with their possible new acquisitions, and then to speak with each other about this hobby to enlarge and clarify our knowledge of it. A company, that started in the winter of 1720 at the house of Sir Van Segwaart, and in which we find much pleasure, as it is clear evidence, that we make serious business of this matter. And we gave this company, on the 4th. of August 1723, at the house of the above-mentioned gentleman, the name "The Dilettantes of the Neptune-Cabinet", to encourage other dilettantes to do likewise".

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CAECIDAE IN FRANCE AND GUERNSEY

From shell sand taken at a number of scattered locations in Normandy, Brittany and the west coast of France I have frequently found specimens of our familiar native Caecum glabrum and C. imperforatum. Some time ago, however, I was very puzzled by two species which turned up in my shell sand samples from France. The first of these was found in 1982 in Hendaye which is on the Basque Coast at the Spanish frontier. I am greatly indebted to Dr. J. J. van Aartsen in Holland who was kind enough to identify my specimens (on the basis of the camera lucida illustrations reproduced here) as Parastrophia asturiana De Folin, 1870 (Fig. 1). It is the only European species of this genus and is known from the Basque Coast southwards and on into the Mediterranean. It is a translucent white, not too glossy, and with very fine, close growth lines.

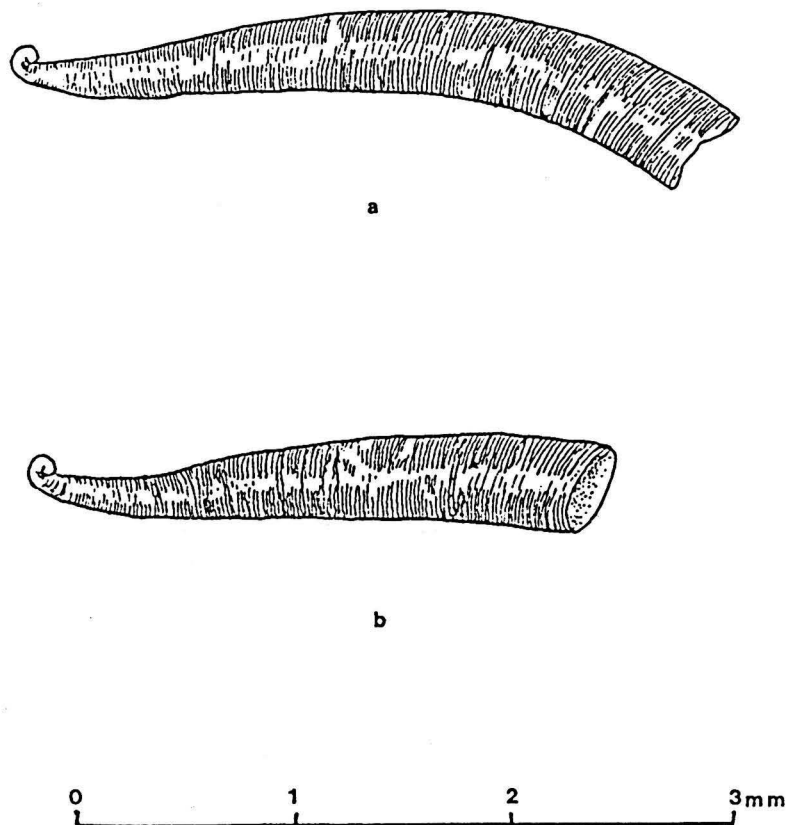


Fig. 1

Figure 1 Parastrophia asturiana De Folin, 1870

Specimens of the second unfamiliar species were taken in 1983 at Erquy which is situated about 40 kms. by road to the west of Dinard in northern Brittany. Superficially, they were very like C. glabrum except that the plug at the apical end (Fig. 2a, b) was clearly different from the rounded, button-like plug of C. glabrum. Once again it was Dr. van Aartsen who came to my rescue and identified them as Caecum clarkii Carpenter, 1858 and known from a number of localities in Brittany.

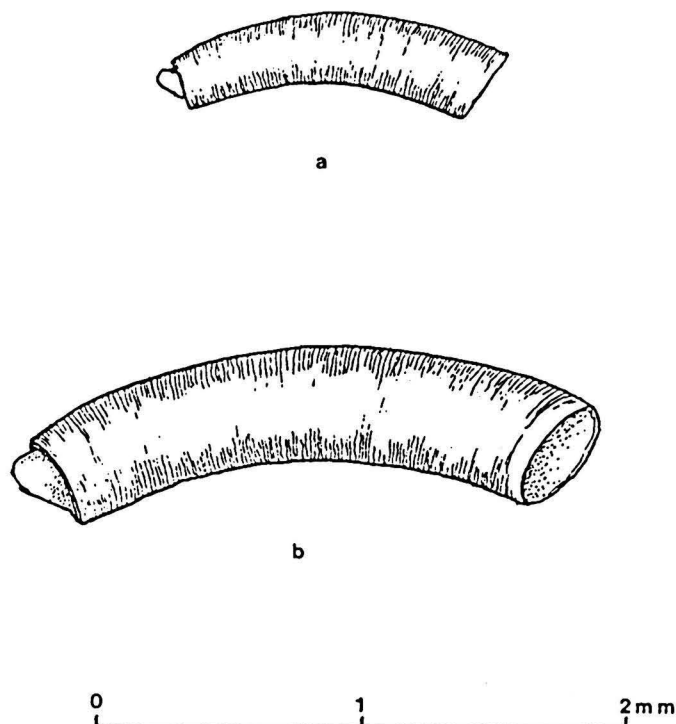


Fig. 2

Figure 2 Caecum clarkii Carpenter, 1858

A visit to Guernsey in June 1987 provided me with samples of shell sand to bring home from a number of localities in the Bailiwick. Two specimens of C. clarkii were found in material from Vazon Bay, one from L'Ancrese (Pembroke) Bay and one from Herm Island (Shell Beach). On this occasion I considered it prudent to send specimens (rather than illustrations) to Dr. van Aartsen and he was able to confirm my identification. He also very kindly sent me a photocopy of the paper by Hoeksema and Hoenselaar in Basteria in which are reported finds of C. clarkii by Hoeksema in 1981 on Herm and later in 1983 on Jersey. In my samples of Guernsey shell sand specimens of C. glabrum were also present and were much more numerous than those of C. clarkii.

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J. E. Phorson

ADDITIONS TO THE KNOWN DISTRIBUTION OF SEYCHELLES LAND SNAILS

The following is a list of the distribution of 23 species of land snails (Pulmonata and Prosobranchia) I collected in Seychelles between 13/7/87 and 24/8/87. This distribution list is intended as an update to the distributions recorded in 'The Land Snails of Seychelles; a field guide' (J. Gerlach 1987). Certain of the generic names in the following list are different from those stated in the field guide, the ones provided here are, I believe, correct.

Pulmonata: Streptaxidae

Streptaxis souleyetianus (Petit); Mahé; Congo Rouge.
Imperturbatia constans (Martens); Mahé; Morne Blanc (500m).
Priodiscus serratus Adams; Mahé; Morne Blanc (500m).
Gulella bicolor (Hutton); Mahé; Bel Air.
Edentulina dussumieri (Ferussac); Mahé; Morne Blanc (300-667m).
Raffraya maheensis (Connolly); Silhouette; La Passe.
Stereostele nevillei (Adams); Silhouette; La Passe/Glacié Noel area.

Zonitidae

Kaliella subturritula Nevill; Mahé; Morne Blanc (400-667m).

Acavidae

Stylodonta unidentata (Chemnitz); Mahé; Morne Blanc (370-667m), Mt. Coton, Praslin; Vallée de Mai, Anse Takamaka (river debris from Grand Fond or L'Amitié?).

Subulinidae

Subulina octona Bruguière; Aride island.
Subulina striatella (Rang); Silhouette; La Passe.
Lamellaxis gracile (Hutton); Aride island.
Opeas pumilum (Pfeiffer); Aride island.

Enidae

Pachnodus (Pachnodus) niger (Dufo); Mahé; La Reserve, Morne Blanc (450-667m), Congo Rouge, Mt. Coton.
Pachnodus (Pachnodus) velutinus (Pfeiffer); Mahé; La Reserve, Congo Rouge, Mt. Coton.
Pachnodus (Nesiocerastus) kantilali Van Mol & Coppo; Mahé; Congo Rouge.
Pachnodus (Nesiocerastus) ornatus (Dufo); Praslin; Anse Takamaka (river debris from Grand Fond or L'Amitié?).

Pupillidae

Pupilla microscopica (Nevill); Aride island.

Prosobranchia: Truncatellidae

Truncatella guerini Villa; Aride island.

Helicinidae

Helicina theobaldiana Nevill; Mahé; Morne Blanc (400-667m), Congo Rouge.

Cyclophoridae

Cyathopoma blanfordi Adams; Mahé; Trois Freres, La Reserve, Congo Rouge.

Tropidophoridae

Tropidophora pulchrum (Gray); Praslin; Anse Takamaka (river debris from Grand Fond or L'Amitié?).

Auriculidae

Melampus lividus Deshayes; Aride island. Praslin; Anse Takamaka.

I have found two colour forms of Pachnodus (Nesiocerastus) kantilali, one matching the description given by Van Mol and Coppois (1980): a brown/purple and white form, and pure black form. The latter has the typical paler apex and a noticeably pale lip at the mouth edge. This form was not recorded by Van Mol and Coppois but confirms their belief that the Pachnodus niger of Martens and Wiegman was a dark form of P. kantilali.

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J. Gerlach

JAMINIA QUADRIDENS, HELIX POMATIA AND HELIX LUCORUM:

THREE ODD RECORDS FROM MALTA, IN NEED OF CONFIRMATION

During a revision of the Maltese land and freshwater molluscs present in the collection of the late Arthur Blok (Hebrew University of Jerusalem), I came across three rather peculiar samples of terrestrial landsnails:

Jaminia quadridens (Müller, 1774) (HUU 36665/5)
Helix pomatia Linnaeus, 1758 (HUU 36666/1)
Helix lucorum Linnaeus, 1758 (HUU 36667/1).

All are labelled as having been collected on Malta and all were once part of the Parritt collection.

Mr. H. W. Parritt resided first in London and later on in Rottingdean, Sussex. Since 1904 until the late twenties he was a member of the Conchological Society of Great Britain and Ireland. Blok obtained the Parritt collection at an auction at Stevens (sale nos. 14713/14) in May 1931.

The collection contained quite a few lots of Maltese landsnails, however, the three species mentioned above, have never been recorded before from that central Mediterranean island (Soos, 1933; Alzona, 1971). Their presence on Malta is therefore rather doubtful. It is more than likely that we are dealing here with mislabelled material.

To clear up this situation, I would like to ask the members of the Society, who are in possession of Maltese landsnails, to check their collection for the presence of additional samples of these three species. As long as these odd records are not confirmed by other old or new records, we have to omit these species from the checklist of Maltese land and freshwater molluscs.

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WEYMOUTH DREDGING REPORT: 27-28 JUNE 1987

This year eleven members met on Weymouth quayside for a day's dredging around the various much renowned mollusc sites of the area. This was my first such trip and I had spent the previous day's train journey examining last year's lists to make sure I didn't miss anything. After a rather apprehensive night I somehow managed to make the venue by 9 a.m. There seemed to be little wind and the sky was almost completely obscured by fog. However, once the launch had been given the "all clear" I took no further note of the weather and began sorting my rather inadequate equipment. Fortunately, a few tubs and tubes and a borrowed sieve were to prove to be all that was necessary.

We then set off into the mist and soon lost sight of land, relying on our skipper and his navigation equipment to see us safely to the maerl bed off White Nothe. The boat was slowed down and then began the agonising wait for the first sample. Finally a pink mass of Lithothamnion skeletons was deposited at the rear of the deck and we set to work. First, samples were taken for home sorting and then the larger species such as Venerupis rhomboides and Venus fasciata were quickly grabbed. Once we had had our fill of these attractive but somewhat less than novel species, the sample was subjected to close examination and yielded Cantharidus montagui, Nassarius pygmaeus and the glossy green, gem-like Nucula hanleyi. Also, of general interest were two lancets (Amphioxus) which had shared their home with the molluscs. Then, after intensified interest as a result of Christine Street's find of a large Balcis alba, I found a live Cytharella smithi and felt ready to settle down to wait for the next sample.

Some way off East Portland, a diver (Bill Farnham) collected weed and rocks and brought a couple of sea hares (Aplysia) which were viewed with great interest. A second haul yielded little but a couple of Crepidula chains (and a Philine aperta for compensation) and the third contained some Zostera marina but few molluscs.

Moving on, we prepared sieves and wash buckets for our dose of the legendary black mud. It arrived in a forbidding looking sack which was cut open and the contents allowed to ooze out. Our personal samples were rendered easier to search through by washing off the finer sediment before the main body of the mud was thoroughly felt through for Akera bullata, the only large species present. Smaller species were found at home.

The final haul was taken in Weymouth Bay, a large netfull of Crepidula which took some time to empty on to the deck. The great abundance of this introduced species contrasted with that of its European relative Calyptraea chinensis which was present only in small numbers. There were plenty of live, though often damaged, Turritella communis and other larger species. Some Pyramidellids and small bivalves were found after rinsing with the hose and sifting through the finer residue, after first removing large and vicious swimming crabs (Liocarcinus depurator) which had survived their journey on the dredge in a remarkably healthy condition.

It was late afternoon by the time we got back to the quay, lunch having been eaten on the boat, and the return journey was spent sealing and packing our smelly

bags. This was necessary if they were to be stored in our places of residence (where non-conchologists were present!).

That evening, dinner was kindly provided by Graham Saunders and greatly appreciated by all. The occasion also provided an opportunity for discussion on the day's events, examination of specimens and reaching a decision on Sunday's activities.

The next morning started with a short walk along part of Chesil Beach and some grovelling among pebbles at high water mark, digging out our personal holes. The object was to find Truncatella subcylindrica and our two marine Ellobiid pulmonates, and was entirely successful. Lower down the shore, Cingula cingillus was less prominent, though present. A quick lunch was then taken in the car park before moving on to Kimmeridge Bay, where, with the permission of the Warden of the Nature Reserve, we were to record intertidal molluscs.

As we walked through the stinking black debris on our way across the bay to the appointed site, it seemed as though this might be one of the less successful localities of the weekend. However, we eventually settled down to winnowing the numerous Rissoacea out of their algal haunts and found our initial fears to be unjustified. Samples of tiny molluscs were carried back to the cars, by a cleaner and more scenic route than that by which we had arrived, and we returned to Weymouth, and thence home, fully satisfied.

The activities did not end on leaving Weymouth, however. Observation of living Rissoids was possible for several weeks later after storage in only an inch of water in the bottom of an old ice-cream tub. I also understand that Jan Light has maintained living specimens of Akera bullata and Natica catena in an aquarium since the trip, which will permit some observation of their behaviour. Finally, sorting of the various samples was necessary to fully reveal the wealth of the region's fauna.

Tim Worsfold

FIELD MEETING IN GLOUCESTERSHIRE: 24 OCTOBER 1987

Twelve members met at Frith Wood, east of Painswick in the morning and eleven at Chedworth in the afternoon. It was particularly nice to meet members who are unable to regularly attend indoor meetings - James Bourne from Devizes, Sue Davis, John and Monica Walton and Alan Bevington - as well as more familiar but no less welcome faces. We were very lucky too in having a fine and sunny day although the frosts of the previous two nights seemed to have banished most molluscs from the tree trunks.

Frith Wood (S0/87-08-) is just being acquired by the Gloucestershire Trust for Nature Conservation. It is a V-shaped wood of some 60 acres, at least part of which is believed to have originally been wood pasture - hence the name. About 200 years ago it was planted with, probably Belgian, beech. This has produced a nationally important crop of straight-boled trees and a site where natural regeneration of the beech is exceptionally vigorous. Recording was concentrated on the eastern part of the wood. 40 species of mollusca were found; some of these were species that I must have missed in a recording visit in September 1968. Others were almost certainly newcomers: a large specimen of Boetgerilla pallens and 4 Arion flagellus, new to v.c. 33, identified on the spot by Miss Stella Davies whose paper discussing this species is in press. Two species, regarded as ancient woodland indicators in Gloucestershire, Limax cinereoniger and Helicigona lapicida were found near the eastern edge of the wood which may be less replanted than the rest

of the site. A disintegrating shell suggested that Phenacolimax major may be present.

Recording on the road verge at Bull's Cross 100 metres from the wood, prior to the start of the meeting produced 17 species typical of rough verges and dry limestone walls.

The afternoon visit to Chedworth (SP/05-13) enabled us to examine the scree slope in a cutting in the Upper Trigon Grit (Bajocian, Middle Jurassic) and to record molluscs along the disused railway line nature reserve and in a small area of damp ash wood leading to the line. 34 species were found. Azeca goodalli was common in the ash wood (it also occurs in the reserve). Most of the other fauna was typical of wooded screes in this area, but a different assembly - Vertigo pygmaea, Vallonia excentrica, Nesovitrea hammonis and Candidula intersecta - was found in short mossy turf on a long-disused siding.

I thank the GTNC for permission to record on their reserves and the National Trust for permission to use the Chedworth Roman Villa car park.

David Long

PENTECOST IN ZEELAND (THE NETHERLANDS)*

During the Pentecost weekend of the year 1984 we have been in Zeeland (see Map 1). The data of the sites 12-15 is derived from 1976. On the maps 2-5 the positions of the different collecting sites are indicated.

8 June 1984

After putting up our tent on the camping ground of Zierikzee (Schouwen Duiveland) we decided to collect some molluscs before the evening meal. Our intention was to sample some pools at the north side of the dyke. But this was not allowed because the pools are situated in a protected breeding place. So we decided to sample a part of the Oosterschelde dyke at the east side of the Roggenplaat (site 1 map 2).

9 June 1984

On the north side of Noord-Beveland we first sampled a sea inlet near the Schaar van Roggenplaat (site 2 map 3). In particular, the material that has been washed ashore contained fine specimens. Side by side we found marine and land species; Assimineia grayana, Ovatella myosotis, Ovatella myosotis forma denticulata, Abra tenuis, Pupilla muscorum, Cecilioides acicula and Vallonia excentrica.

On the mudflats Peringia ulvae appeared to live in great quantities.

Two ponds situated more to the west were our next site (no. 3 map 3). Because of the location just behind the dyke we expected to find some brackish water species. Often these kind of ponds contained a mixture of freshwater and salt-water. Unfortunately we did not find molluscs in the water. But we found some land species in the growth along the waterside. From this site we went to Middelburg (the county town) to visit an acquaintance.

At the end of the afternoon we collected molluscs on the beach at the east side of the Zandkreekdam. This site (no. 4 map 3) is situated along the road to

*The Dutch version of this article appeared in 'De Kreukel' (22nd. volume, numbers 8-9, page 145-160, October-November 1986), produced by the 'Malacologische Contactgroep Amsterdam & Omstreken'.

the camping ground. The material at this site, that has been washed ashore, contained fine specimens. Such as Retusa obtusa, Assiminea grayana, Rissoa membranacea and the freshwater species Theodoxus fluviatilis and Pisidium supinum.

10 June 1984

We used this day to sample several spots on the western part of Schouwen Duiveland. It was a pity that we could reach the Inlagen at only one site. But the water was so filthy that every mollusc should die on the spot. Although we collected molluscs on both sides of the dyke near Hammen. Site 5a is the south side of the dyke and site 5b the north side. See map 2 for the locations. At site 5b we found specimens of Peringia ulvae. Afterwards we went to Schelphoek (site 6 map 2). It is a very nice scenic area. At the western side of the pond we collected specimens of the species Cerastoderma glaucum and Mya arenaria. The best way to collect these molluscs is to search with bare feet in the mud. But care is needed because of the presence of cans and pieces of broken glass in the mud. We collected most shells at a depth of 10 - 20 centimetres.

In the afternoon we went to our last sample places of that day. Respectively, the west side and east side of the Brouwersdam (sites 7a and 7b map 2). In the sand dune overgrowth (7a) we collected Candidula intersecta and Monacha cantiana. Finding so many living specimens of the species Hinia reticulata in the Grevelingenmeer, which contained brackish water (7b), was remarkable.

11 June 1984

We had planned this day so that we should be, at the beginning of the evening, on the beach between Westkapelle and Domburg at low tide. Almost every Tourist Office can give you information concerning the times of tides.

Firstly we went to Goesse Sas, on Walcheren. At this site (no. 8 map 3) we sampled a bit of the seashore at the northern side of the canal. The great quantity of doublets of the species Crassostrea angulata was striking.

In Yerseke we collected doublets of the species Crassostrea gigas from a shell pile in the harbour. Some of these with a length of 25 cm.

Thereafter we crossed Zuid Beveland in a south-west direction to collect specimens of Ovatella myosotis near Ellewoutsdijk (site no. 9 map 4). But we could hardly find them on the salt marshes.

From Ellewoutsdijk we went to the north-east point of the Kreek (site no. 10 map 5). At the spot we collected specimens of the species Cerastoderma glaucum. We found these shells, in a great quantity, on stones in the water.

At low tide we went to the beach between Westkapelle and Domburg (site no. 11 map 5). This was our last sample point of a short and nice holiday.

I also give information about the material that I collected in 1976. These find-spots are:

- 12 De Val, Schouwen Duiveland, east of the Zeelandbridge
- 13 Karnemelksehoek, Walcheren, east of Vlissingen near the former fort Zoutman
- 14 The beach between Westkapelle and Domburg
- 15 De Kreek, Walcheren south-west point, at the north side of the road Westkapelle - Zoutelande

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Species collected

Key to table symbols: Recorded: A = alive; B = dead; C = worn.

Estimated quantities: 1 = less than 5 specimens; 2 = 5-10 specimens; 3 = 10-25 specimens; 4 = 25-50 specimens; 5 = more than 50 specimens.

Specimens collected = s; Juvenile = j; Egg = e; Internal shell = i;

Fragment = f; Drifted in = d.

Collecting Sites	No	EIS grid		Collecting Sites	No	EIS grid	
		vertical	horizontal			vertical	horizontal
Zeelandbrug	1			Brouwersdam			
west side		249	083	west side	7a	237	076
				east side	7b	237	077
Noord Beveland	2			Goesse Sas	8	259	084
sea-inlet		253	074				
Noord Beveland	3			Ellewoutsdijk	9	276	076
ponds		254	073				
Zandkreekdijk	4			De Kreek			
east side		259	080	east side	10	261	052
				west side	15	262	051
Dyke near Hammen				Westkapelle-			
south side	5a	244	076	Domburg	11 + 14	258	052
north side	5b	243	076				
Schelphoek	6	242	074	De Val	12	249	084
				Karnemelkse-			
				hoek	13	269	065

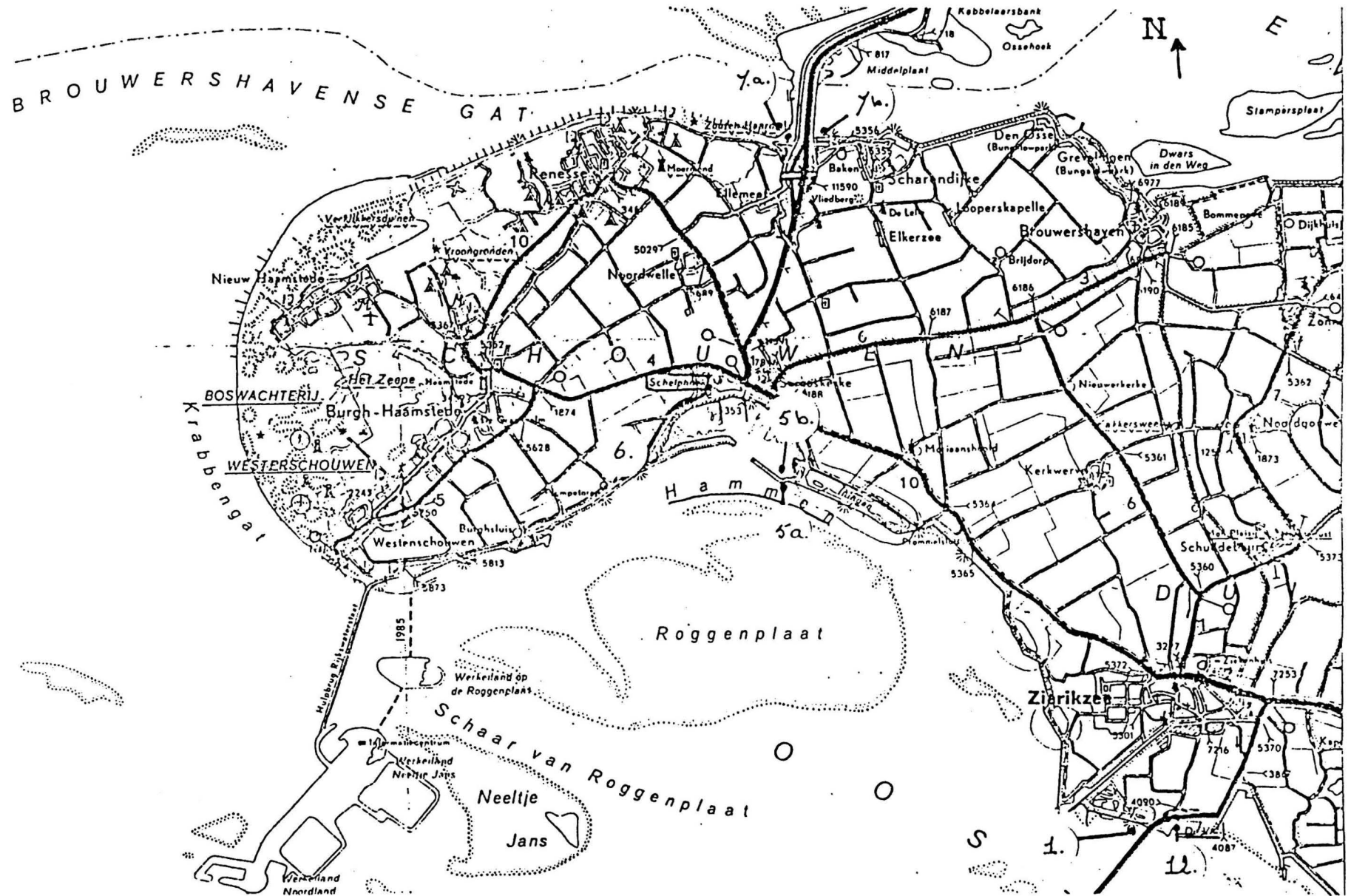
EIS = European Invertebrate Survey

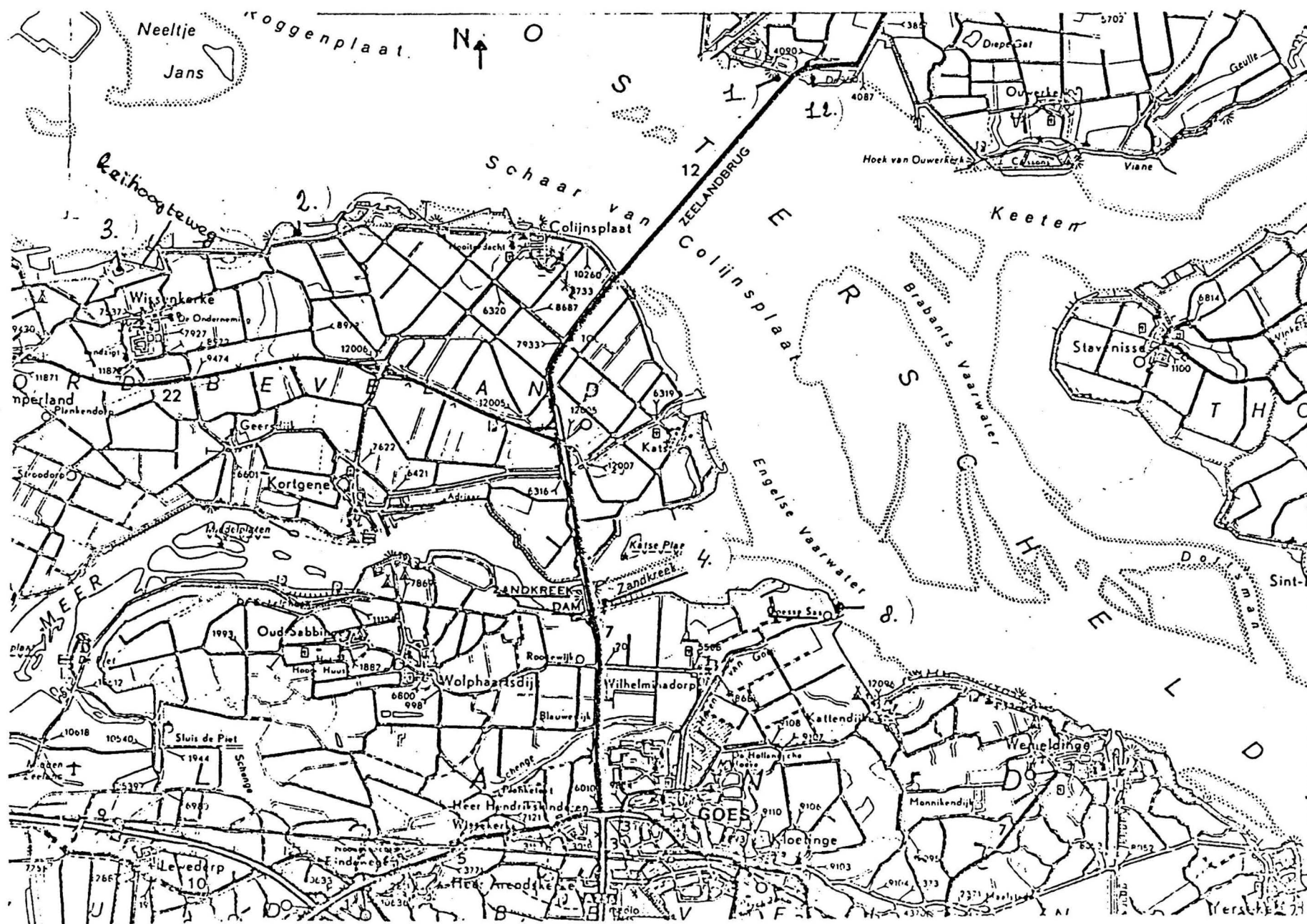


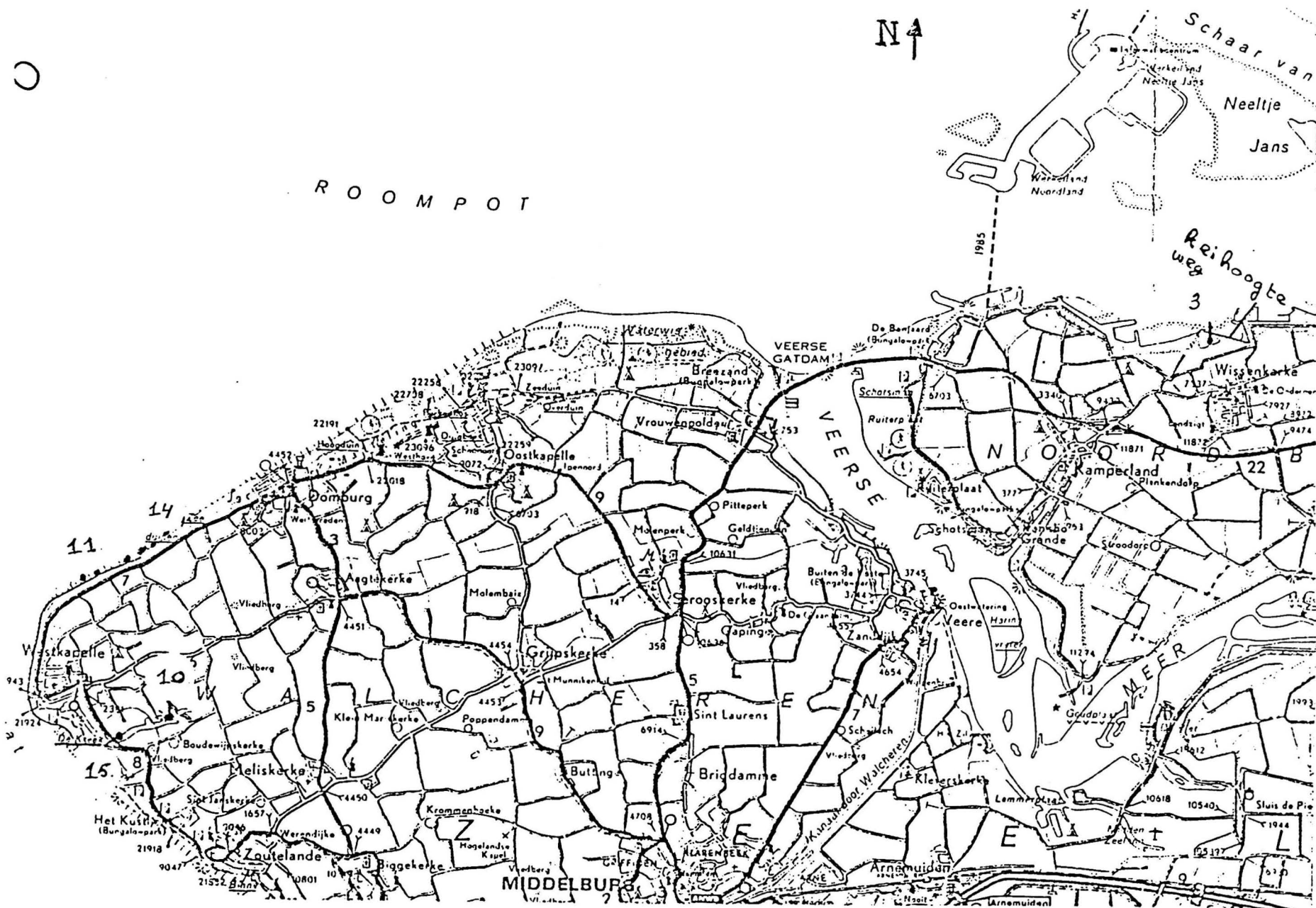
MAP 1

SPECIES	COLLECTING SITE NUMBER																
	1	2	3	4	5a	5b	6	7a	7b	8	9	10	11	12	13	14	15
<u>Gastropoda</u>																	
<u>Marine</u>																	
<u>Littorina littorea</u>	A5	A3		A4	A5	A5				A5					s	s	
<u>L. saxatilis rudis</u>	A5			A5	A3	A3			A1	A1							
<u>L. obtusata littoralis</u>				B1						A1s	B1				s		
<u>Peringia ulvae</u>		A5s		B5s		A5s		B2s	A3s	B1	B1		B1			s	
<u>Hydrobia ventrosa</u>	B2													s			s
<u>Rissoa membranacea</u>				Bs													
<u>Assiminea grayana</u>		Bs		Bs													
<u>Epitonium clathrus</u>													Bs				
<u>Crepidula fornicata</u>	B1	B1		B2					A3B1	B3s			B2				
<u>Euspira catena</u>																s	
<u>Euspira poliana</u>									B1								
<u>Nucella lapillus</u>																s	
<u>Buccinum undatum</u>													B1se				
<u>Hinia reticulata</u>									A4s								
<u>Retusa obtusata</u>				Bs													
<u>Ovatella myosotis</u>		Bs									As(Bs)					s	
<u>O. myosotis form denticulata</u>		Bs															
<u>Littorina species</u>									B1				B2				
<u>Euspira species</u>													B1				
<u>Freshwater</u>																	
<u>Theodoxus fluviatilis</u>				Bsd													
<u>Land</u>																	
<u>Cochlicopa lubrica</u>																s	
<u>Pupilla muscorum</u>		Bsd														s	
<u>Lauria c. cylindrica</u>																s	
<u>Vallonia excentrica</u>		Bsd														s	
<u>Discus rotundatus</u>		B1														s	s
<u>Oxychillus draparnaudi</u>			Bs														
<u>Cecilioidides acicula</u>		Bsd															
<u>Candidula intersecta</u>								Bs									
<u>Cernuella aginnica</u>													Bd			s	
<u>Monacha cantiana</u>								Bs				Bs					
<u>Helicigona arbustorum</u>			A1														
<u>Cepaea nemoralis</u>			A1											Cd			
<u>Helix aspersa aspersa</u>																s	

SPECIES	COLLECTING SITE NUMBER																
	1	2	3	4	5a	5b	6	7a	7b	8	9	10	11	12	13	14	15
<u>Cephalopoda</u> <u>Marine</u>																	
<u>Sepia officinalis</u>																	







REVIEW

COASTLINE - Britain's Threatened Heritage, published by Kingfisher Books Ltd. in association with GREENPEACE. Text Author: Kate Baillie; Photographer: Dennis Gilbert. Price £14.95 hardback.

"At any given moment in history it is the function of Associations of devoted individuals to undertake tasks which clear-sighted people perceive to be necessary, but which nobody else is willing to perform."

Aldous Huxley, The Doors of Perception (1954).

These words preface the penultimate chapter of 'COASTLINE' and probably crystallise the thoughts of many who have watched on their televisions the dare-devil tactics of committed GREENPEACE workers steering inflatable boats into the path of jettisoned oil-drums of toxic waste. This combination of personal folly and courage ensured public awareness of the movement. Five years on GREENPEACE is an international independent organisation with the support of over a million members in 17 countries and is recognised as an authority on ecological and environmental matters.

In 1986 the GREENPEACE vessel Beluga made a voyage around the coasts and estuaries of Britain as part of the GREENPEACE Coastal Campaign. The purpose was to assess the status of, and identify the threats to, our coastal environment. This was the first independent survey undertaken and 'COASTLINE: Britain's Threatened Heritage' is a narrative and pictorial record of the voyage.

The information is presented in an attractive, large-format hardback book of 200 pages with over 300 coloured photographs. The main body of the book is divided into 14 sections, each giving a concise profile of one particular region including the character, history and nature of the area. Well-known writers have contributed an introduction to each section - each author having special associations with the region in question. For example, Melvyn Bragg writes for Teesside, Tyneside and Northumberland; John Fowles for South Cornwall, Devon and Dorset and Dennis Potter for The Severn Estuary and The Bristol Channel. The margins of many of the pages carry small, illustrated features on particular species of animal or plant whose habitat is being undermined. Each chapter ends with a comprehensive and valuable Summary. For here is the good news - and the bad. Details of geology, climate and the natural history of the region are outlined together with information for the tourist. Less palatable are the facts presented under 'Causes for Concern'. These include pollution by pipeline and radioactive discharge, oil, agricultural run-off and direct dumping; inshore overfishing, and general threats to wildlife. Beaches which fail to reach EEC public health standards are identified.

These disturbing practices and their implications are described and analysed in the penultimate chapter by Dr. Paul Johnston, GREENPEACE scientist. The book concludes with a short chapter giving a message of hope for the future and a list of organisations, whose activities are connected with the conservation of the coast, in which the Conchological Society is mentioned.

'COASTLINE' is a book to be appreciated at several levels. The many excellent and evocative colour photographs, maps and illustrations make it a visual treat and the introductions and quotations introduce a literary element to the text. As a source of reference the summary at the end of each section provides useful information. The layout enables the casual reader to enjoy each chapter as an entity. As a whole 'COASTLINE' gives a clear and concise account of the state of British shores today.

Although the book is directed at the adult market it can also be understood and appreciated by younger readers, for it is succeeding generations who will have

to face the consequences, if any, of short-term expedience in the methods currently adopted for disposing of waste materials. Indeed, at the time of writing this review, a news item in the media has highlighted the fact that Britain is the only country still engaged in sewage-sludge dumping at sea and GREENPEACE is forecasting the possibility of irreversible damage to the North Sea in five years time if this practice is not curtailed.

Much has been written in celebration of the variety and beauty of British coasts. It is the inspiration of 'COASTLINE' and the motives behind its publication that sets it apart and prompts me to recommend it without reservation. Royalties from the sale will be donated to the GREENPEACE Environment Trust in support of the ongoing Coastal Campaign.

Jan Light

PUBLICATIONS RECEIVED

Note. All items mentioned will be held by T. E. Crowley for three months after issue of this Newsletter, so that any members who wish may borrow them during this period.

Porcupine Newsletter 3, 9 May 1987 (Hon. Ed. Roger Bamber, Marine Biology Unit, C.E.G.B., Fawley, Southampton, SO4 1TW)

Jan Light, member also of our Society, writes on New Records, with special reference to Truncatella subcylindrica. This small gastropod has hitherto been recorded from only two British localities, the Fleet lagoon and Pagham in Sussex. It has now been found at Warsash in Southampton Water by Dave Guntrip and it seems likely that a community is living along the River Hamble.

Nylon Pan Scrubbers as an Artificial Substrate is the title of an article by Garwood, Kendall and Bedford of the Dove Marine Laboratory. Pan Scrubbers have been found very effective in attracting small gastropods, as well as other forms of life and this enables the biologists to pinpoint the timing of settlement of all sorts of small intertidal organisms and to study their reproduction biology and population structure. Method of use and some results are discussed.

Fred Woodward reviews available voucher material for Janthina in the Glasgow Museums and details the considerable collections and records stored there and dating back to before 1828.

John Pratton lists four molluscan species which are candidates for inclusion in the Invertebrate Red Data Books for Brackish Water Species: they are Pseudamnicola confusa, Truncatella subcylindrica, Paludinella littorina and Tenellia adspersa. Dr. Kerney and Mr. Seaward are writing the data sheets for these species. Any hitherto unpublished data concerning them would be welcome.

Poirieria (Auckland Museum Conchology Section) 15, 3 May 1987. (Hon. Editor Ian Scott, 25 Halston Road, Balmoral, Auckland 4, New Zealand)

The Editor's remarks are well worth quoting - he says:

"Recently Dr. Tucker Abbott made a statement that he considered that only 20-25% of proposed species names were valid. In making this statement he was not only referring to the many mistakes made by workers last century with limited access to each other's work; but was also referring to recent authors. Thus when Dell sorted out the N.Z. Calliostoma (Maurea) in 1950 this 20-25% of validity probably applies to him, and we look forward to a review or update of this group in the near future.

Perhaps the area where most of us come across this is in the proliferation of

names proposed for new *Conus* species. Do we go all out trying to collect all these supposed new species or do we smugly sit back and wait for them to be synonymised at some future date?"

Babakina caprinsulensis (Miller, 1914) is a nudibranch known only from the type specimen. Margaret Morley observed a nudibranch while collecting at Matheson's Bay, Leigh and made detailed notes of it before letting it go: only later did she realise it was in all probability only the second example to be found.

Ian Scott writes an article entitled Shell Name Confusion in which he clarifies, for the beginner, some of the conventions of systematics, in particular, the need for agreement in gender and how to deal correctly with plurals and 'barbarous' names.

There are the usual reports of successful collecting trips and some interesting records of albino molluscs.

Porcupine Newsletter, Vol. 3, No. 10, August 1987

Items of particular molluscan interest include "Bivalve Culture - its promotion with Care" by B. E. Spencer of the Conway Fisheries Laboratory. This comments on the various imported types of oyster, and their effects on the environment, good and bad, including of course the unavoidable accompanying pests. Recent control orders are explained, and the importance of restricting transfers of stock by means of a licensing scheme is indicated by recent cases of disease. The author discusses the existing conditions for importation and reviews the risk of 'self reproduction'. Control involves practices such as methods of producing only sterile offspring in the cases of bivalves imported purely for fattening. In all, the impression given is that commercial oyster production is a matter of considerable complexity.

Shelagh Smith contributes an article on the rarely recognised *Onchidella celticum* (Forbes & Hanley) and other small mollusca occasionally visiting Western Scottish seas. The listing is intended to stimulate further searches, particularly by divers.

T. E. Crowley

CONCHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

1001st. (Ordinary) meeting held on 17 October 1987 at B.M.(N.H.)

In the Chair: Mr. D. C. Long with 30 members and friends present.

Deaths of members: The deaths of Mrs. A. M. Brockbank and Mrs. H. Jones, members since 1962, were announced.

Matters arising: Mr. Long had written to the President of the Yorkshire Conchological Society thanking them for hosting the May meeting; a reply has been received.

Nominations and elections to Membership: 12 Full Members

Mr. Adrian Chalkley, B.A., [redacted], Boxford, Colchester, Essex, [redacted]
Mr. Peter D. Cunningham, [redacted], By Ormiston, East Lothian, [redacted]
Miss P. Johnston, [redacted], Crewkerne, Somerset, [redacted]
Mr. Ian F. Lawler, 'Mavillrea', Dungriffin Road, Howth, Co. Dublin, Ireland.
Mr. C. N. V. Lloyd, [redacted], Pantperthog, Machynlleth, Powys, [redacted]
Mrs. D. Orman, [redacted], Bournemouth, Dorset, [redacted]

Mr. William S. Penrice, [REDACTED], Cupar, Fife, [REDACTED]
Blga. Rina L. Ramirez, Museo de Historia Natural, Universidad de San Marcos,
Apartado 14-0434, Lima-14, Peru.

Mrs. Magali Romero Sa, M.Sc., [REDACTED], Newcastle-upon-Tyne,
[REDACTED]

Mr. Gordon Rutherford, [REDACTED], Honley, Huddersfield, W. Yorks., [REDACTED]

Mr. Malcolm F. Symonds, [REDACTED], Ashted, Surrey, [REDACTED]

Mr. Jeremy A. Wood-Anderson, [REDACTED], Clifton Beach, Defense
Phase V, Karachi-46, Pakistan.

2 Junior Members

Miss Jenny Chapman, [REDACTED], Sowerby, Thirsk, N. Yorkshire.

Justin Gerlach, [REDACTED], Flore, Northampton, [REDACTED]

Lecture: 'The Post-glacial colonisation of Ireland' by Dr. R. C. Preece.

Announcements and Correspondence:

The next meeting is 21st. November 1987 when Dr. P. G. Oliver will be talking about bivalves of the Red Sea. The next field meeting is on Saturday 24th. October near Cheltenham, please let Mr. Long know if you are arriving by train. The meeting in December is an open meeting, please bring along slides of interesting places to go snailing. Mr. Fryer announced that Sea Shells of W. Australia is being offered at a reduced price; please contact him if you are interested. Tri-butyl tin has been banned from use on small boats in Britain.

Meeting closed 4.45 p.m.

Chairman

Exhibits

- | | | |
|--------------|---|---|
| D. Guntrip | - | <u>Discus rotundatus</u> with unusual shell sculpture from Birmingham Botanic Gardens |
| J. Light | - | Books of interest |
| D. C. Long | - | Papers by A. W. Stelfox and Maps associated with next field meeting |
| J. D. Nunn | - | Marine recording in Ireland |
| T. Pain | - | Western American <u>Astraeinae</u> (Mesogastropoda - Turbinidae) |
| R. C. Preece | - | Diagrams and artefacts to accompany talk |
| | - | Mediterranean <u>Anomia</u> - can you identify it and estimate its age? |
| A. J. Rundle | - | Fossils from the Oldhaven Formation of Herne Bay, Kent (to illustrate field meeting of 26th. July) |
| | - | Polythene bags and gelatine capsules for sale to members |

GENERAL NOTES

AFROPUNCTUM SEMINIUM (MORELET) IN NIGERIA

Dr. David Brown of the Department of Zoology, British Museum (Natural History) sent me a small collection of land snails collected by Dr. G. T. Ndifon of Bayero University, Kano, Nigeria. Amongst these were two specimens of Afropunctum seminum, one with the animal preserved. These occurred with Thapsia sp., Subulina angustior (Dohrn), 'Succinea' sp., Pupoides coenopictus (Hutton) sensu lato and Lamellaxis cf. gracilis (Hutton) in the University compound. As far as I am aware Afropunctum has not been recorded for Nigeria (See Verdcourt in Journ. Conch. 30: 325-327 [1981]). The animal is grey-brown and has no caudal tail thus confirming it truly has Endodontid and not Ariophantid or Urocyclid relationships. The collection has been placed in the collection of the British Museum.

B. Verdcourt

"SNAIL BOOST FOR CANCER TEST HOPES"

So ran a headline in the "Daily Express", Thursday May 21, 1987. The article reported that a substance had been extracted from edible snails (presumably Helix pomatia) and is now being used in new tests which can tell women their chances of survival from breast cancer. It can be used to reassure sufferers that their cancer is not particularly aggressive. The tests were developed by researchers at Middlesex Hospital Medical School in London. The substance extracted from the snails is applied to cancerous breast tissue and if it turns brown or red, a particular type of sugar is present indicating a dangerous cancer. The method was apparently tested on tissue stored from patients who were treated for breast cancer between 1967 and 1972, and has proved to be very reliable. The snail test is now the basis of another new research programme.

This is obviously another encouraging example of the various beneficial uses of molluscan extracts which have been applied in medicine during recent years. Undoubtedly many more await discovery.

Mark Lewis

LENGTH OF ARION ATER

The note by Nora McMillan (Conchologists' Newsletter No. 101, June 1987), suggesting that Arion ater does not grow to the enormous sizes described in the literature, was reassuring: my local slugs are not especially puny! Nevertheless, her note was clearly a challenge, and I went away to measure any particularly large slugs I could find. This proved quite difficult, since either the slug keeps moving, and goes remarkably fast when one is trying to follow it with a ruler, or it stops and contracts as soon as the ruler is brought near it.

My own measurements support Nora McMillan's view that Arion ater rarely grows to more than 2½" (approx. 6.3cm), but a few do grow larger, and are listed below:

23/6/87	Penicuik, Midlothian (NT 241598-9)	8.25cm	(3¼")
23/8/87	Eyemouth, Berwickshire (NT 936647)	9 cm	(3½")
21/9/87	Fife Ness, Fife (NO 633096)	6.6 cm	(2⅝")
10/10/87	Near Kirknewton, Midlothian (NT 112667)	8 cm	(3⅛")
"	" " " " (NT 124672)	(7 cm	(2¾")
"	" " " " (NT 127673)	(12 cm	(4¾")
"	" " " " (NT 127673)	8 cm	(3⅛")

Adrian T. Sumner

EXCHANGE WANTED

Marc Keppens, [REDACTED], B-9330 Dendermonde, Belgium, is interested in non-marine molluscs and wishes to extend his collection with foreign species (e.g. African material) and will be pleased to hear from anyone willing to exchange with him for Belgian species. Please write.

ASSISTANCE REQUESTED

Mr. Fred Woodward, Deputy Keeper, Dept. of Natural History, Glasgow Museums & Art Galleries, Kelvingrove, Glasgow, G3 8AG, writes as follows -
A colleague at Glasgow University has a research student currently investigating the life cycle of the Liver Fluke Fascicola hepatica and is particularly anxious to obtain ecological information on the snail host Lymnaea truncatula (Muller). In addition she would also like live comparative material from English localities; if anyone can help could they drop me a line?

Fred Woodward would very much like to obtain preserved material of any species of the marine opisthobranch gastropod Onchidella for the purposes of comparison. Please can anyone help? Address as above. [page 91]

IT IS PLEASANT TO RECORD that an East European member of the Conchological Society, Dr. Hildegard Zeissler, has recently received the Silver Needle Award of the Nature Protectorate for her long-continued and devoted work on the land and freshwater Mollusca.

N. McMillan

"BYNE'S DISEASE" IN OLD SHELL-COLLECTIONS

Old shell collections are often afflicted with the so-called "Byne's Disease", a destructive efflorescence, eventually destroying the surface of the afflicted shell. Usually the marine species are those affected but non-marines can also suffer. A recent paper "The Deterioration of Molluscan Collections: Identification of shell efflorescence" by N. H. Tennent and T. Baird (Studies in Conservation 30 [1985] 73-85) goes very fully into the matter and offers suggestions for treatment.

My personal experience of treating some affected shells may be of use to those in charge of molluscan collections, especially old ones. In 1955 I treated a series of important Types of a marine genus, many being badly affected. First, I boiled them for a couple of minutes. Second, set them on blotting-paper and leave to dry thoroughly. Shake gastropods well to ensure that no water remains in them. Then, following Nicholls (1934), I rolled each shell gently in my Vaseline hands, working the Vaseline thoroughly into the surface of the shell. Finally, wipe with soft cloth, and state on label with specimen the treatment you have given it.

Thirty-three years later these shells show no recurrence of the trouble (Jan.1988). It is a tedious job but worth doing with specimens of taxonomic or historic value. N.B. A mineral oil should be used.

REFERENCE

Nicholls, J.R., 1934. Deterioration of shells when stored in oak cabinets. J. Soc. Chem. Ind. 53; 1077-1078.

Nora McMillan, Department of Invertebrate Zoology, Liverpool Museum

WORKSHOP ON QUATERNARY NON-MARINE MOLLUSCA: Joint meeting of the Conchological Society and the Quaternary Research Association

The second workshop on Quaternary Non-marine Mollusca will be held on Saturday 14th May 1988 at the Archaeology Department, University of Cardiff. The workshop is intended for those people actively working on Molluscs and numbers will be limited to 30. Further details are available from Dr. J. G. Evans, Archaeology Department, University of Cardiff, P.O. Box 78, Cardiff, CF1 1XL

THE CONCHOLOGISTS' NEWSLETTER

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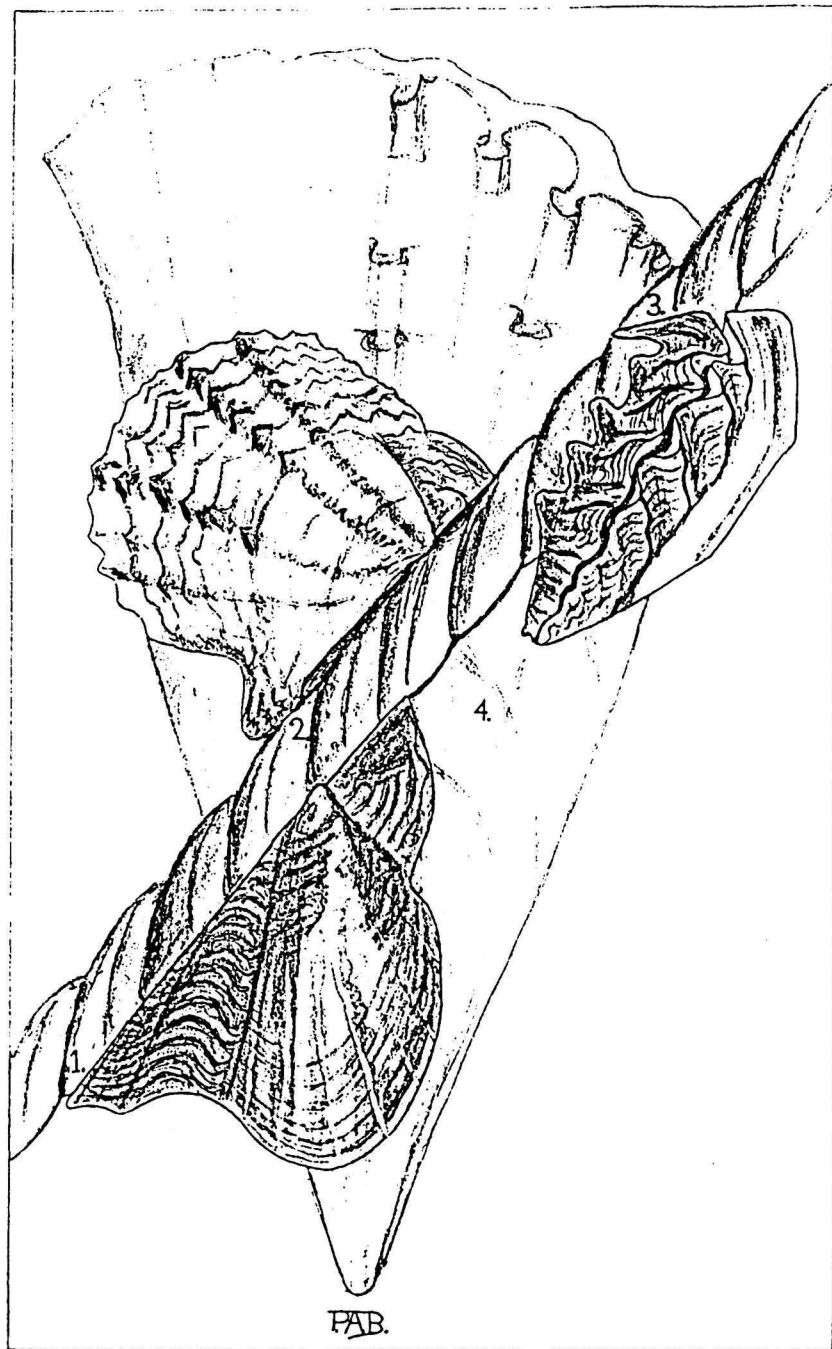
Produced by THE CONCHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

CHRISTOPHER COLUMBUS AND PTERIA COLUMBUS

In the 15th. century Christopher Columbus reached America; in the 20th. century Pteria columbus, in company with other marine fauna, reached Europe, or to be more exact, the tip of Great Britain - Cornwall. It was December 1986 when a fibre-glass speedboat was found drifting off St. Ives, and towed into the harbour. A photograph appeared in the local press and later I obtained a few coloured prints via Mr. Vince Burton. These photographs showed the boat to have been covered with a dense growth of large goose-barnacles which were scraped off and sold as food by one of the leading sea-food distributors, for such barnacles are considered a delicacy in many parts of the world. There were said to be some identification marks on the boat suggesting that it had drifted from America, that it had taken two years to reach here and that it had been used for smuggling. There the matter ended for six months. In June 1987, Dr. Paul Gainey, a biology teacher with a keen interest in marine life, re-discovered the vessel in a boat-yard in Fal Estuary; and to his amazement he found that the inside of the boat was packed with marine fauna that no-one had touched. He brought to me a miscellany of creatures with details of where they were positioned. The dominant species - present in thousands - was a fan mussel, provisionally identified as Atrina rigida, which ranges from North Carolina to South America. Its byssal threads had 'fixed' the impacted sand which at some stage had filled the boat. Another habitat was provided by the thick wire hausers on which other species of bivalves were attached by byssi, namely the Winged Pearl Oyster, Pteria columbus, usually clustered on plants on the sea floor, and the Spiny Tree Oyster, Pinctada radiata: the former is distributed from N. Carolina to the West Indies, and the latter lives on the Florida coast. Their shelly claspers embracing the hauser, were a couple of specimens of Lopha folium which has an ecomorph especially adapted to cling to fan corals (Gorgonacea). There was a single example of Musculus sp. and there were several examples of scallops, all with slightly 'hunch-backed' shells: these are probably a species of Hinnites and are currently being examined by Jan Light, to whom I am grateful for preliminary comments. Apart from the molluscs, there were barnacles (the common goose-barnacle, Lepas anatifera, and a sessile barnacle Balanus trigonus which is a circumtropical ship-fouling species), a specimen of the Gulfweed Crab, Planes minutus, or near species, and two sea-urchins probably of West Indian provenance, one of them a cidarid or 'pencil-spine' urchin.

So had there been no other evidence, the fauna alone would have indicated the origin of the drift boat! - a boat that had had its hull hollowed out to take extra cargo (illegal immigrants or drugs?) and three 120 horsepower engines (to escape from customs men?).

Due to modern systems of communication and the phasing out of wooden sailing vessels, drifting derelicts are now rare, but in the late 19th. and early 20th. centuries they were all too common, presenting hazards to shipping: between 1887 and 1893, there was a total of 1,628 sightings (Richardson, 1985). Repeated sightings of named abandoned ships, provided the first large-scale and long-term measurements



of ocean trajectories, new charts of which are given by Richardson (loc.cit.). He states that most derelicts were first reported in September to November after severe storms and were located in the Gulf Stream off the United States coast, whence they drifted eastwards towards Europe. The average time they remained adrift he reckoned as 30 days, the longest being 1,100 days. All would have accumulated varying amounts of marine fauna and many must have represented a great weight of maritime tragedy, not only relating to the first loss, but also subsequent loss of life if the hulk was the direct cause of a collision. The full story of the St. Ives speedboat will doubtless never be known, but it reminds one of past perils at sea as well as an important form of dispersal of marine life.

I am indebted to Dr. A. J. and Dr. E. C. Southward for examining some of the fauna and for drawing my attention to the paper on drifting derelicts; and to

Mrs. Tricia Burton for the drawing.

REFERENCE

Richardson, P.L., 1985. Drifting derelicts in the North Atlantic Prog. Oceanog. 14: 463-483.

Stella Maris Turk

A BRIEF NOTE CONCERNING THE TERRESTRIAL MOLLUSC FAUNA OF GREENLAND

For an international landsnail project in which all currently recognised species are being computerised according to scientific name and geographical distribution, the author was asked to help in the preparation of an up-to-date checklist of the landsnails of Greenland. Although the first landsnails have been reported from Greenland some 200 years ago (Fabricius, 1780. *Fauna Groenlandica*), follow up studies were few and more concerned with changes in the nomenclature than with additional information.

Although seven species have been reported from Greenland, most probably only four are really living there. Since the list may be of interest to those working on the fauna of Greenland, a brief review is given here.

Family Succineidae

1. Oxyloma elegans groenlandica (Møller, 1842)
Known localities: Igaliko and Kagsiarsuk, Igaliko Fjord; Sigsarglugtak; Musartut; Tunugdliarfik; Kuksuk; Itivnek; between Igaliko and Tunnundliarlik Fjord; Kapsigdlitfjord; Kapsilikfjord; Kavssinguak, Godthaabfjord.

Family Vertiginidae

2. Vertigo modesta hoppii (Møller, 1842)
Known localities: Nisik, Kuksukfjord; Igaliko; Amaraglik near Godthaab; Ekalluit; Kangerdluarsuk; Mudderbugten on Disko Island.

Family Arionidae

3. Arion fuscus Müller, 1774
A single specimen has been reported from Godthaab. It was first identified as Limax agrestis. The taxonomic status of Arion fuscus seems to be unclear.

Family Vitrinidae

4. Vitrina angelicae Beck, 1837
Known localities: Siuterursak; Godhavn (near hot springs); Napasso, Sukkertoppen.

Family Zonitidae

5. Oxychilus alliarius (Miller, 1822)
A single record is known from Frederickstal. It is possible that also Fabricius' record of Helicella nitida refers to this species.

Family Euconulidae

6. Euconulus fulvus (Müller, 1774)
Known localities: Kavssinguak, Godthaab; Skakortok; Nisik in Kuksukfjord;

Family Helicidae

7. Cepaea hortensis (Müller, 1774)

Three times a single shell has been reported: Greenland (without further indication); Igaliko; Nanortalik in stomach of the Eider Somateria mollissima!

From these data it appears that four species seem to be well established on Greenland: Oxyloma elegans groenlandica, Vertigo modesta hoppii, Vitrina angelicae and Euconulus fulvus. It is very unlikely that Cepaea hortensis is living along the West and or South coast of Greenland. The same is probably true for Oxychilus alliarius, however, there is always a possibility that it really occurs on Greenland. In that case additional records have to confirm its presence. Little can be said about the single slug reported from Godthaab. Mörch re-identified this species as Arion fuscus, however, the specific identity of the slug hiding under that name seems to be unclear.

Additional records, corrections and remarks would be most welcome.

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Henk K. Mienis

Mollusc Collection, Zoological Museum, Hebrew University of Jerusalem, Israel

SCHLESCH'S CHALLENGED ICELANDIC PISIDIUM RECORDS

The Danish pharmacist Hans Schlesch (1891-1962), who was also a keen amateur malacologist, practised some years in Iceland. He took that opportunity to collect non-marine molluscs in the Eastern part of the island. He submitted the *Pisidia* for identification to A. W. Stelfox, Dublin, and published the faunistic results in the Journal of Conchology, Vol. 16 (7), 1921, giving credit to Stelfox.

In the following number (No. 8) of the Journal appeared the text of a letter to the editor, signed by A. W. Stelfox, R. A. Phillips and Chas. Oldham, the well-known trio of the so-called *Pisidium*-club. From that letter I quote the following: "[...] Herr Hans Schlesch [...] enumerates eight species of *Pisidium*, all of which he states were collected by him in East Iceland". "It is true that the specimens upon which the records are founded have passed through our hands, but the appearance of some of them at any rate did not suggest shells from a northern latitude, and it occurs to us that Herr Schlesch may have sent us shells from some continental locality under the impression that they were really the ones he had collected in East Iceland. We wish to make it clear, therefore, that except as regards *P. casertanum*, which is a well known Icelandic species, Herr Schlesch is solely responsible for the statements that these *Pisidia* occur in the localities cited in this paper". In other words, the writers did not believe in the occurrence of so many species of *Pisidium* in Iceland and suspected Schlesch of inaccurate labelling. That the letter had an impact on malacological literature appears from the paper by Schlesch's compatriot G. Mandahl-Barth entitled "The Zoology of Iceland" (1938) in which only five species of *Pisidium* (*casertanum*, *miliun*, *nitidum*, *obtusale*, *lilljeborgii*) are accepted as Icelandic.

Was the doubt justified on scientific grounds?

When reading the letter, a crucial question arises: how can one distinguish morphologically between *Pisidium* shells of continental and of insular origin?

Stelfox, when identifying Schlesch's Icelandic *Pisidia*, fortunately preserved specimens from each locality in his personal collection. In later years, this collection went to the Canadian H. B. Herrington, who in his turn made it over to the Zoological Museum of the University of Michigan, Ann Arbor (Mich.), U.S.A., where Dr. Jack Burch kindly enabled me in 1985 to examine the Icelandic samples. It goes without saying that I agree with Stelfox's identifications, but I did not notice any particular character that might be interpreted either as continental or as insular. What struck me, further, was that the original labels written by Stelfox and/or Schlesch were not extant. All names and localities had been re-written on museum labels by Herrington and each locality name was followed by a big question mark. I presume that these punctuation marks were not added by Herrington but have been copied from the originals. They show how little faith Stelfox had in the reliability of Schlesch's records.

Faunistically, it must be kept in mind that, in the early twenties, the variability and the geographic distribution of the Sphaeriidae in the northern latitudes of Europe were only poorly known, though early authors like Mörch, Westerlund, Johansen and others had already reported some species of Pisidium in Iceland. We are now much better informed. In the Scandinavian Peninsula 19 species of Pisidium have been recorded; the British Isles host 16 species and the small Faroes archipelago, halfway between Scotland and Iceland, has 9 species. All these regions have been covered by Weichselian glaciers and could only be repopulated (by aerial dispersal!) after the withdrawal of the ice-front which started roughly ten thousand years ago. There is no reason why Iceland should have been excluded from this sphaeriid migration.

I have had the opportunity to examine the Icelandic samples of Pisidium lodged in several northern museums (mainly Copenhagen, Göteborg, Helsinki, Oslo, Stockholm) and collected by Scandinavian zoologists like Davidsson, Einarsson, Feddersen, Fristrup, Hallgrímsson, Hólm, Jónsson, Saemundson, Sigurdsson, Steenstrup, Sveinbjörnsson, Thorodson and others. Surprisingly, no less than 9 species of Pisidium were noticed viz. casertanum (Poli), hibernicum Westerlund, lilljeborgii Clessin, miliun Held, nitidum Jenyns, obtusale (Lamarck), personatum Malm, pulchellum Jenyns, subtruncatum Malm, the first three being the most frequent. Not collected by Schlesch were lilljeborgii, obtusale and personatum. Mentioned by Schlesch, but not present in the above Scandinavian museum collections are amnicum (Müller) and henslowanum (Sheppard).

In order to elucidate the doubt about the presence of amnicum and henslowanum in East Iceland, I recommend those who have the opportunity to sample freshwater molluscs in Iceland, to pay special attention to the Fljòtsdal, particularly to the fluviatile localities near Eidar and Egilsstaðir visited by Schlesch and cited in his above-mentioned paper. If required, I would be glad to identify the sampled Pisidia, especially in connection with the mapping project of northern Europe undertaken in co-operation by K. Økland (Oslo), J. Knudsen (Copenhagen), T. von Proschwitz (Göteborg), I. Valovirta (Helsinki), A. Warén (Stockholm) and the undersigned, the results of which will be presented to the Tenth International Malacological Congress, 1989, at Tübingen, Germany.

J. G. J. Kuiper, [REDACTED], 75007 Paris

BEING OF SOUND MIND

Introduction

The acquisition of specimens to form a collection is still a very widespread activity in the field of natural history. Such collections should, if properly documented, represent an archive of the flora and fauna of a given area in a particular period of time, or represent a particular group of organisms for comparative study. A collection may be small and of local significance, or be larger in scope and cover many parts of the world. The importance of any collection can usually be assessed by the standard of documentation and the care taken in the acquisition of the material. The thoughtfully collected and well documented collection is an important part of our natural heritage, and as such should be preserved for future reference. Many collectors do wish, in the long term, for their collections to remain intact and be housed in a museum or similar institution for posterity. The process of ensuring the long-term preservation of the collection, however, is often a problem not considered by the collector in his or her lifetime.

National, University and Local Authority Museums have traditionally been the major repositories for natural history collections. Unfortunately, many of our

institutions are now short of funds and are having difficulty curating, maintaining and storing the large amounts of material deposited in the past. Most institutions can now only accept material that is considered to be important, and falls clearly within a defined collecting policy.

What makes a collection important?

What makes a collection important is the care taken over its acquisition and the standard of documentation. Size is of little significance. An important collection can be very small and limited in scope, whilst a large quantity of undocumented material, even if rare, may not be important. A collection becomes important when related information associated with that material is available for future study. Common species from distant collecting areas may be just as important as rarer local material. Conversely, common material collected from specific localities within a limited area may be considered to be more important than extensive collections from farther afield.

What documentation is required?

Most collectors know that the minimum information required is the place and date of collection. Unfortunately, in many collections this tends to be the maximum amount of information included, and even this may be in a coded or short-hand form. The collector, for instance, may know the location of 'west cliff', as he or she perhaps lived close by or spent time in that locality. This type of short-hand information at best wastes time in establishing the correct locality, and at worst may make impossible the precise identification of one among many possible localities of origin. Material collected in the British Isles should always have a full grid reference, cross-referenced to vice-county. Marine material, or material of foreign origin, should ideally be cross-referenced to latitude and longitude. All material should be accompanied by the fullest possible description of the location, including habitat notes where appropriate.

Some well-known collectors, both past and present, omit the name of the collector from the data label, a practice which should be discouraged. Several historic collections housed in our museums can no longer be attributed to any particular collector as a result of this omission. Museums have been known to separate and lose the documentation involved during the acquisition of material, letters have been lost, accession registers have been in fires, even enemy action in war has claimed documentation whilst leaving collections intact. The presence of a collector's name on all labels ensures that the collection can always be attributed correctly.

The documentation of a collection should include all the information associated with the material in any way. Thus field note-books, catalogues, card-files, letters, copies of published papers, even in some cases reference books, particularly if annotated, all constitute documentation. This ephemeral type of documentation is usually kept separate from the actual collection, and, therefore, frequently does not get transferred with the collection, thus making it unavailable for future study or reference.

Where should I leave my collection to, and what should I do beforehand?

If you are intending to leave your collection to a museum or similar institution, a number of important issues should be considered and checked beforehand. The first thing to establish is which museum or institution you wish the collection to go to. A check should be made with the senior management of the institution to see if they are willing to receive the collection. Junior members of a museum's staff are often only too willing to accept items without proper thought for the future. In the long term these people will move on, perhaps leaving other members of staff

the problem of refusing the collection at a time when the donors' families are under stress, often causing further distress. Legally there is no obligation on any institution to accept a bequest of any kind, which further underlines the necessity for prior consultation.

Most museums have, or are currently producing, a published collecting policy. These policies cover both individual departments, and the institution as a whole, and lay down the areas in which the museum actively collects, as well as those in which the institution does not collect. These policies are usually reviewed every five years to take into account any changes in circumstance, such as a new building. Collecting policies will soon become a required part of all museum management policies as part of the government's scheme of registration for museums, which is being carried out by the Museums and Galleries Commission. In future, donations and bequests should only be made to registered museums, which will thus guarantee long-term care of collections for the public benefit.

The word 'museum' does not have any restrictions on its use, and private individuals may, if they so wish, set up and run a private museum. The activities of these museums are not restricted in any way, they may buy and sell material in their collections without reference to outside control. A number of private museums have been known to accept gifts and then sell them for private gain. If you intend to leave your collection to a small museum do ensure that it is properly registered. It should also be remembered that further advice can be obtained from your regional Area Museum Council. Universities and other similar institutions do not usually have any restrictions on the disposal of material left to them for scientific or teaching purposes.

Can I attach any strings to my bequest or donation?

Most museums will not accept any donations that have conditions attached. Restrictions on the way material can be used, or requirements that the material must always be on display, only restrict the use of collections, and make it difficult for the museum to develop in the future. However, it may be possible to negotiate certain limited conditions or restrictions such as those concerning confidentiality, access, loan back, and restrictions on publication of material in the collection during the donor's lifetime. The latter is to ensure that the donor has the opportunity to publish any outstanding papers relating to material in the collection before other researchers 'poach' the information.

Can I leave the collection to an institution but retain the cabinets?

Some potential donors whose collections are important, are reluctant to leave material to museums because of the value of the cabinets in which the collection is housed. This can usually be resolved either by the institution removing the collections and returning the cabinets to the donor or the donor's kin, or a market price can be agreed and the cabinets purchased as a separate item.

Will my collection be amalgamated with others in the institution?

It may be nice for the donor to have a collection left as a form of time capsule in his or her honour, but in many institutions this is totally impractical. The amalgamation of collections is usually carried out in the best long-term interests of both collections and the institution. Storage is expensive, as is staff time, and the collections must, therefore, be stored in the most convenient and least expensive manner. If a museum has six different donations of plant material, all stored separately, a search for examples of particular species or groups of species involves six different individual searches. If, however, these collections are amalgamated, only one search is necessary. All amalgamated collections can if required, be restored back to their original form provided that the donor and/or the

institutions have marked the specimens as belonging to that specific collection.

The only legitimate reasons for a museum to hold collections in perpetuity lie in the value they have as an educational resource and/or environmental data bank and in ensuring their availability for future research. Museums can no longer accept material purely as a memorial to the collector.

In conclusion, the following do's and don'ts may act as a general guide to the potential donor:

Do choose the museum or institution with care, check that it is a registered one.

Do check with senior staff that the institution is willing to accept any collections that are bequeathed.

Do ensure that all ephemeral documentation is included with the collection.

Do ensure that any specific arrangements are agreed in writing, and are acceptable to the institution and its staff.

Do offer the institution any books or other publications which you may wish to sell separately from the collection.

If possible, ensure that the collections are transferred to the institution during your lifetime, as this will help to avoid the loss of information and/or material.

Do not bequeath a collection to a museum or similar institution without their prior knowledge and agreement.

Do not include in your will any conditions or restrictions on the use of the bequest unless they have been specifically agreed in advance.

If the above guidelines are followed in their entirety, your donation or bequest will be gratefully received and your name will be preserved for posterity as a donor who thought out his donation and presented it in a proper manner for the public benefit.

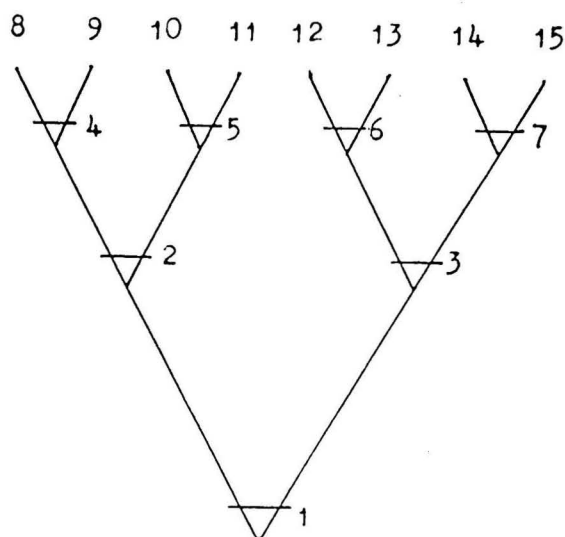
A. Norris, Leeds City Museums

SCAPHOPODS, CLADISTICS AND EVOLUTION

Scaphopods, more than any other group of molluscs I know, lend themselves admirably to the binary structure of a cladogram. Without resorting to formal taxonomic nomenclature, one can say that the class Scaphodpoa divide initially into large ones with a conical foot, and small ones with a vermiform foot. The former divide into those with longitudinal ribbing, and those with either smooth shells or concentric annulations. The latter divide into those with a continuously expanding shell, and those with a constricted aperture. These six characters, together with the primary definition of the class Scaphopoda, give us what the cladists call seven "synapomorphies", that is, characters that apply to everything occurring above. Such a simple cladogram, together with the seven synapomorphies, is illustrated in Figure 1 [page 102].

Cladogram

Synapomorphies



1. Shelled molluscs with captacula and conical shell open at both ends - Scaphopoda.
2. Scaphopods with conical foot - dentaliids.
3. Scaphopods with vermiform foot - siphonodentaliids.
4. Longitudinally ribbed shells - dentaliids.
5. Smooth or annulated shells - laevidentaliids.
6. Shell continuously expanding - siphonodentaliids.
7. Shell with constricted aperture - cadulids.

The numbers 8-15 are called 'end taxa' or things to be classified and we may continue with the list of synapomorphies as follows.

8. Dentaliids with regular symmetrical ribbing.
9. Dentaliids with irregular non-symmetrical ribbing.
10. Laevidentaliids with completely smooth shells.
11. Laevidentaliids with concentric annulations.
12. Siphonodentaliids with round sectioned shells.
13. Siphonodentaliids with pentagonal or trigonal sectioned shells.
14. Cadulids with greatest diameter in the middle of the shell.
15. Cadulids with greatest diameter near the aperture.

This is about as far as one can go without losing touch with reality. The purely logical and artificial cladogram seems to mirror, quite faithfully, the facts in the real world; but attempts to fit genera onto the end taxa produces difficulties which have not yet been overcome, while continuing anatomical studies may eventually result in a cladogram quite differently constructed.

What I want to concentrate on are the synapomorphies 4, 8 and 9. Of the longitudinally ribbed dentaliids 4, we can distinguish two distinct groups which, though based on shell characters alone, seem to form a natural clade, these are synapomorphies 8 and 9.

The first group, 8, I call the "symmetrical paucicostates" because they have few ribs, usually 4-16, which are placed with bilateral symmetry about a median dorso-ventral plane: Dentalium elephantinum, with 10 ribs, characterises this group. The second group, 9, termed "non-symmetrical multicostates" have many, usually between 20 and 60, ribs which are irregular in size and not bilaterally symmetrically placed: Fissidentalium vernelei characterises this group. So we can distinguish dentaliids with few symmetrical ribs, and those with many non-symmetrical ribs.

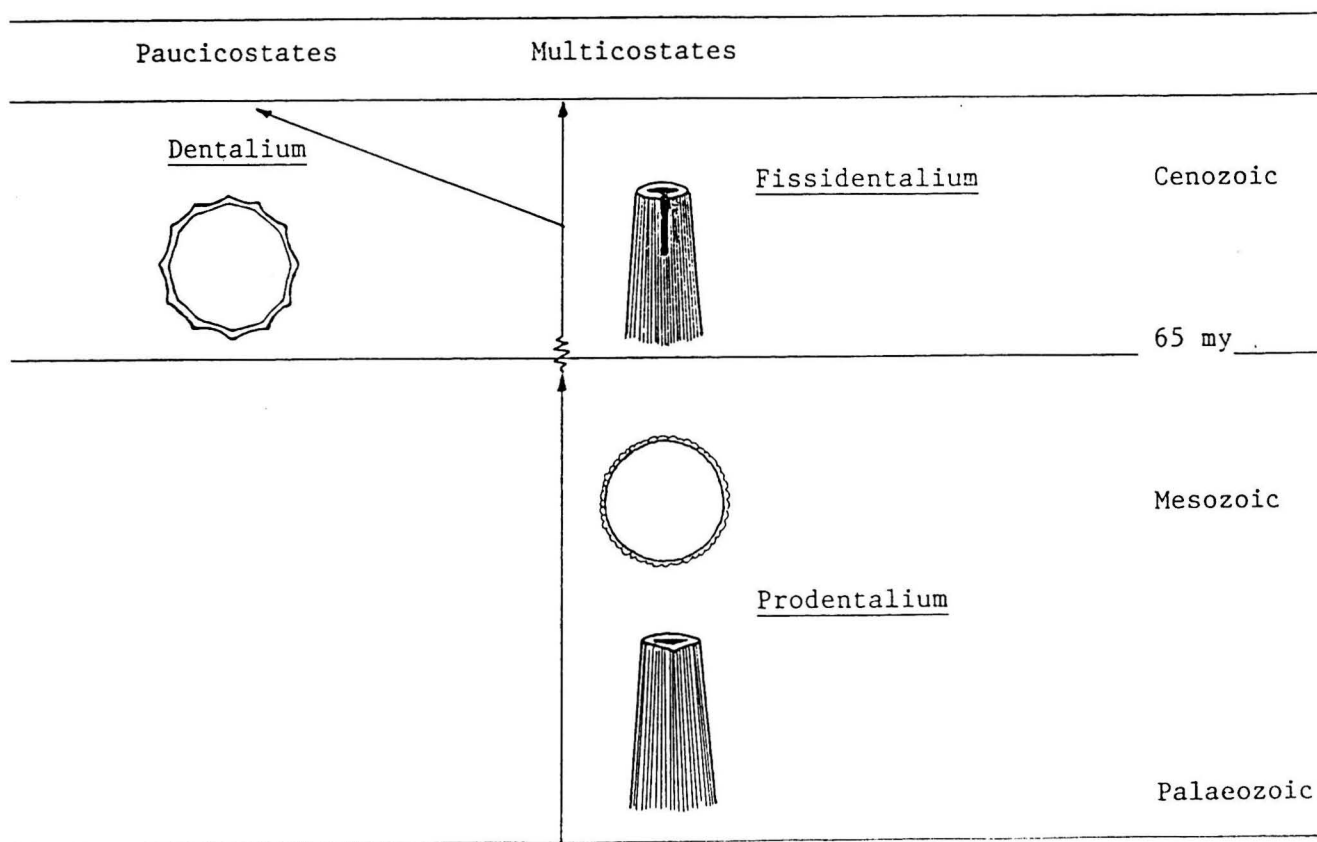
Now, I have reached the point I intended to make. If one looks at the literature on fossil scaphopods one sees that the name 'Dentalium' is used right back to the Devonian at 380 million years; while the name 'Fissidentalium' does not appear until the beginning of the Cenozoic around 65 my. Therefore one might be forgiven

for believing that Dentalium was geologically older than Fissidentalium and that the latter derived from the former during Eocene times. But we see a different picture when we put down our books and look at the fossil scaphopods themselves; for then it is apparent that the central stock of ribbed scaphopods are those in the non-symmetrical multicostate group. In fact, among the earliest of these is the 'giant' Carboniferous scaphopod Prodentalium; a genus with numerous irregular riblets, some species of which may have reached a foot in length. Small multicostates then occur all through the Mesozoic, getting bigger in the Cretaceous; and, at the beginning of the Cenozoic, they acquire a long apical fissure - Fissidentalium which continues to the present day.

Thus we see that all through the long geological history of the scaphopods, the dominant ribbed forms are the multicostates with non-symmetrical ribbing: that the Prodentalium - Fissidentalium sequence is the main stock of the ribbed dentaloids, while symmetrical paucicostates, like Dentalium and its allies, do not appear before the Miocene period at 20 my.

With this in mind, one can look at a Carboniferous Prodentalium, an Eocene Fissidentalium from the Bracklesham Beds, and a recent Fissidentalium vernelei and see the continuity of them all. Then look at a Dentalium elephantinum and see how very different it is; remembering that it is a late off-shoot of the main Prodentalium - Fissidentalium lineage. In the context of the whole geological history of the scaphopods, Dentalium elephantinum is untypical and not characteristic of the class Scaphopoda. Figure 2 summarises the geological relations of these groups, but only in a broad sense. There is much more to the geological history of the scaphopods than figure 2 shows, since the earliest undoubted scaphopod is a smooth Laevidentaliid from the Middle Ordovician with not a trace of longitudinal ribbing. Synapomorphy 5 is another story which runs parallel to that of the longitudinally ribbed dentaloids.

Figure 2



Thus, we have a practical example of the confusion that can result from calling all scaphopods, with large shells and longitudinal ribbing, 'Dentalium'. The genus Prodentalium Young has been available since 1942 for Palaeozoic and Mesozoic multi-costates: Fissidentalium since 1885.

C. P. Palmer

ROCK BORING LAND SNAILS

The concept that Land Snails can bore into limestone rock has interested me, since reading in a number of books on Molluscs that three species, Helix aspersa, Cepaea nemoralis and Cepaea hortensis have this ability.

Weston Big Wood in Portishead, is an ancient woodland where there are many natural Carboniferous Limestone outcrops of rock, which have remained undisturbed for centuries. In these outcrops are several helixigenic cavities with circular entrances to tubular holes which are bored upwards into the rock. These circular hibernacula are occupied by living individuals of Cepaea nemoralis, Cepaea hortensis and Helicigonia lapicida.

Several theories have been put forward that the snails excavate these holes by rasping the surface of the rock, aided by the mucus secreted from their foot and the rotation of their shells.

If successive generations of snails have occupied these holes, these sites are hundreds of years old, and need to be protected. The 'snail holes' in the wood are not occupied by Helix aspersa, this species appears to favour more exposed sites and occupies larger holes, with a diameter of more than 1.5cm.

Helixigenic cavities and the sites where they are found are not very common, and the behaviour of the species that occupy these circular hibernacula is certainly intriguing, and requires further research.

As a new member of The Conchological Society, I would be very interested if any other members have observed this phenomenon, and would like to hear from anyone who knows of other sites in this country. I would be pleased to supply further details of how to identify these holes (they are definitely not in crevices in the rock), also other information about my continuing research into the species of Land snails that bore holes into limestone rock.

Please contact: Susan Davies, [REDACTED], Portishead, Bristol, [REDACTED]

SLUGS IN JERUSALEM SEEM TO BE FOND OF MILK TOO!

Not so long ago one of my colleagues at the Hebrew University, Mrs. Mary Rosenthal, told me an odd story about some slugs. Almost every night a number of slugs enter her house through an opening under the front door. From there they crawl almost straight ahead to the cat's milk bowl. When they arrive at the bowl, they crawl over the rim and close together, almost side by side, they start to sip noisily from the milk.

How incredible the story sounds; I knew at once that I had read before about such behaviour. However, at the very moment I did not remember where and when. We came to a deal: Mary would bring some of the milk-loving slugs for identification to the university, while I would look for previous records in the literature.

When I met her again several days later, the slugs were already waiting for me. They turned out to belong to Limacus flavus (Linnaeus, 1758), varying in length from 3 to 10 cm and all heavily infested by the slugmite Riccardoella limacum (Schranck, 1776).

In the meantime I had traced also two previous records. I knew beforehand that in order to find earlier records I had to look for them either in Taylor's classic "Monograph of the land and freshwater mollusca of the British Isles": still the best source for the most interesting stories, or in our own "Conchologists' Newsletter". Both guesses turned out to be correct.

Taylor (1902: 38) wrote about the food of Limax maximus Linnaeus, 1758 among others the following line: "It evinces a great preference for kitchen refuse, and shows especial partiality for custards, milk, bread, raw and cooked meats, and other articles of human food,"

A more spicy report concerning Limax maximus competing with Felis domestica for the daily milk, was published by Noel Jackson (1981: 295) in the Conchologists' Newsletter. Here too a slug returned regularly to a cat's bowl in order to lap from the milk. In that case, however, Noel Jackson was dealing with a single specimen of Limax maximus, while in Jerusalem Mrs. Mary Rosenthal was confronted almost every evening with up to ten milk-hungry specimens of Limacus flavus.

I do not know whether milk forms a new food item for L. flavus. It is not mentioned in Taylor's Monograph (1903: 81), however, from his statement that "It is an active and voracious species, feeding greedily upon bread, cooked meat, and vegetables, and many kinds of table delicacies. It is also partial to cream, butter, flour, and even soap,", one may expect that snails, which are fond of cream and butter, will show a similar interest in milk.

I should like to thank Mrs. Mary Rosenthal for sharing her interesting information.

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CONCHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

1003rd. (Ordinary) meeting held on 12th. December 1987 at B.M.(N.H.)

In the Chair: Mr. D. C. Long with 40 members present.

Nominations and elections to Membership: 1 Full Member
Anne Sheehan, B.Sc.(Hons.), [REDACTED], Middlesbrough.

Lecture of the Day: Open meeting with the theme 'Places to go looking for molluscs'. There were many contributors to the slide show.

Announcements and Correspondence: Members were reminded that their subscriptions are due on the 1st. January. The dates for meetings in 1988 are 16th. January,

20th. February, 19th. March, 16th. April, 21st. May, 15th. October, 19th. November and 10th. December.

Meeting closed 4.45 p.m.

Exhibits

- | | |
|------------------------|--|
| J. F. M. de Bartolomé | - Places to go collecting Molluscs (Slides) |
| E. O. Bishop | - Ronald Searle's view of snails (book) |
| | - Giant <u>Achatina marginata</u> (Swainson) from Ibadan, Nigeria |
| | - Some marine queries |
| J. Chatfield | - Photographs of the 1st. Malacological Congress by J. Kuiper |
| | - Photographs of dissection of <u>Oxyloma sarsi</u> from Reims by C. Stevanovitch |
| | - A new book on Swedish Woodland Faunas by H. Waldén |
| | - Publications from the Gilbert White Museum |
| D. Guntrip | - Looking for snails in the Rhododendron bushes of Bedfordshire |
| D. T. Holyoak | - <u>Cryptazeca</u> (Cochlicopidae) (slides, shells and publications) |
| J. Light | - Molluscs dredged from the Clyde sea area |
| Dr. J. Llewellyn-Jones | - <u>Patella</u> species and their identification (slides and shells) |
| Mr. J. Llewellyn-Jones | - Shell cards and Victoriana |
| | - A book on 'Working with Snails' by B. Bexley, Essex Curriculum Extension Project |
| D. C. Long | - Australian Neogene fossils (slides and shells) |
| P. E. Negus | - Cretaceous ammonites from Folkestone |
| C. P. Palmer | - Fossil larval shells |
| T. Pain | - Genus <u>Tomocyclus</u> Crosse & Fischer 1872 (Prosobranchia-Cyclophoridae); four species from Alta Vera Paz Province, Guatemala |
| T. & C. Pain | - Looking for Molluscs on the Isles of Scilly (slides) |
| E. G. Philp | - Some Kentish Molluscs (including tetrad maps of Kent) |
| R. C. Preece | - Excavations of Quaternary site at Holywell Coombe, Folkestone |
| | - <u>Viviparus</u> shells and opercula from the Lough Neagh Clays (Oligocene) |
| D. R. Rands | - Slides of Conchological Society field meetings 1987 |
| E. B. Rands | - Slides of some molluscs collected on these field meetings |
| J. Reynolds | - Molluscs in comics and books |
| A. Rundle | - Preparation of non-marine shell-kits |
| J. Sawyer | - Looking for marine shells at Goa, India (slides and shells) |
| M. B. Seddon | - Looking for Helicidae in Yugoslavia (slides and shells) |
| B. Verdcourt | - <u>Anostoma</u> sp. from Goyas State, Brazil |
| M. Willing | - The cockle industry of the Gower, S. Wales |

1004th. (Ordinary) meeting held on 16th. January 1988 at B.M.(N.H.)

In the Chair: Mr. D. C. Long with 41 members present.

Deaths: Mr. Appleby, a member since 1973, died on 12th. December 1987.

Mrs. Crowley who was a member for many years and a regular supporter of indoor meetings died on 24th. December 1987.

Nominations and elections to Membership: 2 Full Members

A. G. Smith, B.A., [REDACTED], Stapleton, Bristol, [REDACTED]
R. A. Cadwalladr, B.A., Department of Zoology, Pembroke Street, Cambridge
1 Family Member

Mrs. D. A. J. Taylor, [REDACTED], Leighton Buzzard, Bedfordshire, [REDACTED]
(elected to join Sq. Ldr. Taylor who is already a Full Member)

Lecture of the Day: Dr. M. P. Kerney on 'Mapping Non-marine Mollusca in Britain'

Announcements and Correspondence: Members were reminded that their subscriptions were due on the 1st. January. The dates for meetings in 1988 are 20th. February, 19th. March, 16th. April, 21st. May, 15th. October, 19th. November and 10th. December. The February lecture by Dr. B. J. Smith will be on Australian Non-marine Mollusca. Members are invited to attend a Malacological Society meeting on 'Gastropod Feeding Behaviour' held on 25-26th. March at Manchester University; details available from the Secretary.

Any other business: Members were told of proposals to develop a marina near The Fleet, Weymouth; members were encouraged to write to the Borough Council objecting about potential disturbance to a nationally important molluscan site. Mr. Woodward asked for specimens of Lymnaea truncatula to provide material for a student who is studying them at Glasgow University; material can be sent to him at the Museum.

Meeting closed 4.45 p.m.

Exhibits

- | | |
|---------------|---|
| I. Killeen | - Maps of non-marine Mollusca in Suffolk |
| | - Distribution Map of Conchological Society members in Great Britain |
| Mrs. J. Light | - The Brockbank 'Melon' |
| D. C. Long | - Non-marine mollusc guides and Maps |
| C. P. Palmer | - Shell structure of a cadulid scaphopod |
| T. Pain | - Genus <u>Rhiostoma</u> Benson, 1860 (Prosobranchia-Cyclophoridae) |
| A. Rundle | - Book on Brazilian Seashells |
| F. Woodward | - Type of <u>Unio musurus</u> Spengler, 1793 which was used to hold artist's gold paint |

1005th. (Ordinary) meeting held on 20th. February 1988 at B.M.(N.H.)

In the Chair: Mr. D. C. Long with 35 members and friends present

Deaths: Dr. John Hanley, a member since 1982, died on November 18th. 1986.

Matters arising: A letter from the President about the proposal to sell -off National Nature Reserves was published in the Times on 25th. January 1988.

Nominations and elections to Membership: 2 Full Members

Mr. J. Brown, [REDACTED], Coventry, [REDACTED]

Mr. B. Kirk, [REDACTED], Hessle, North Humberside, [REDACTED]

Lecture of the Day: Dr. B. J. Smith on 'Australian Non-marine Molluscs'

Papers read: (1) 'A pearl from the West Runton Freshwater Bed (Cromerian)' by R. C. Preece.

(2) 'Systematics and biogeography of some western European Clausilia (Gastropoda, Clausiliidae)' by D. T. Holyoak & M. B. Seddon.

In addition, on behalf of the Publications Committee Dr. Holyoak read abstracts of papers by P. A. Maxwell, K. R. Smythe, and A. Arthur & F. Fernandez.

Announcements and Correspondence: Members were reminded that voting forms should be sent to Dr. Seddon by 12th. March 1988. Only members who have paid their current subscriptions are entitled to vote. A workshop on Quaternary non-marine Mollusca will be held on 14th. May 1988 at University College, Cardiff (see March Newsletter for more details). Members are invited to attend a Malacological Society meeting on 'Gastropod Feeding Behaviour' held on 25-26th. March at Manchester University; details available from the Secretary. Letters have been received from two people

who are interested in exchanging shells; details are available from the Secretary. The Société Internationale de Conchyliologie will be holding their annual shell collectors' meeting at Lutry near Lausanne in Switzerland on Saturday 18th. and Sunday 19th. June 1988.

Meeting closed 4.44 p.m.

Exhibits

- B. Colville - Camaenid Land Snails from Central and Western Australia
- D. C. Long - Photographs and papers on Australian Land Mollusca
- T. Pain - Genus Astralium Link, 1807 (Prosobranchia-Turbinidae) Australian species
- E. B. Rands - Books for sale from the Late Mrs. Brockbank's Library
- E. B. Rands - Order form for Plastic Boxes
- M. B. Seddon - Letter from R. C. Alvey requesting help with identification

PUBLICATIONS RECEIVED

Note. All items mentioned will be held by T. E. Crowley for three months after issue of this Newsletter, so that any members who wish may borrow them during this period.

Nature Conservancy Council: 13th. Report: 1 April 1986 - 31 March 1987

This book, in the now familiar format, contains an extraordinary variety of information most systematically set out and well illustrated. The general impression one gains is of steady progress in many directions. The opinions of the NCC in its efforts to defend 'the environment' from encroachment seem to carry more weight than in past years and the Council is more often consulted in the early stages of planning where the countryside, or wildlife, may be involved. Plenty of battles are naturally still to be fought, and will be for many years, but the general trend is undoubtedly in the right direction. The likelihood of serious damage resulting from major works such as the channel tunnel and the afforestation in Caithness and Sutherland will certainly be diminished by the watch which is now being kept over these potentially dangerous developments. The report believes that we are at the beginning of a new era in the preservation of what is good in our surroundings.

It is notable that Holywell Combe, where geological deposits of national importance occur, and which would be destroyed by the original channel tunnel proposals, will now be saved, at least in part, and Eurotunnel has agreed to fund a multi-disciplinary research project to obtain full scientific information from deposits likely to be lost. This work will be co-ordinated, with NCC support, by Dr. Richard Preece, who is an officer of our Society, and it will eventually be published as a monograph.

T. E. Crowley

SOME NEW BOOKS

Weichtiere by V. Pflieger published in 1984 by Artia of Prague, Czechoslovakia.

This richly illustrated book on land and freshwater molluscs of Europe was first published in Czech and later translated into German. Originating in eastern Europe, the book has a number of species not illustrated in other titles written in western Europe. After a short introduction, the main part of the book consists of

photographic plates of species in systematic order with their text on the facing page, so it is easy to use. The photographs are realistic, often including several specimens taken at different angles and the photographs are reproduced to a good size. The plates are based on the larger snails but line drawings of some of the smaller species are also given in the text. For the beginner, there is a key to families.

If you are not wishing to revise your German, this book has been translated into English and expanded to include illustrations and descriptions of western European species and a new key. It is being published in this country by Hamlyn during 1988 and the Society will receive details from the publishers.

Collins Field Guide to Freshwater Life by R. Fitter and R. Manuel. Collins 1986. ISBN 0-00-219143-1

A broadly based book to help the naturalist identify plants and animals of freshwater. It first includes keys to the major groups which are then treated systematically in more detail. Molluscs make up Chapter 19 consisting of 14 pages of text and line drawings with some additional colour photographs of living freshwater molluscs of selected species.

After a general introduction to gastropods and bivalves there are keys to genera followed by individual descriptions of species with line drawings immediately alongside. In a book designed for the general naturalist and student rather than the specialist, the species are not complete for the British fauna and understandably Pisidium is not considered at species level apart from the large and distinctive P. amnicum. This brevity is necessary to cover freshwater plant and animal life under one cover.

Faunavard I Skogsbruket 2. Den lagre faunan by H. W. Waldén 1986. ISBN 91-85748-44-7

This is a book on invertebrate animals of woodland habitats in Sweden. It is in Swedish (which I do not read) but has many illustrations in the form of photographs of animals and habitats, line drawings, distribution maps and an English summary. The book is strongly ecological discussing the effect of climatic, soil and other factors on the distributions of species with specific examples. The ecological section is followed by systematic accounts and illustrations of the species in each group. Molluscs included are: Acicula polita (Hartmann), Catinella arenaria (Bouchard-Chantereaux), Succinea oblonga (Draparnaud), Cochlicopa nitens (Gallenstein), Truncatellina cylindrica (Ferussac), T. costulata (Nilsson), Vertigo moulinsiana (Dupuy), V. modesta arctica (Wallenberg), V. geyeri (Lindholm), V. genesii (Gredler), V. angustior Jeffreys, Lauria cylindracea (Da Costa), Spermodea lamellata (Jeffreys), Zoogenetes harpa (Say), Ena montana (Draparnaud), Clausilia dubia C. Pfeiffer, Balea biplicata (Montagu), Bulgarica cana (Held), Trochoidea geyeri (Soos), Perforatella bidentata (Gmelin), P. incanata (Muller).

There is briefer coverage of Carychium tridentatum (Risso), Vertigo ronneyensis (Westerlund), V. extima (Westerlund), Acanthinula aculeata (Muller), Vitrea crystallina (Muller), V. contracta (Westerlund), Nesovitrea petronella (Pfeiffer), Aegopinella pura (Alder), A. nitidula (Draparnaud), Clausilia pumila Pfeiffer, C. cruciata Studer, Bradybaena fruticum (Muller) and Euomphalia strigella (Draparnaud).

The last part of the book concerns arthropods. A final section classifies the species into categories (given in English) as extinct, endangered, vulnerable, rare, requiring caretaking and borderline cases. Endangered molluscs in Sweden are listed as: Acicula polita, Vertigo moulinsiana, V. modesta arctica and Bulgarica cana, while 10 species are listed as vulnerable, 9 as rare, Perforatella incarnata in need of caretaking and 13 as borderline. There is a two page English summary at the end

of the book. The woodland invertebrate fauna was, until recently, well preserved in Sweden, especially in the sparsely populated north. Forestry practices are causing a change, especially clear felling which eliminates primary woodland species, removal of dead trees and logs, replanting with conifers, drainage of wet areas and pollution, including acid rain, are all reducing the fauna. Conservation measures are now necessary and identification of species which are threatened together with methods drawn up for conserving them.

June Chatfield

GENERAL NOTES

Bulletin of Zoological Nomenclature, Volume 44 (1987) Parts 3 and 4

APPLICATIONS

Comment or advice on these applications is welcomed for publication in the Bulletin and should be sent to the Executive Secretary, ICZN, c/o British Museum (Natural History), Cromwell Road, London, SW7 5BD, U.K.

Avicula gryphaeoides J. de C. Sowerby, 1836 (Mollusca, Bivalvia): proposed conservation

Gloria Lee. Department of Geological Sciences, University College London, Gower Street, London, WC1E 6BT, U.K.

Abstract. The purpose of this application is the conservation of the specific name of a fossil bivalve Avicula gryphaeoides J. de C. Sowerby, 1836 by the suppression of the unused senior primary homonym Avicula gryphaeoides Sedgwick, 1829.

Haminoea Turton & Kingston, 1830 (Mollusca, Gastropoda): proposed confirmation of original spelling

Riccardo Giannuzzi-Savelli. Via Mater Dolorosa 54, 90146 Palermo, Italy.

Abstract. The purpose of this application is the confirmation of the original spelling of Haminoea Turton & Kingston, 1830. Throughout the literature both this generic name and the incorrect subsequent spellings Haminaea Leach, 1847 and Haminea Gray, 1847 have been used, causing nomenclatural confusion.

OPINIONS

Opinion 1455 Clausilia Draparnaud, 1805 (Mollusca, Gastropoda): Pupa rugosa Draparnaud, 1801 designated as type species

Opinion 1456 Ammonites (currently Euaspidoceras) perarmatus J. Sowerby, June 1822 (Cephalopoda, Ammonoidea): conserved despite the senior primary homonym Ammonites (currently Peronoceras) perarmatus Young & Bird, [May] 1822

Official Lists and Indexes of Names and Works in Zoology

A revised and updated edition of the Official Lists and Indexes of Names and Works in Zoology has been published. For the first time all the names and works on which the International Commission on Zoological Nomenclature has ruled since it was set up in 1895 are brought together in a single volume. Entries are arranged in four sections giving in alphabetical order the family-group names, generic names, specific names and titles of works which have been placed on the Official Lists or the Official Indexes. There are about 9,900 entries of which 134 are for works. In addition, there is a full systematic index and a reference list to all relevant Opinions and Directions. The volume is 366 pages, size A4, casebound.

Copies can be ordered from: The International Trust for Zoological Nomenclature, c/o British Museum (Natural History), Cromwell Road, London, SW7 5BD, U.K. Price

£60 or \$110, or The American Association for Zoological Nomenclature, c/o NHB Stop 163, National Museum of Natural History, Washington, D.C. 20560, U.S.A. Price \$110 (\$100 to members of A.A.Z.N.)

PAPERS RECEIVED

Inventaire des Sphaeriidae de France, J. Mouthon & J. G. J. Kuiper, Inventaires de Faune et de Flore, fasc. 41, 1987, Museum National d'Histoire Naturelle.

A review of the distribution of the genera Pisidium, Musculium and Sphaerium in France, with maps and a table which reveals that about 10 or 11 Departments of France lack records of this family. Perhaps this will be an incentive to English collectors when on holiday in France?

Pisidium maasseni n. sp. a new species from Lake Prespa, Yugoslavia (Bivalvia, Sphaeriidae) by J. G. J. Kuiper, Basteria 51, 163-165, 1987.

De verspreiding der Sphaeriidae in Nederland, by J. G. J. Kuiper, Basteria, 50, 155-176, 1986.

The Sphaeriidae of Australia, by J. G. J. Kuiper, Basteria, 47, 3-52, 1983.

Sphaeriiden (Mollusca, Lamellibranchia) aus dem Känozoikum der Türkei, by J. D. Becker-Platen and J. G. J. Kuiper, Geol. Jb. B33, 159-185, Hannover 1979.

The above papers are available to anyone interested, from the Newsletter Editor providing postage is refunded if they cannot be collected at a meeting of the Society.

THE MALACOLOGICAL SOCIETY OF LONDON - JOURNAL OF MOLLUSCAN STUDIES

Reprint now available. Supplement 12A. Proceedings of the Second Franco-British Symposium on Molluscs (Edited by Alan Bebbington). 227 pages, including 36 papers and 12 abstracts of posters. First published December 1983.

Papers on terrestrial, freshwater and marine molluscs include subjects such as behaviour, ecology, evolution, neuroanatomy, functional morphology, ultrastructure and culture methods. Authors include: Baily, Cook, Cantera, Kuzerian, Haszprunar, Jensen, Lubet, Lucas, Morton, Poizat, Poulicek, Solem, Tillier and Todd.

Very few copies of this Supplement were originally published, but in response to heavy demand a reprint is now available. Price: £15.00.

Please add: £1.50 for postage and packing (UK and Europe)

£4.00 for overseas airmail; £2.50 for surface mail.

Orders to: Ms. Solene Morris, Division of Mollusca, Department of Zoology, British Museum (Natural History), Cromwell Road, London, SW7 5BD, U.K.

Cheques made payable to: THE MALACOLOGICAL SOCIETY OF LONDON.

SUPPLEMENTS

The following Numbers are currently available:

- | | |
|-------------------|---|
| Supplement No. 9 | Fretter, V. and A. Graham, 1981 (April). The Prosobranch Molluscs of Britain and Denmark: Part 6 - Cerithiacea, Strombacea, Hipponicacea, Calyptracea, Lamellariacea, Cypraeacea, Naticacea, Tonnacea, Heteropoda. pages 285-363. £6. |
| Supplement No. 10 | Marcus, E. d.B.-R., 1982. Systematics of the Genera of the order Ascoglossa (Gastropoda). 31 pages. £6. |
| Supplement No. 11 | Fretter, V. and A. Graham, 1982 (August). The Prosobranch |

- Molluscs of Britain and Denmark: Part 7 - 'Heterogastropoda' (Cerithiopsacea, Triforacea, Epitoniacea, Eulimacea). pages 363-434. £6.
- Supplement No. 12A [REPRINT] Bebbington, A. [Editor]. 1983 (December). Proceedings of the Second Franco-British Symposium on Molluscs. i-v, + pages 1-227. £15.
- Supplement No. 15 Fretter, V. and A. Graham, 1985. The Prosobranch Molluscs of Britain and Denmark: Part 8 - Neogastropoda. pages 435-556. £10.
- Supplement No. 16 Fretter, V., A. Graham and E. B. Andrews, 1986. The Prosobranch Molluscs of Britain and Denmark: Part 9 - Pyramidellacea. pages 557-649. £10.

TO BE PUBLISHED

- Supplement No. 17 Fretter, V. and A. Graham. The Prosobranch Molluscs of Britain and Denmark: Part 10 - Additions and Corrections.

All orders will be invoiced with postage and packing added. Supplements may be ordered from: Solene Morris, Division of Mollusca, Department of Zoology, British Museum (Natural History), Cromwell Road, London, SW7 5BD, U.K.

PLEASE NOTE: Members of The Conchological Society may have a discount of 25%.

FRENCH ABALONE LIKE CEMENT HOUSES

Young French abalone prefer to live in beehive-shaped cement houses. A report in a recent issue of Fish Farming International said that the first attempts to grow abalone in natural conditions had been made in France as early as 1974 at Kerlouan, when baby abalone were put out to graze on weed-covered rocks.

These early attempts were followed by trials of different types of artificial habitat - plastic cylinders, stacked steel reinforcing rod and, finally, the successful beehive-shaped cement houses. The young abalone quickly adapted to the local food supply, on which they were able to graze from the protection of their cement houses. The plentiful food supply provided a satisfactory growth rate. At one site, at St. Jean de Doigt, this reached nearly 1.9mm a month.

from 'Australian Fisheries'

ANNUAL GENERAL MEETING OF THE CONCHOLOGICAL SOCIETY OF G.B. & I.

At the A.G.M. held on 19th. March last, the following new members of Council were elected - Miss E. Fogan, Mr. D. Guntrip and Mr. F. R. Woodward, replacing three members who retired. All Officers and other members of Council were re-elected.

THE SOCIETY'S FIRST COLOUR POSTCARD

I am pleased to announce that this postcard is now available. It is a full colour reproduction of a beautiful photograph of Zenobiella subrufescens (Miller) taken by Derrick Rands and kindly made available to the Society. The price is 10p each or 11 for £1, plus postage, from Mrs. Jan Light, [REDACTED], Godalming, Surrey, [REDACTED] - or direct at a meeting, of course.

Printed by: D. C. Armsworth, [REDACTED], Guilden Morden, Royston, Herts., [REDACTED]

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COLLECTORS IN EAST AFRICA

- 13. F. STUHLMANN (part 1)

F. L. Stuhlmann (1863-1928)

In previous biographical notes I have dealt with collectors who in reality collected but little, but the present account deals with one of the most important biological collectors to visit Africa who made large collections of plants and animals. He was also an important man in the German Colonial Service and more akin to Sir John Kirk than anyone else dealt with so far. Stuhlmann's mollusc collections were in fact one of the mainstays of E. von Martens' great work 'Beschalte Weichethiere Deutsch-Ost-Africas'. A great many East African plants and animals bear the specific epithet stuhlmannii.

Franz Ludwig Stuhlmann was of an old Hamburg family and born in that city on 29 October 1863, his father being the architect Rudolph Stuhlmann and his mother Emilie (née Krämer) having close connections with the House of Hansing. He attended a local grammar school (Realgymnasium des Johanneums) where he laid the foundations of his later profound and extensive scientific erudition; later he studied at Tübingen and Freiburg choosing Natural Science. Natural history had dominated his interests at an early date and its further study became one of the main aims of his life. His doctoral thesis at Freiburg (1886) concerned the development of arthropod eggs (Ber. d. Natf. Ges. Freiburg 1, 1886). He also studied at the Zoological Institut of the University of Kiel producing a work 'Zur Kenntnis des Ovariums der Aalmutter' (Abhandl. Geb. Naturwiss. Hamb. vol. 10 [1887]). The Aalmutter is the viviparous blenny. After a short stint as a demonstrator at the Zoological Institut in Würzburg he began his travels at the age of 25; his mother's relationship with the Hansing family proved invaluable in this respect. In 1888 he left for Africa in one of the ships of their line, presumably travelling virtually free. He visited Alexandria and Cairo in March where he met his illustrious compatriot George Schweinfurth and formed a lasting friendship. Stuhlmann finally arrived in Zanzibar on 17 April and stayed with Justus Strandes, the Hansing representative there, with whom he made friends. The Hansings had had business interests in Zanzibar since 1850 or so. It may well have been German business interests in Zanzibar which warned Sir John Kirk of Germany's growing desire to colonize the mainland and prompted him to continually needle the British Government to forestall it. They, however, were so busy appeasing Bismarck that Sir John was not re-appointed to Zanzibar and was not there when Stuhlmann arrived. Kirk went on leave to England in July 1886 shortly after being awarded a G.C.M.G. as a sop. There is little doubt that the two would have been friends joined by natural history interests.

This voyage to Africa was decisive for Stuhlmann's whole life; as was the case with so many others, Africa immediately fascinated him and became the centre of his

life. This first voyage was basically a zoological collecting trip for the Prussian Academy of Sciences. Until the end of 1888 he was collecting at various localities on Zanzibar and in January 1889 went down the coast to Mozambique, certainly on 9 - 13 January 1889 he was in Quelimane but back in Zanzibar on 6 and 7 of February and again in Quelimane on the 11th.; again in Zanzibar at the beginning of March and in Quelimane on 10 - 16 March, May and June in Zanzibar, mid-July in Quelimane and August to October in Zanzibar. He was certainly in Pangani in November 1889 and January 1890 and is known to have collected at Bagamoyo in February 1889 and at Dar es Salaam in 1888. As J. Gillett states (MS itinerary at Royal Botanic Gardens, Kew) 'It seems certain he did visit Quelimane in Mozambique and yet at certain periods plants said to be from Quelimane are dated so close to others from Zanzibar that it seems possible either that there is another Quelimane on Zanzibar Island, or that he was incorporating in his collections specimens sent to him by some unnamed correspondent in Quelimane, Mozambique'. Nevertheless, although transport on land at this time was so slow, by sea it was much faster and Zanzibar to Quelimane might be done in four days by a boat capable of 10 knots.

Stuhlmann rapidly became a leader in colonial natural history work and its practical applications. These were the years of developing colonial policies in East Africa under Karl Peters, Hermann von Wissmann and Emin Pascha (Pasha in English). The quiet scientific researches which Stuhlmann wished to pursue were soon interrupted. He joined the German Protectorate Force (deutschen Schutztruppe) as a reserve officer under von Wissmann and became a Lieutenant. This force had been set up after the Arab revolt in 1888. After he had recovered from a wound (severe according to Uhlig) received in January 1890 in a small engagement at Lembula, he started in April 1890, with Emin Pasha* as leader, on his first great journey into the interior of Africa which lasted over two years. In December 1889 Emin Pasha had been rescued by Stanley and was in Bagamoyo recovering from an accident. Emin had been ordered by the German authorities to explore the hinterland, particularly the Great Lakes area to the north-west; the 49-year-old leader made a great impression on Stuhlmann who leapt at the chance to join him. Even at that comparatively late date the difficulties of such a journey into almost unknown regions are difficult to imagine. They left Bagamoyo on 26 April and went** via Morogoro, Kilosa (27 May), Mpwapa (22 June), Tabora (28 August and by which time he had collected over 500 plants), Selaue about 30 km south of southern tip of Lake Victoria (20 September) arriving in Bukoba on 16 November. Whilst in Bukoba he made a trip by boat across Lake Victoria to the Sesse (Sese) Islands and Uganda (6 December 1890 - 25 January 1891). The expedition continued on through Karagwe (as did Speke and Grant) and was at Lake Albert Edward on the Zaire side on 13 May. Between 8 and 15 June Stuhlmann made an ascent of Ruwenzori, then they continued on via the Semliki R. to the southern end of Lake Albert, thence to the Ituri River (15 - 20 September). The end of November 1891 was spent around Lake Albert. Next month smallpox broke out in the camp and Emin asked Stuhlmann to return with the still healthy part of the party to Bukoba. Stuhlmann was not anxious to do this but Emin made it a military order which could not be refused, so on the 10th. he left Emin who continued on further into the NE. Congo and due to insufficient equipment met a tragic end, being killed by slavers. Stuhlmann arrived back in Bukoba on 15 February and had a troublesome journey back to the coast, arriving there on 12 July 1892. During this expedition he had collected 4362 plants which made him by far the most prolific collector so far. Unfortunately his plant material was often not duplicated and much of the original collection was destroyed at Berlin-Dahlem during World War II. The mollusca are fortunately still extant and I examined them all during a visit to the Zoological Museum of the Humboldt Univer-

* A famous figure on the African scene who hopefully will be the subject of another article in this series (spelt Pascha in German).

** Gillett's itinerary worked out from Stuhlmann's own book has been augmented and is given as an appendix with both old and new spellings.

sity in East Berlin in 1959. That they are still in good order is thanks to the heroic efforts of Prof. Siegfried Jaeckel who carried the immense collections down to the basement of the Museum by himself during the war; all would have been destroyed had he not done so, save for a few duplicates which found their way into other museums, e.g. British Museum (Nat. Hist.). Apart from being a botanist and zoologist during the expedition Stuhlmann was also a linguist and ethnologist; but above all he laid the foundation for his later very comprehensive cartographic researches since he was to become more and more involved with geography and official mapping.

The physical and mental exertions of the journey had sapped his strength and hardly had he returned to the coast when he was ill for several weeks with black-water fever and only saved by a blood-transfusion from his faithful servant Kombo, a Comoro Islander (one wonders about blood groups about which presumably nothing was known).

Later the expedition was immortalised in one of the classic African travel books 'Mit Emin Pascha ins Herz von Afrika. 1893' in which, as one obituary writer has it, he confines himself to sober and correct truth (nüchterne und sachliche Wahrhaftigkeit) a characteristic from which he never deviated throughout his life; he never embroidered anything and wrote in a simple factual style. Reading the book one is impressed with the breadth of his knowledge, manifold interests and great powers of observation. Little wonder then, he was to become the scientific backbone of the German colonial administration. The official map of Deutsch Ost-Afrika owes a very great deal to Stuhlmann's careful observations during the expedition.

Stuhlmann was in hospital for 7 weeks before he was fit enough to go home on leave to Germany. During this time his collector Mabruk who had previously worked for J. M. Hildebrandt (see no. 10 in this series) and for G. C. Fischer (not yet dealt with) was killed in the streets of Dar es Salaam from the kick of a 'tame' ostrich. On 20th. Oct. 1892 he reached home and whilst in Germany he published several works. He came back as a colonial official based on Dar es Salaam, his duties enlarged to take in land registry and geodesy, the cultivation methods of the local people, agricultural policy and map-making. He had to organise the surveys on which the 1:300,000 series of maps was based and in the course of this work he surveyed the Uluguru Mts. and adjacent areas making extremely valuable biological collections (see appendix for itinerary). Some 3000 plants were collected between January and December 1894. Between 3 and 19 February 1895 he was on a survey expedition at the mouth of the Rovuma R., the boundary between German and Portuguese territories. After this Stuhlmann became an increasingly senior official and was twice acting governor, if not more often, certainly when Graf Von Götzen took his first home leave. His identity with his work is well shown in his published economic debates in Deutsch Ost-Afrika 'Die wirtschaftliche Entwicklung Deutsch-Ostafrikas' (Verh. der Abt. Berlin-Charl. der D.K.G. 1897/98). From February until June 1901 he made a journey to India and the Dutch East Indies to study the organisation of agricultural research, much of which was written up in reports in 'Der Tropenpflanzer' between 1901 and 1903. In 1903 he became Director of the research station at Amani [Biologisch-Landwirtschaftlichen Institutes Amani] which engaged in basic agricultural research; it had in fact been founded on his recommendation, partly as a result of his Indian study tour. The institute remained very active until the First World War and was in fact looked after until 1920 by Prof. A. Zimmermann. Here it will be interesting to digress. Germany left the development of her East African Protectorate to great corporations (we of course did much the same) and the East Usambara Mountains in which Amani was situated was given to the Deutsch-Ostafrikanische Gesellschaft. The D.O.A.G. handed some of the territory to subsidiaries, some to the Royal House - the Prinz Albrecht family - and a small area of 741 acres was set aside for scientific research. Prof. A. Zimmermann, a botanist of world renown and great experience in Java, was appointed Deputy

Director in September 1902; it was in the middle of the rainy season when he walked from Mnyusi station on the Usambara Railway wading up to his waist across mountain streams and he must have wondered on his arrival what could possibly be made of an area of primary rain forest. Actually the estate extended from the Sigi valley at 1300 ft to the summit of Bomole at 3600 ft and eventually this range of climate allowed some 4000 different useful plants to be grown but the land was all on slopes. It was clear the D.O.A.G. had off-loaded what it considered the most difficult terrain on the scientists, more as a salve to conscience than anything else. Nevertheless, under skilled guidance, hundreds of Wanyamwezi, believed to be the best workers, cleared the forest, blasted stone from the rivers for building, established plantations and even pastures. The resulting station became one of the best in the world with a magnificent library and laboratories for chemistry, botany and entomology etc.. Between 1920 and 1928 it was merely looked after by a caretaker whilst the vacillating British made up their minds. With the all too frequent brainlessness which characterises British administration in any scientific matters, moves were actually made to close the institute. In 1927, partly due to Lt. Col. Sir David Prain*, a far-sighted and much underrated Director of Kew, Amani was taken over by the British and became the major research station of the tropics which I am certain would have pleased Stuhlmann had he still been alive. The East African Agricultural Research Station, later Institute, moved to Muguga near Nairobi, Kenya in the early 1950s and became the East African Agriculture and Forestry Research Organisation**. Still later on after the sad break-up of the East African Community it was taken over by the Kenya Agricultural Department. The old Amani Herbarium, later the East African Herbarium (of which I was Director between 1958 and 1964) became part of the Kenya National Museum in 1984 (it had absorbed the botanical collections of that Museum (then the Coryndon Memorial Museum) in late 1950). That it is now one of Africa's largest would surely have delighted its original Director.

Under Stuhlmann's directorship the Amani Institut developed into a magnificent and world-famous centre for tropical agricultural research. The extensive plantations were suitable for trying out a vast range of crops and exotic trees. Most of them were still in good order when the station at Amani was handed over to the Institute for Insect-Borne Diseases when E.A.A.F.R.O. finally left. They had survived the 1920-1928 caretaker period. From the 1950s maintenance came under the Forestry Department and international interest is now at long last being shown. Stuhlmann wrote numerous papers during his time at Amani on geography, botany and colonial economics and edited the house journal 'Der Pflanze'; during his last year there he gathered materials for what is probably his best-known and still invaluable work, volume X in the superb Deutsch-Ost-Africa series 'Beiträge zur Kulturgeschichte von Ostafrika. 907 pp. Berlin, 1909'. During this last year his first work on Tsetse-flies also appeared. There is no doubt that he had happy years in East Africa. With great regret in 1908 he had to give up all his activities in East Africa due to a deterioration in his health, the result of 20 years in the tropics. Back in Hamburg the municipality made him general secretary of the Central Office of the newly founded Colonial Institut and his aim was to process information for colonial instruction, essentially different from his work in East Africa and removing him from the scientific studies so close to his heart. Still, characteristically, he immersed himself completely in his new work and evaluated the German and foreign daily press for all he considered of value and established the basis of the Hamburgischen Welt-Wirtschafts-Archivs, the director of which he later became and the development of which occupied the last years of his life. In

* Stuhlmann met Prain who was Director of the Calcutta Botanic Garden when Stuhlmann made his scientific study trip to India and the East Indies.

** I worked for E.A.A.F.R.O. between 1949 and 1964 spending almost my first year at Amani, then still surrounded by superb rain forest and many reminders of its German past including a black post master who spoke fluent German.

1911 and 1913 he visited Algeria and Tunisia and produced reports in the Abh. des Hamburg. Kolon. Inst.; also a report concerning Britain and Turkey in Arabia. One can imagine how deeply he felt the loss of Germany's colonies after the war, particularly Deutsch Ost-Afrika (later Tanganyika Territory, now Tanzania). Africa remained his first interest and he continued to publish about it; his last scientific work led him back to his first days there. He had preserved and brought back to Hamburg the diaries of the murdered Emin which he now edited; 5 of 6 volumes planned were published. It is interesting to compare Stuhlmann's great respect for Emin ('like a son for his father') with the irritation Emin engendered in his 'rescuer' Stanley. Stanley had little time for natural history and was annoyed by Emin's delays poking about under stones for molluscs and other specimens. I would much rather believe Stuhlmann's account of Emin than Stanley's. Alan Moorehead agrees and says 'Emin's certainly was the most intelligent brain in Central Africa since Burton's time' and Harry Johnston rated him highly.

One obituary refers to a period of problems brought about by a short joyless marriage which depressed him but he recovered completely after the divorce!

Stuhlmann was a man of great human kindness and not a severely strict disciplinarian, very modest and never idle (Raslos war er tätig), witty and humorous but not a lover of parties, a well-groomed slender charming man with slightly dreamy eyes, very sensitive and in many ways very reserved. He had a well-balanced but fatherly attitude towards native peoples. He was not really a politician nor an empire-builder but certainly filled with enthusiasm for German ways of thinking and working and a pioneer of German colonial activity at its best - a noble human being and eminent scientist. From his signature it looks as if his handwriting was even worse than mine!

On 29 October 1928 Stuhlmann attained his 65th year, thus reaching the age when all civil servants were expected to retire, but, having regard for his vigour and great talents, the Senate were asked to keep him in office, a request which was granted. At the September meeting of the Hamburg Geographic Society he spoke about Bürgermeister Schtamms and was in excellent health but he soon became unwell. It seems that a few days before an impending operation necessitated by his illness he discussed with colleagues the future of his institute in case the operation did not go according to plan; he had a premonition of his death. The operation did not succeed and he died of cancer on 19 November 1928.

My thanks are due to my colleague Dr. Edmund Launert for translating the obituaries for me sufficiently slowly for me to scribble many notes which partly form the basis for the above account which is greatly expanded from part of my second Presidential Address given in 1972. I am also grateful to another colleague, Jan Gillett (who has also been a director of the East African Herbarium) for the use of his itinerary of Stuhlmann prepared from many sources.

B. Verdcourt

(Part 2 will appear in a future issue of the Newsletter)

NEOLEPTON SYKESI AND NEOLEPTON SULCATULUM IN GUERNSEY

A family visit to Guernsey in June 1987 provided a long-awaited opportunity to visit the beaches on the main island and the well-known Shell Beach on Herm Island. Vazon Bay is one of a number of sandy bays on that side of the island which faces north-west. I was able to find a few ounces of shell sand at low tide on the southern corner of this bay where the sand on the lower shore is rather fine and shell sand is by no means abundant. At the time of collecting, my sample (in its

wet state) did not look very promising at all. In the event, it was to provide me with over ninety species when the material had been washed and put under a binocular microscope.

Among the species found were a good number of valves (both separate and pairs) of Neolepton sulcatulum (Jeffreys, 1859). These were unmistakable, corresponding well with the illustrations in Tebble [1], notably in respect of the dentition of the left valve where the cardinal tooth is joined to the anterior lateral making a rather distinctive knuckle shape. There were sufficient specimens of N. sulcatulum to make up a useful growth series and it was while grading the best specimens for this purpose that I noticed that three separate valves did not match the series of N. sulcatulum but appeared to be valves of N. sykesi Chaster, 1895. However, the comment in Tebble that this species '... appears to be known only from specimens collected off Guernsey, Channel Is. in 1894' was distinctly discouraging. The N.C.C. Sea Area Atlas was rather more encouraging as it indicated that this species had been found in the Sea Areas for W. and S.W. Ireland, the Cornish peninsula and the Channel Islands. Chaster refers it to the Channel Islands also.

I am very grateful to Dennis R. Seaward for his help with the references which provided the entries in the Sea Area Atlas. G. W. Chaster's original description of this species is to be found in Ann. and Mag. Nat. Hist., (1895), p. 248 and he gives a further account of it in the Journal of Malacology [2], stating it had been found in Mounts Bay, Cornwall and Dogs' Bay, Connemara. In the same issue of the Journal of Malacology [3], J. T. Marshall also refers to this species and provides a figure which is not at all clear, showing no useful details of the all-important dentition. Marshall claims to have had specimens as early as the summer of 1893 from dredgings off the east coast of Guernsey. It is interesting that in finding this species, he states, '... I had passed about a dozen valves in the examination of the material before my attention was attracted to it as differing from L. sulcatulum'. Marshall makes two further contributions: in 1897 [4], when he adds Killala Bay to his distribution list; and in 1914 [5], when he mentions its being found at Scariff, S.W. Ireland. Dennis Seaward kindly provided me with a further reference: the species is reported, living, as Arculus sykesi in the region of Roscoff, North Brittany, in 1973 [6].

I was able to produce some photographs of the three valves and drawings (shown here) done with the help of a camera lucida attachment on a binocular microscope. These I sent to Dr. J. J. van Aartsen to whom I am greatly indebted for his help in confirming my identification of the specimens as Neolepton (=Arculus) sykesi.

Figs. 1-3 NEOLEPTON SYKESI Chaster, 1895

Internal and external views of three valves, all to the same scale.

Fig. 4 NEOLEPTON SULCATULUM (jeffreys, 1854)

Internal view of a juvenile left valve.

Fig. 5 NEOLEPTON SULCATULUM

Internal view of a juvenile right valve.

Shown here (Figs. 1-3) are the inside and outside of the three valves of N. sykesi. It is difficult to say, on the basis of shells alone, which are left and which are right valves; clearly, Figs. 1 and 3 are of the same side and Fig. 2 is of the other side. It is interesting that Tebble does not state whether his

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| 1. p. 87. | 4. <u>J. Conch.</u> 8, Jan. 1897, p. 346. |
| 2. <u>J. Malac.</u> , 4, 1895, p. 58. | 5. <u>J. Conch.</u> 14 (6), Apr. 1914, p.183. |
| 3. pp. 36-38. | 6. <u>Babio: Trav. Stat. Biol. Roscoff</u> XX, 1973 (31), pp. 1-4. |

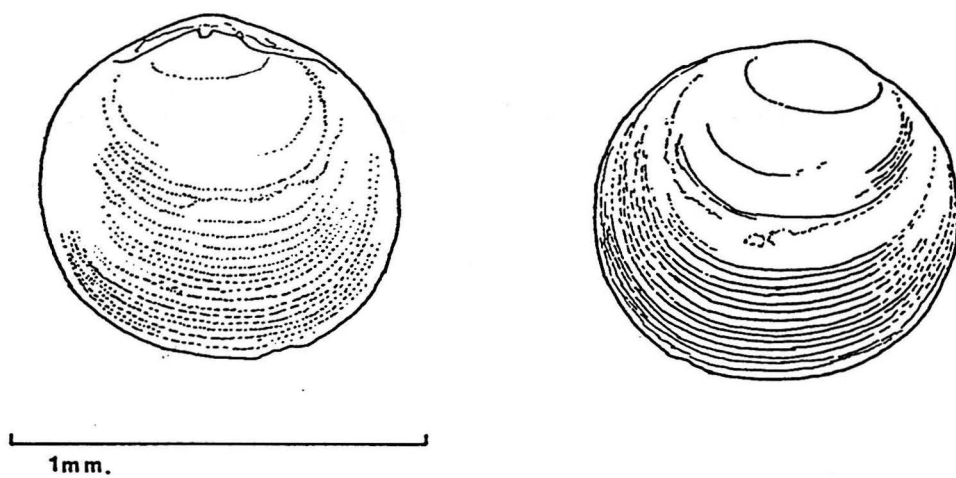


Fig.1

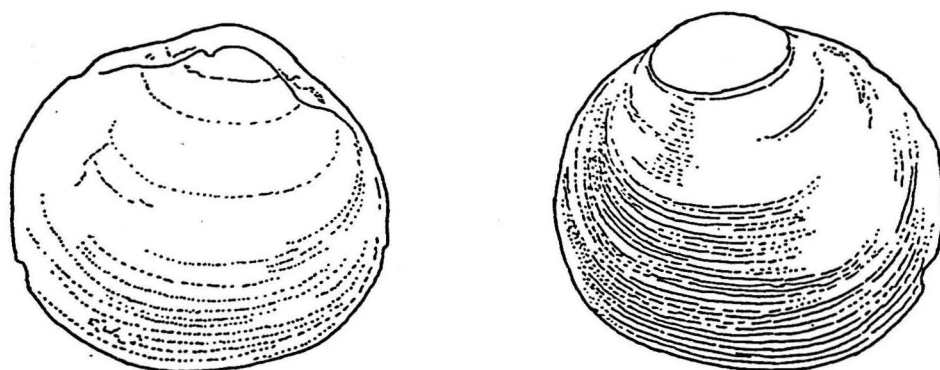


Fig.2

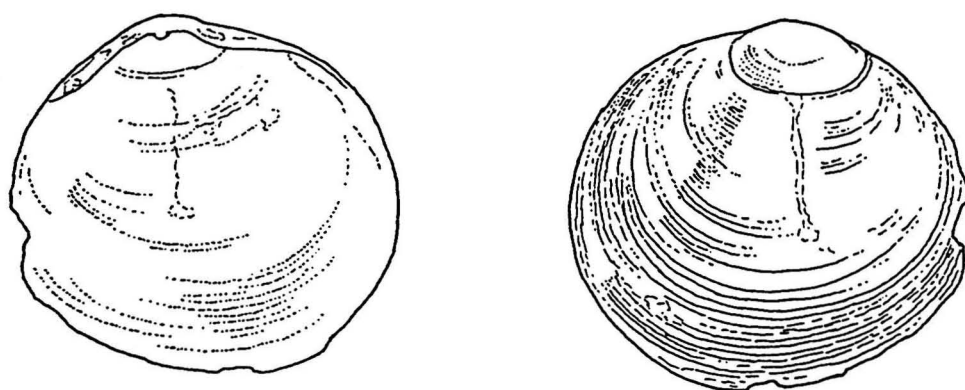


Fig.3



Fig.4

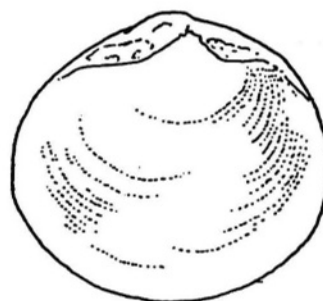


Fig.5

illustration is of a right or of a left valve. The shells are very small, the lengths being as follows: Fig. 1: 0.086cm; Fig. 2: 0.09cm; Fig. 3: 0.093cm. It seems worthwhile to provide also illustrations of juvenile specimens of N. sulcatulum in which the clear features of the dentition of adult shells have not yet developed. Fig. 4 (L = 0.077cm) is the inside of a left valve and Fig. 5 (L = 0.075cm) is the inside of a right valve. The differences between a juvenile sulcatulum and an adult sykesi are clear from the dentition though the two species are somewhat similar when viewed from the outside and (as we have seen) are easily confused.

There were no specimens of N. sykesi found in shell sand samples from other localities on Guernsey, though a few valves of N. sulcatulum were found in material from Herm Island.

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J. E. Phorson, [REDACTED], Belmont, Durham, [REDACTED]

W. H. HUDSON ON SNAILS

W. H. Hudson (1841-1922) was a prolific writer on the countryside at the turn of the century. He was born on his parents' farm in Argentina where he took a keen boyhood interest in the bird life of the area and supported himself to some extent as a bird collector for the museum in Washington DC. After his father's death, W. H. Hudson emigrated to England in 1869: he went to seek out his ancestral roots in South Devon and tried, not very successfully at first, to live by writing. W. H. Hudson: a biography by Ruth Tomalin (Faber and Faber and Oxford University Press 1982) shows the immense financial difficulty which he experienced and how, for much of the time, he was restricted to the urban area of London (Westbourne Park) with only occasional forays into the countryside. A civil list pension later gave him some opportunity to make longer visits to research his books.

Although primarily a bird man, Hudson was extremely observant and did not miss the mollusc life of the chalk downs. Nature in Downland, first published in 1900, is based on the South Downs of Sussex using material from his visits there spanning several years. Looking at the turf he notices the quantities of small white snails (undoubtedly Candidula intersepta the Wrinkled Snail and Cernuella virgata the Banded Snail) but he makes a special note of the variety of banding patterns and shell colour in Cepaea, which he identifies to species level as "Helix nemoralis". Being a field ornithologist he is also aware of the predation of snails by thrushes and recognises thrush anvils on pieces of flint on the chalk downs.

Nature in Downland by W. H. Hudson is currently published by Macdonald Futura as a paperback.

June Chatfield

Quotation from 'Nature in Downland'

In the last chapter we had an account of a fairy flora, as we call the numerous minute herbaceous plants, mixed with small grasses and clovers, which clothe the sheep-fed downs in a grassy and flowery mantle. The fairy flora has a fairy fauna to match it. Where there is no bush vegetation nor heath and rough herbage for shelter, there are no birds. At all events none breed on the naked unsheltered ground, unless it be a wheatear that makes his nest in an old rabbit-hole in some open stony spot. But the birds and beasts of downland I shall treat in the next chapter. The creatures that mostly impress us in all the open shelterless places are in the insects. We think less of the innumerable small inconspicuous snails, whitey-grey like the small fragments of chalk seen in the turf; indeed we think of them not at all unless we hear by chance the crunching of their frail shells beneath our soles as we walk. Alas, that, glad to exist ourselves, we should thus unwittingly tread out so many small sparks of life!

A word here about our common banded snail (Helix nemoralis), which is common everywhere in the furzy places, but is incapable of existence on the close-cropped turf. Everyone knows how extremely variable in colour the shell of this snail is; in every garden a pretty collection may be made of shells, red, yellow, cream, and brown of the many shades; shells, marked and unmarked, with great variety, too, in their markings. Now most of the shells I see on the downs are of one type; indeed, you may in some parts search the furzy spots for miles without getting a snail of any other type. The ground colour is yellow, or yellowish white, with broad black longitudinal bands. Not only is it a most conspicuous coloration, but seen casually down among the vivid green of the furze and herbage it often startles a person by its curiously close resemblance to a small portion of a highly-coloured adder's coil. This chance resemblance to a dangerous creature does not, however, serve the snail as a protection from his principal enemies, the thrushes. Wherever there is a patch of furze there you will find the 'thrushes' anvil', usually a flint half or nearly quite buried in the soil a few feet away from the bushes, and all round the anvil the turf is strewn with shattered shells.

ADDITIONAL RECORDS OF PREDATION ON LANDSNAILS BY THE GROUND BEETLE

CARABUS IMPRESSUS IN ISRAEL

The ground beetle Carabus (Procrustus) impressus Klug, 1832 (Insecta, Coleoptera, Carabidae) is widely distributed in the Levant. Throughout its range one may recognise eight subspecies (Schweiger, 1970), which are, however, not easily distinguished in the field by the layman. Since they are all mainly feeding on terrestrial molluscs (Mienis, 1978a-c, 1980), we did not make any attempt to

identify our beetles to subspecific level, and simply refer to them as belonging to Carabus impressus s.l.

Mienis (1980) listed 25 cases of predation on terrestrial snails in Israel by this Carabid species, observed in the period 17 December 1977 until 12 January 1980. In the meantime we were able to register an additional 35 records of predation on either snails or slugs. These new records are enumerated in chronological order in table 1.

Most data confirm our previous observations, however, as new prey species we were able to list five additional snails and our first slug: Elia moesta moesta, Oxychilus translucidus, Deroceras berytensis, Cochlicella barbara, Monacha obstructa and Metafruticicola fourousi. This brings to fourteen the number of landsnails predated upon by Carabus impressus in Israel. These prey species are enumerated in table 2.

There seems to exist an almost perfect synchronisation between the life cycles of the predator: Carabus impressus, and its prey, the snails and slugs. The terrestrial molluscs in Israel break their aestivation with the first rains, usually in October/November (Mienis, 1972), the same is true for this beetle. Both snails and beetles are thinking first about reproduction and only afterwards about food. It is during the latter period that the ground-dwelling snails become the victims of the hungry beetles. Both the adult beetles and at a later stage also their larvae continue to consume snails, however, only those specimens which happen to crawl on the ground. Neither the adult nor the juvenile beetle is able to ascend the vegetation in search for additional victims. This behaviour stands in great contrast with that of both adult and juvenile Ablattaria arenaria, another malacophagous beetle in Israel. The latter is almost exclusively hunting for prey in the vegetation, well above the ground.

Although Carabus impressus is an almost perfect malacophagous beetle under natural conditions, the use of it as a biological agent in the control of snail pests seems to be impossible. It is such an aggressive species that it kills even other specimens of its own kind.

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TABLE 1. Records of predation on snails by Carabus impressus in Israel*

No.***	Prey species	Locality	Date
26**	<u>Theba pisana</u>	Netzer Sereni	16 December 1980
27	<u>Monacha obstructa</u>	Rehovot	20 December 1980
28	<u>Monacha haifaensis</u>	Rehovot	20 December 1980

29	<u>Deroceras berytensis</u>	Rehovot	20 December 1980
30	<u>Theba pisana</u>	Netzer Sereni	23 December 1980
31	<u>Xeropicta vestalis joppensis</u>	Netzer Sereni	23 December 1980
32	<u>Euchondrus aff. ovularis</u>	Netzer Sereni	23 December 1980
33	<u>Xeropicta vestalis joppensis</u>	Netzer Sereni	23 December 1980
34**	<u>Monacha haifaensis</u>	Netzer Sereni	23 December 1980
35	<u>Theba pisana</u>	Netzer Sereni	25 December 1980
36**	<u>Xeropicta vestalis joppensis</u>	Netzer Sereni	1 January 1981
37	<u>Eopolita protensa jebusitica</u>	Netzer Sereni	10 January 1981
38	<u>Monacha haifaensis</u>	Migdal Zedek	13 January 1981
39**	<u>Eopolita protensa jebusitica</u>	Migdal Zedek	13 January 1981
40	<u>Monacha haifaensis</u>	Netzer Sereni	25 April 1981
41	<u>Monacha haifaensis</u>	Azor	8 May 1981
42	<u>Eopolita protensa jebusitica</u>	Azor	8 May 1981
43	<u>Elia moesta moesta</u>	Azor	8 May 1981
44	<u>Trochoidea meda</u>	Yaffo	12 November 1981
45	<u>Oxychilus translucidus</u>	Jerusalem	17 November 1981
46	<u>Helix engaddensis</u> juv.	Azor	18 November 1981
47	<u>Monacha haifaensis</u>	Azor	18 November 1981
48	<u>Elia moesta moesta</u>	Azor	18 November 1981
49	<u>Eopolita protensa jebusitica</u>	Azor	18 November 1981
50	<u>Cochlicella barbara</u>	Netzer Sereni	9 April 1982
51	<u>Theba pisana</u>	Nof Yam, Herzliya	9 November 1982
52	<u>Helix engaddensis</u>	Netzer Sereni	12 November 1982
53	<u>Monacha haifaensis</u>	Rehovot	13 April 1983
54	<u>Theba pisana</u> juv.	Rehovot	13 April 1983
55	<u>Monacha obstructa</u>	Rehovot	13 April 1983
56	<u>Xeropicta vestalis joppensis</u>	Netzer Sereni	21 November 1983
57	<u>Metafruticicola fourousi</u>	Nahal Galim	30 December 1983
58	<u>Metafruticicola fourousi</u>	Nahal Oren	30 December 1983
59	<u>Cochlicella barbara</u>	Netzer Sereni	5 February 1985
60	<u>Xeropicta vestalis joppensis</u>	Netzer Sereni	20 December 1987

* = all observations by the author; ** = larvae; *** = Nos. 1-25: Mienis, 1980

TABLE 2. Landsnails predated upon by Carabus impressus in Israel

- 1 Euchondrus aff. ovularis*
- 2 Elia moesta moesta (Rossmassler, 1839)
- 3 Oxychilus (Ortizius) translucidus (Mortillet, 1854)
- 4 Eopolita protensa jebusitica (Roth, 1855)
- 5 Deroceras berytensis (Bourguignat, 1852)
- 6 Cochlicella barbara (Linnaeus, 1758)
- 7 Cernuella (Microxeromagna) arrouxi (Bourguignat, 1863)
- 8 Trochoidea (Xeroclaus) meda (Porro, 1840)
- 9 Xeropicta vestalis joppensis (Schmidt, 1855)
- 10 Monacha obstructa (Pfeiffer, 1842)
- 11 Monacha haifaensis (Pallary, 1939)
- 12 Metafruticicola fourousi (Bourguignat, 1863)
- 13 Theba pisana (Müller, 1774)
- 14 Helix (Pelasga) engaddensis Bourguignat, 1852

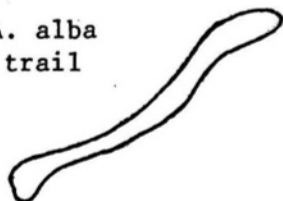
*This species has so far been recorded from Israel as Euchondrus ovularis (Olivier, 1801), a species from Turkey. Although the species from Israel is closely related, it belongs most probably to a still undescribed taxon.

REQUIEM FOR 500cc OF BLACK MUD

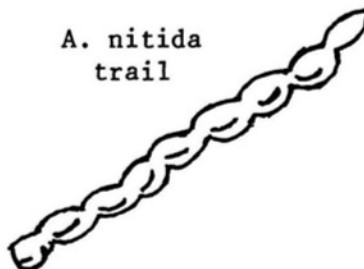
27th. June 1987, 50°35.52'N 2°26,97'W in Portland Harbour off Sandsfoot.

A sample of black mud taken at about 20ft was placed at one end of a plastic box to cover half of the bottom with a gradient of 1 in 4. The box was then closed and left for 24 hours. By the time it was re-examined, a proportion of the liquid had drained from the mud and the surface layer had oxydised to brown and bore a lattice of trails and holes as evidence of a night of intense activity.

A. alba
trail



A. nitida
trail



Immediately visible were 3 species of bivalve and a single gastropod. Two species of Abra nitida (Müller, 1776) and alba (W. Wood, 1802) had risen to the surface then moved 'down hill'. The resulting trails suggested distinctly different muscular processes for the progress of each species. Abra nitida left lobed irregular trails whereas Abra alba left symmetrical curved 'V' shaped grooves. Both species progressed erect with about 45% of the shell above the surface of the mud, pulling themselves forward with hinge to the rear. It would appear that Abra nitida braces itself using the shell to grip the substrate as the foot is forced forward between lunges. Thyasira flexuosa (Montagu, 1803) rose to the surface of the mud but indicated no lateral movement.

The single Turbonilla acuta (Donovan, 1804), which surfaced and expired, in extremis, aborted three strands of serially paired eggs in translucent gelatinous filaments. One strand was forked.

Subsequent washing of this mud disclosed a Nucula nucleus (L. 1758) juvenile, a Tragula fenestrata (Jeffreys, 1848) and two more Turbonilla acuta which had probably been alive when taken. A full list of species recorded from this sampling locality will appear in the official write-up of the field trip.

G. D. Saunders, [REDACTED], Wareham, Dorset, [REDACTED]

S.O.S. SAVE OUR SHELLS!

BRISC launches a lifeboat scheme to survey
fresh-water mussels in Scotland!

Pollution in Europe has reduced most fresh-water mussel populations to critical levels. Recent E.E.C. legislation now provides some protection on the continent for the most endangered species, the Pearl Mussel.

IDENTIFICATION OF FRESHWATER MUSSELS

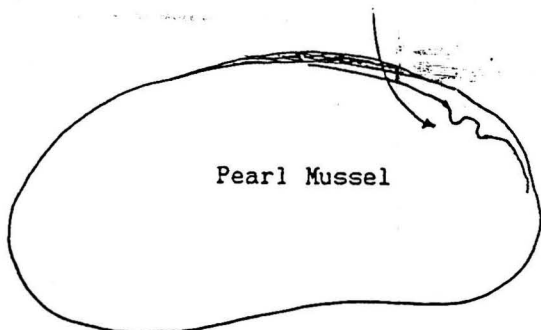
* * * * *

Features of value in identifying the shells of the Scottish species are

- Hinge teeth (presence or absence)
- Colour of outside of shell
- Shell thickness
- Habitat where found

KEY

Hinge teeth → present → absent

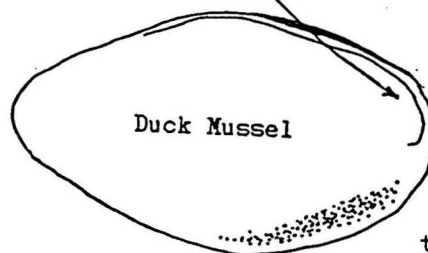


Pearl Mussel

PEARL MUSSEL

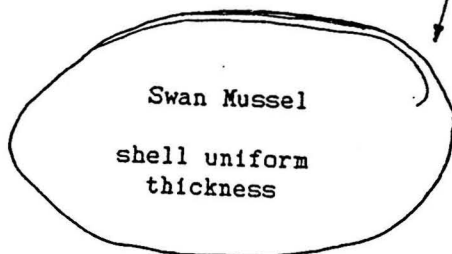
Margaritifera margaritifera (L.)

Shell blackish on outside, often eroded near hinge.
Teeth present inside hinge.
Usually in rivers and streams



Duck Mussel

thickening
of shell near
front edge



Swan Mussel

shell uniform
thickness

DUCK MUSSEL

Anodonta anatina (L.)

Shell olive-brown with darker rays

Shell thicker near front edge. This can be seen by holding up to the light

Normally in ponds or lakes, sometimes rivers

SWAN MUSSEL

Anodonta cygnea (L.)

Shell usually yellowish green without darker rays.

Shell of uniform thickness.
Normally found in ponds and lakes

It has been assumed that Scottish fresh-water mussels continue to flourish, unaffected by the problems which menace their European relatives. However, there is very little evidence for such complacency.

We need your help to gather information on fresh-water mussels in Scotland so that we can determine their distribution and status and thus have the raw materials to ensure their conservation.

What YOU can do

We require two kinds of information:

Records of living and/or Records of empty shells

In practice, shells are often found on the banks or in the shallows of burns, rivers and lochs and you may be fortunate enough to locate a live colony in the water nearby.

If you come across empty shells: choose a representative sample including the smallest and the largest. These will be very important as they will enable us to assess the age and health of the colony.

Then identify the type of mussel if you can, using the key on page 125, and make an approximate count of the numbers. Briefly describe the type of water they are in and add the grid reference and name of the site or nearest place. We have provided labels for this information (available from Newsletter Editor).

Place the labels with the shells in a plastic bag and seal it. Use a separate bag for each location and for stretches of water more than a kilometre apart.

If you find live mussels: on no account collect them. Complete a record on a label as above and send any empty shells you may find nearby.

If there are a large number of broken, rotting shells, it is usually an indication of the destructive pursuit of "pearl fishing" and it is essential to sample from and report these sites.

Finally, send your samples and records to your nearest museum, to BRISC or to:

F. R. Woodward, Glasgow Museum, Kelvingrove, Glasgow, G3 8AG, who can supply further information on the scheme.

CAUTION

Exercise great care near water

DO FIELD WORK IN GROUPS OF TWO OR MORE, IF AT ALL POSSIBLE

B R I S C

BIOLOGICAL RECORDING IN SCOTLAND CAMPAIGN

BRISC INFORMATION SHEET

BRISC was founded in 1976 by a small group of professionally involved people, to meet an urgent need to promote and co-ordinate biological recording in Scotland. The need was not only to fill the gaps in scientific knowledge of the flora and fauna of Scotland, where survey coverage has always been uneven, but also to

provide links between all parties with an interest in biological recording. The fundamental aim of BRISC is to raise awareness, at all levels, of the importance of recording for future conservation of the environment and wildlife and to stimulate training and recruitment of recorders.

The organisation has proved itself by its success and growth. It has developed from a small pressure group into a growing organisation whose membership is drawn from a wide range of individuals, such as natural history curators, conservationists, countryside rangers and highly committed amateur naturalists. We also have a significant corporate membership including museums and conservation societies, a membership which we particularly want to increase in the future.

We design and promote our own wildlife surveys, publishing and circulating the results. Our members initiate their own recording projects at a local level, through schools and conservation groups. Training in biological recording is a central concern and we run courses at various levels for recorders. BRISC co-operates with other societies, groups and learned bodies to publicise their surveys and activities in Scotland. We disseminate information on all aspects of biological recording through our newsletters and by acting as an information bureau. We provide a forum for recorders in our annual conference and exhibition. In practical terms, BRISC is a central intelligence body linking a network of scientific, environmental and conservation groups.

If you have an interest in Natural History, wildlife and the environment and would like to become involved with BRISC, contact the BRISC Co-ordinator. For further information:

Philo Wood, BRISC Co-ordinator,
Scottish Wildlife Trust,

[REDACTED],
Edinburgh, [REDACTED]

Telephone: [REDACTED]

CONCHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

1006th. (Annual General) meeting held on 19th. March 1988 at B.M. (N.H.).

In the Chair: Mr. D. C. Long with 31 members and friends present.

Death of member: The death of Mr. Bolling, a member since 1952, was announced.

Appointment of Scrutineers: Mrs. Pain and Mr. Worth were appointed.

Nominations and elections to Membership: 1 Full Member

M. Greening, [REDACTED], Mitton, Tewkesbury, Gloucestershire, [REDACTED]

1 Family Member

Dr. A. B. Cross) [REDACTED], Solihull, W. Midlands, [REDACTED]

Mr. P. Cross)

Report of Council: read and accepted.

Report of Treasurer: Mrs. Fogan was unable to present the accounts due to delays created by the Inland Revenue, B.M.(N.H.) and the Bank. These will be presented in the near future.

Report of the Non-marine Recorder: read and accepted.

Report of the Marine Recorder: read and accepted.

Report of the Junior Members Officer: read and accepted.

Report of the Field Meetings Officer: read and accepted.

Election of Auditors: Mr. Edwards and Dr. Lloyd-Evans were elected.

Presidential Address: 'The future of Conchology'.

Announcements and Correspondence:

The next meeting is 15th. April 1988 when Mrs. Light will be talking about the Marine Life of the Clyde. The next field meeting is on Saturday 3rd. April at Croydon led by Mrs. S. Davies. Please let Mr. Killeen know if you will be attending. There will be a Quaternary Non-marine Workshop on Saturday 14th. May at University of Cardiff (details in the March Newsletter).

Results of the Postal Ballot: All Officers were elected. The new members of Council are Mr. Guntrip, Miss Fogan and Mr. Woodward.

Meeting closed 4.45 p.m.

Exhibits

- B. Colville - Hygromia cinctella from Staverton, Devon.
- E. B. Rands - Snail Motiff Jumpers
- Order form for Plastic Boxes
- E. B. Rands & D. Guntrip - Unusual varieties of Discus rotundatus
- J. R. Reynolds - Recent magazine article.
- D. C. Long - What, how and why - the achievements of Conchology.
- T. Pain - Buccinum undatum L. and Neptunea antiqua (L.)
- Latest part of Zoological Record (9) Mollusca
- A. J. Rundle, E. B. Rands and D. Guntrip - Recent finds and field records from a visit to hothouses in Glasgow.
- F. R. Woodward - Freshwater pearl mussel purse.

1007th. (Ordinary) meeting held on 16th. April 1988 at B.M. (N.H.)

In the Chair: Mr. P. E. Negus with 27 members present.

Nominations and elections to Membership: 2 Full Members

Mr. J. Rivers, [REDACTED], Hemel Hempstead, Herts.

Mr. J. Leigh, [REDACTED], Southport, Merseyside.

Lecture of the Day: Mrs. J. Light on 'Marine Life of the Clyde'.

Announcements and Correspondence: The Shell Collectors Club are holding their annual show in the Napier Hall on the 30th. April. Society postcards will soon be available at a price of 10p each (or 11 for £1). Mrs. Rands announced that plastic boxes should be available, for those people who ordered them, at the May meeting.

Any other business: There was an auction of some geology journals.

Meeting closed 4.47 p.m.

Exhibits

- D. W. Guntrip - Recently published book of 'Chalk Fossils' including mollusca.
- I. J. Killeen - Some land snails from New Brunswick, Canada.
- J. Light - Pectens from the British Marine list.

- | | |
|----------------|---|
| P. E. Negus | - An article on Nudibranchs in 'The Living Countryside'. |
| | - The earliest British pholadid wood-boring bivalve from the late Jurassic of Oxfordshire, in <u>Proc. Geol. Ass.</u> |
| E. B. Rands | - Order form for Plastic Boxes. |
| E. B. Rands | - <u>Limax maculatus</u> - a sad postal story from Ireland. |
| J. E. Reynolds | - Recent magazine article on spiral formations. |
| J. Sawyer | - East African Wildlife Society. |
| C. M. Street | - Some shells from Herm. |

GENERAL NOTES

SYMPOSIUM ON SLUGS AND SNAILS IN WORLD AGRICULTURE

Organised by the British Crop Protection Council, this meeting will be held at the University of Surrey in Guildford from 10-12 April 1989.

The symposium will review the current economic status of land slugs and snails in world agriculture and will be of interest to those working on the control of slugs, on their behaviour, physiology or exploitation of molluscs as a resource.

Further details from the Symposium Secretary: Mrs. R. A. Bishop, The British Crop Protection Council, 20 Bridport Road, Thornton Heath, Surrey, CR4 7QG

ANOTHER USE FOR CUTTLEBONE

"They used to gather cuttlefish for the makers of tooth pastes and coach-work pol-
ishers, but it is imported now, because the people who use it for getting a surface
on motor-car paint want larger pieces. There are shops in Soho where the windows
are piled high with masses of the white friable stuff".

From Dorothy Hartley's book, The Countryman's England (1935), p. 110.

Nora McMillan

ANNUAL GENERAL MEETING - MARCH 1989

Members are reminded that they can nominate candidates for election to the Council.
Rule No. 12: Candidates for nomination to the Council shall be paid-up members of
The Society and shall be nominated by two members. Nominations, other than those
made by the Council itself, shall be sent in writing to the Hon. Secretary at least
six weeks before the A.G.M., and shall be accompanied by a signed declaration of
the candidate's willingness to serve.

NOTE: Nominations must be received by the Hon. Secretary NOT LATER THAN 31 Decem-
ber 1988.

OMISSION FROM MEMBERS' LIST

Apologies to one of our Members who was not included in the latest Members' List
which was sent out with the June Newsletter. He is as follows:

Mr. J. M. Douglas, [REDACTED], Laindon, Basildon, Essex, [REDACTED]. The
typist will try to do better next time!

OPINIONS PUBLISHED IN THE BULLETIN OF ZOOLOGICAL NOMENCLATURE

The following Opinion and a Direction were published on 24 June 1988 in Vol. 45,
Part 2 of the Bulletin of Zoological Nomenclature:

Opinion 1487 Megalonaias Utterback, 1915 (Mollusca, Bivalvia): conserved

Direction 123 The Sowerbys' Mineral Conchology of Great Britain: Official List entry authorised.

NEW PUBLICATION: The Natural History of Nautilus by Peter D. Ward, Allen & Unwin, 1987, ISBN 0 04 500036 0 (hardback) 267pp. £35.

BRITISH SHELL COLLECTORS' CLUB

NATIONAL SHELL SHOW, SATURDAY OCTOBER 29th. 1988.

At the Napier Hall, Hyde Place, Vincent Street, Westminster, London, SW1.
11.00 to 17.00 hrs. Admission free. For details contact: Mr. Kevin Brown,
[REDACTED], Isleworth, Middlesex, [REDACTED]

THE SOCIETY'S COLOUR POSTCARD

As announced in the last Newsletter. this attractive colour postcard is now available at 10p each or 11 for £1 plus post, from Mrs. Jan Light, [REDACTED], Godalming, Surrey, [REDACTED]

CONTRIBUTIONS FOR THE NEWSLETTER

Most readers will be aware that I rely on having a stock of varied items from which I can draw when preparing the quarterly issues of the Conchologists' Newsletter. During the next few months I shall need more articles, particularly long ones, reports, reviews, etc. to replenish my dwindling stock. A few contributions have been retained 'on file' for future issues. Please write!

P. E. Negus, Newsletter Editor

COPY DATES FOR NEWSLETTER CONTRIBUTIONS

Copy for the March	issue should reach me before	6th. January,
" " " June	" " " " "	6th. April
" " " September	" " " " "	6th. July
" " " December	" " " " "	6th. October.

Newsletter Editor

Just a reminder about the BRITISH MARINE WORKSHOP to be held on Saturday 26th. November 1988 at 10.00 a.m. A few spaces still available. Full details and booking form are in the last newsletter, or contact Jan Light, [REDACTED], Godalming, Surrey, [REDACTED]

Printed by: D. C. Armsworth, [REDACTED], Baldock, Herts. [REDACTED]

THE CONCHOLOGISTS' NEWSLETTER

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Market Harborough,
Leicestershire,

December 1988

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THE ANDAMAN ISLANDS

Some of the shells and how they were used by the natives and immigrants
with special reference to the Trochus

The writing of this article was stimulated during the British Shell Club's annual shell show on Saturday October 26th. 1986, when two beautifully pearly carved Trochus (Tectus) niloticus or Button Top shells were sold to members of the Club. They were obviously a pair because one had ANDAMAN carved around the bottom whorl while the other had PORT BLAIR carved around its base. What really made me decide to write this article was that I had myself bought two similar shells from an old junk shop in Cambridge in 1975 and at the time collected together a lot of information on which this article is based. I have divided the account into three parts, the geography, topography, natural history and a brief history of the natives and colonists and the uses by the natives of various species of shells including the Button Top shell on the islands.

In the Bay of Bengal some 1288 kms. to the South-east of Calcutta on the Indian mainland and 129 kms. from Cape Nigrais in Burma, the first of a chain of islands, formed as an extension to the Himalayan range, is Preparis Island. 80 kms. further south lie a group of islands known as the Cocos and occupied by a radar station. Landfall island some 48 kms. south of the Cocos is the most northerly of the 204 islands making up the Andaman Archipelago stretching 499 kms. further southwards. The islands cover some 6,495 square kms. To the south across the 129 kms. wide Ten-Degree Channel lie the 21 Nicobar Islands covering only 1,645 sq. kms., of which 12 are inhabited, strung out over 257 kms. of sea. Some 177 kms. further south lies Achin Head the most northerly point of Sumatra. On the east of the Andaman Islands, a sea-filled depression with a depth of over 1000 fathoms separates the islands from the Malay Isthmus and Peninsula. The Cocos, the Andaman and the Nicobars are all part of the Indian Empire or Indian Commissioners territory of the Andaman and Nicobar Islands.

The only islands in the Andamans which are permanently occupied are Great Andaman, Little Andaman and North Sentinel Island. Great Andaman, 320 kms. long and at no point more than 40 kms. wide, is broken up by geological movement in ancient times into 3 sections known as North, South and Middle Andaman. Today these are separated from each other by two narrow straits hardly navigable even by vessels of low tonnage.

The islands appear as a series of hills, nowhere of any great height, covered from sky-line to high-water mark with dense strikingly beautiful tropical forest. The highest point of North Andaman is Saddle Peak (732 m.), that of Middle Andaman is Mt. Diavolo (511 m.), while the South Andaman has the Mt. Harriett Range (459 m.) and in Rutland Island there is Mt. Foord (435 m.). There are no rivers and few streams of any size. The water drains from the hills into tidal creeks

running through mangrove swamps, often many kilometres in length. The coast is broken by a number of magnificent harbours. The shores are fringed with extensive coral reefs often exquisitely coloured and on these and in the creeks there is an abundance of fish and molluscs.

Grouped with the chief islands are a number of smaller islands, Smith Island off the N.E. coast of North Andaman and N. Reef Island off the S.W. coast; Interview Island off the N.W. coast of Middle Andaman and Long Island on the S.E. coast; Baratang wedged in between and on the east of Middle and South Andaman; Ritchie's Archipelago or Archipelago Islands including Button Island to the north and Have-lock Island to the south lies east of South Andaman with Labyrinth Island on the S. West and Rutland Island directly south. Little Andaman which is flat and 41 kms. by 25 kms. forms the southern extremity of the whole Andaman group and lies 49 kms. south of Rutland Island across the Duncan Passage, in which lie the Cinque and other islands. Besides these there are a great number of islets lying off the shores of the main islands.

The Andamans provide India with a number of important timbers: Andaman Redwood (Pterocarpus dalbergioides); Koko (Albizia lebbek); White Chuglam (Terminalia bialata); Black Chuglam (Myristica irya); Marblewood or zebra wood (Diospyros hurzii) and Satinwood (Murraya paniculata).

A few interesting indigenous and introduced animals live on the islands including the Dugong, a monkey (Macaca leonina), a small pig (Susa scrofa andamanensis), the palm civet (Paguma larvata tytleri), bats, harrier eagle, red-cheeked parakeet, oriole, sunbird, bulbul and dogs introduced on Little Andaman at the beginning of the century.

In 1786, owing to the menace to shipping constituted by the islands and their inhabitants, the British East India Company, under Lord Cornwallis, commissioned Lieutenant Archibald Blair to start a settlement, convicts being sent as labourers. The settlement was founded on Chatham Island in September 1789 and called Port Cornwallis. In 1792 it was transferred from the first site to another harbour in the North Andaman where a naval arsenal was established. Unfortunately the site proved to be unhealthy and in 1796 the scheme was abandoned.

When the Company, at the end of the Indian mutiny (1858), found themselves with a large number of prisoners on their hands, it was decided to create a new Penal Settlement and the original site on Chatham Island was chosen for this purpose and renamed Port Blair. The Penal Settlement was re-established in March 1858 and has been in existence ever since. The population of the Andamans today is almost entirely of recent immigration: there are no Europeans permanently resident but a large number of colonists of Indian, Burmese or Maylayan origin have made their home in the islands. In the Indian Census of 1951, the entire stable population of the Andamans and the Nicobars was assessed at 30,000, by 1970 52,000 and by 1975 115,000 while the population of the original 4000 Negritos in the 1850's had dwindled to 600. The seat of administration is still in Port Blair. The principal harbours are Port Blair in South Andaman, Port Cornwallis in North Andaman and Elphinstone and Mayabandar in Mid Andaman.

The few aboriginals or Negritos remaining in the Andamans are anthropologically of extreme importance. Classified among the Negritos, Asiatic pygmies, they are one of the few surviving groups of pygmies who in the past were widely scattered over the world. They can be divided into three groups, clearly distinguished one from another by their mode of life, their past genetic isolation and their attitudes towards outsiders.

1. The Arioto, the friendly Andamanese, once numerous, now almost extinct and living along the coast of Middle Andaman.

2. The Jarawas, very hostile Andamans, living in the tropical forests of South and Middle Andaman and also on a tiny island called North Sentinel repelling violently any intruders.
3. The Onges, sole inhabitants of Little Andaman.

In 1975 a very interesting article written by Raghubir Singh in the Sunday Times magazine dated September 14 began with these words about the Negrito pygmies in the Andaman Islands:-

"Primitive man is fighting a rearguard action against civilisation in the Bay of Bengal. Three tribes of Negrito pygmies still live mainly by the bow and arrow in the Andaman Islands, but their numbers are dwindling yearly at an alarming rate as the 20th. century encroaches on them relentlessly, inevitably." It wouldn't surprise me now if I heard today in the 1980's that they were now all extinct or integrated into the immigrant population.

The Onges from Little Andaman were in the 1970's still a hunting - fishing - gathering community and up until fairly recently used shells for a variety of uses. These uses were mentioned both by Lidio Cipriani who lived with the pygmy tribes for a year and described his stay in The Andaman Islanders 1966 and by A.R. Radcliffe-Brown in his book also entitled The Andaman Islanders.

The Onges only used a few species of shells but the uses made of them were numerous and very varied.

The pearly nautilus, Nautilus pompilius Lamarck, was used for drinking as a cup, for feeding babies, as a baler shell for their canoes and as a ceremonial drinking vessel for the dead.

Dentalium shells especially Dentalium octogonum Donovan were used as beads strung on a piece of thread and worn either as a necklace, as a bangle round the wrist, knee or ankle, as pendants hanging from a head-dress chaplet or as a belt or girdle around the waist. They were also used to decorate the bones of the dead.

Tridacna clams, T. squamosa Lamarck and T. gigas Lamarck were used as food, certain parts being very tasty. In the past arrow-heads were made out of shaped pieces, as were the blades of crude hatchets. The natives also used to fill the giant clam shells with water and use them as mirrors when they painted themselves. Mirrors have now, of course, replaced the shells and are called 'quietanga', derived from their name for the Tridacna clam.

Pinna shells were used to make an adze blade but were only suitable for light work such as finishing off a bow or a canoe. Large pinna shells were also used as trays or dishes for holding food or for mixing clay with water for painting.

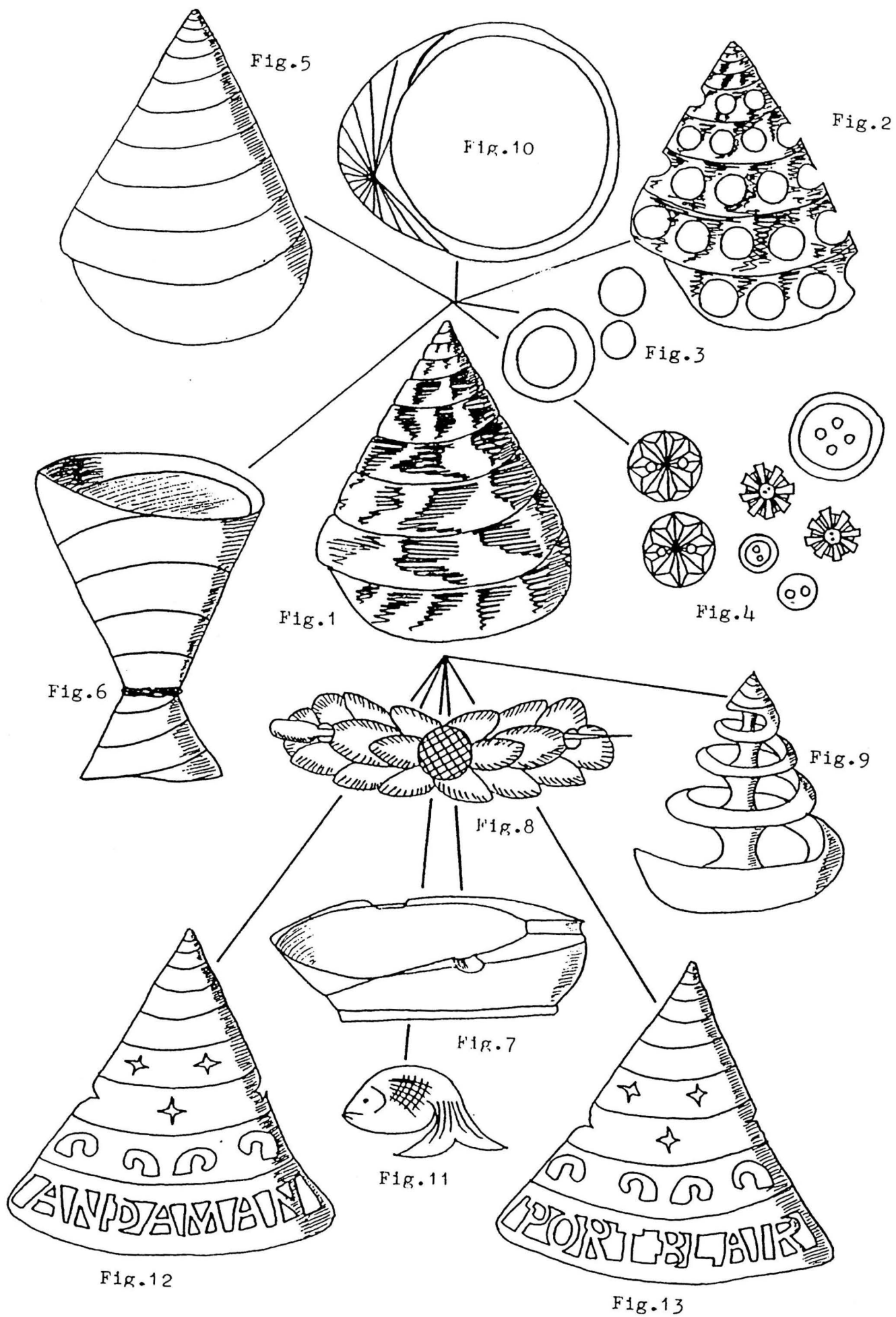
Arca shells were used for smoothing over the moist insides and outsides of clay pots and then for making the decorations before firing. A picture of a cockle shell being used to make an indented pattern round the lip of a bowl is shown on page 89 in Mary Saul's Book of Shells 1974 Country Life, London.

Cyrena shells in their natural form are the most widely used shell in the Andaman Islands. They were used as knives, scrapers and spoons. The shell is closely connected with the natives, the new-born infant is washed and then scraped with a cyrena shell. Today, even with metal knives, the natives still prefer to use Cyrena shells as scrapers in preparing fibres for rope and thread, in making arrows, as a knife for cutting thatching leaves, cane, thread, rope and for making incised patterns on bows and arrows. The shell is used for eating (the wild form of the so-called Jack-fruit) the skins being slit open with the shell and the seeds extracted. Fishing arrows are made of the small native bamboo, the Onges removing the knots by scraping them down gradually with the sharp edge of the shells. Canoe

paddles are roughly shaped using a metal hatchet but are smoothed off with a sharpened Cyrena shell. A boar's tusk was used as a type of spokeshave, the edge being kept sharp by scraping it with a cyrena shell; knives were made of a slip of bamboo or cane shaped and sharpened also with a cyrena shell. And even at death the cyrena shell played its part for, as the body was buried, it had a cyrena shell placed inside the closed hand.

One shell that didn't seem to play an important roll other than that of food was the Button Shell or Pearly Top, Trochus (Tectus) niloticus L., Figure 1. But this changed in the mid 1800's when the Pearl trade, in England and over much of Europe, reached its height. By 1854 when the volume of trade had risen to a figure high enough to be included in the Ministry of Trade returns, 1,832 tons (one ton being equivalent to 4,000 adult shells) of pearl shells were imported into England alone. By 1859 this had risen to 2,000 tons and on the 10th. October 1871 a total of 1,059 cases of Mother-of-Pearl shells from Bombay some of which certainly came from the Andaman Islands was landed in this country. To return therefore to the two carved shells that were mentioned at the beginning, they were probably carved in the 1890's by an inmate of the Penal Settlement at Port Blair. These inmates then sold their handiwork to passing sailors or even to the wardens overseeing them as a memento of either their visit or stay in the islands. The trade continued unabated until the 1930's and in that year some 450 tons of shell were removed from the Andaman and Nicobar Islands close by but in 1935 this tonnage had been reduced to 50. This reduction was inevitable at the rate the shells were being removed, especially as only the adults were of much use and it took at least three years for them to mature to adulthood, as well as the fact that the tonnages mentioned were only the legal figures and do not take into account the shells that were illegally poached as no doubt they were. And if it wasn't for the rise in the plastics industry and finding a cheaper artificial substitute there is little doubt that the trochus shell would have been fished to extinction. As it is the commercial value of the shell dropped to almost nothing and the fishing virtually ceased overnight.

The uses of the Trochus shell were and still are numerous but it was the button trade that brought it to the verge of extinction. The buttons were made by drilling holes along the spirals (Figure 2) and collecting the discs called blanks (Figure 3), large discs from the outer whorls, decreasing in size towards the spire. Each disc or blank was then reshaped to the desired form, decorated by ridging, grooving or bevelling, pierced for sewing, smoothed and finally polished (Figure 4). This process luckily is one that has to be done by hand for no two shells are exactly alike and each button has to be fashioned individually, one reason for industry preferring plastic. Today real shell buttons are expensive, many having been handed down from past generations. Some modern buttons are still coming into Britain but none as beautifully worked as those of the Victorian age when they were at the height of the fashion in Mother-of-Pearl. It must be mentioned here that in the 1880's a cult sprang up among the Cockney Costermongers of London's East End in which they wore pearl buttons down the jacket, the waistcoat, the sleeves, the side of the trousers and on their caps. As many as 60,000 buttons being used for one single outfit. In my collection I have the tie from the Pearly King of Edmonton and it is covered in 170 + real pearl buttons. The Pearly Kings and Queens can still be seen today in festivals and carnivals collecting for charity and good causes. Also in my collection of artifacts from the Trochus shell there are several polished examples which were used as mantlepiece decorations (Figure 5). When in France I bought a set of sherry glasses made of two shells (Figure 6) and an ashtray (Figure 7) made from the last whorl. Recently I purchased from our local shell shop in Southend-on-Sea a very attractively carved hair clip (Figure 8) and a shell that had been cut in such a way that you could see the central pillar and spiral (Figure 9). If one keeps ones eyes open one can find among the brightly coloured plastic and metal bangles for sale in jewellery shops, bangles made from the Trochus shell (Figure 10) and also brooches carved from the shell (Figure 11) as well as other pieces of jewellery. And so we come full circle



and remind the reader of those captives on the Andaman Islands who over a century ago whiled away the time carving Trochus shells with the words 'Andaman' and 'Port Blair' as mementoes for passing sailors (Figures 12 and 13).

Acknowledgement -

The top shell used for making Button blanks was kindly donated by Joyce Whittemore of Button Box, 44 Bedford Street.

J. E. Llewellyn-Jones, 23/5/87

P.S. While I was in France this August and since then in West Mersea near Colchester I have seen a couple of lovely little boxes made from two small Trochus shells which had been polished and put together with an attractive lid made from the apex of one of the shells (Figure 14).

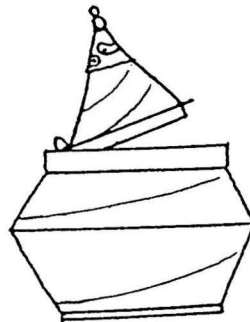


Fig.14.

MORE ABOUT SNAIL FIGHTING

In the December 1987 number of the Conchologists' Newsletter, Mr. A. Norris published a paper about snails and tailors, in which he quoted instances of folk tales, both Anglo-Scottish and Yugoslav, which showed tailors setting out to fight snails, and then running away in terror before the first blow was struck.

The motif of the snail combat is a widespread one in the Middle Ages, and by no means confined to tailors. Randall (1962) gives a number of instances of drawings in the margins of Gothic manuscripts dating from the end of the 13th. to the first quarter of the 14th. century, and also quotes the literature of the times. Her examples indicate that the fight (or refusal to fight) against snails was meant to symbolize cowardice. The following drawing is typical of this treatment of the motif:

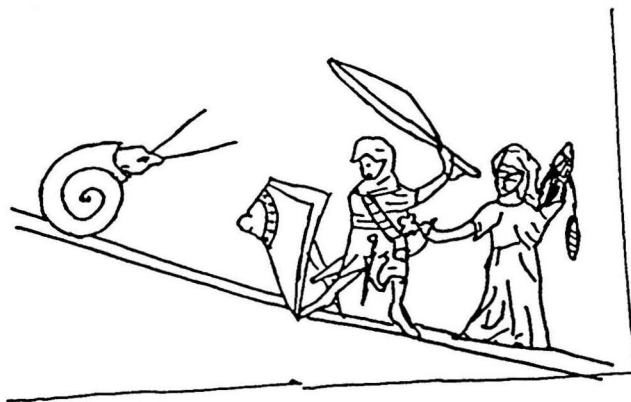


Figure 1 (13th. century psalm book, quoted by Maeterlinck, 1907)

On visiting Barcelona cathedral (which was built from the last years of the 13th. up to the 15th. century) a few years ago, I noticed up in the arch mouldings of the south portal a very interesting scene depicting two men fighting against a snail.



Figure 2 (Barcelona Cathedral)

The carving shows a man who has fallen to the ground and is trying to hold back a snail with his sword, raising his shield to protect himself against the creature's horns, while the snail moves relentlessly towards him. It seems likely that the other character, who is beardless, is the man's son, and that he is trying to pull the snail away from his father, though with little success. The snail appears as a fearsome creature, protected by its shell like a dragon by its scales, while the sword may well glance off the slimy body without being able to pierce it. Fighting it is no easy matter, and it seems a little hard on the two men to term them cowards because they do not manage to kill it.

This snail, with its globular shell, reflected lip and wrinkled shell-surface, is easily identified as Helix aspersa. It is exceptional, before the naturalistic revolution of the Renaissance, to find any small invertebrate portrayed in such a way that it can be identified at species level. Our carver has clearly taken a snail in his hand to look at it closely - a very commendable attitude.

A later example of the motif appears in a French almanac of the 15th. century. It is a poem narrating the fight of a woman and two men-at-arms against a snail defending a castle.



Figure 3 (Le Grand Compost du XVe siècle, quoted by Nisard, 1864)

La femme à hardy courage:

Vuide ce lieu, très-orde beste,
Qui des vignes les bourgeons mange,
Soit arbre, ou soit buisson,
Tu as mangé jusques aux branches.
De ma quenouille, si tu t'auances,
Ie te donrray tel horion,
Qu'on l'entendra d'ici à Nantes.

Les gens-d'armes:

Lymasson pour tes grandes cornes,
Le chasteau ne lairrons d'assaillir,
Et si pouvons te ferons fuyr
De ce beau lieu où tu reposes:
Onques Lombard ne te mangea,
A telle sauce que nous ferons
Nous te mettrons dans unbeau plat
Au poyure et aux oignons:
Serres tes cornes, nous te prions,
Et nous laisse entrer dedans.
Autrement nous t'assaudrons
De nos bastons qui sont tranchans.

Le Lymasson:

Je suis de terrible façon,
Et si ne suis-je qu'un lymasson.
Ma maison porte sur mon dos,
Et si ne suis de chair ny d'os.
I'ay deux cornes dessus ma teste,
Comm'un boeuf qui est grosse beste;
De ma maison je suis armé,
Et de mes cornes embastonné;
Si ces gens-d'armes là s'approchent,
Ils en auront sur leurs caboches:
Mais ie pense en bonne foy
Qu'ils tremblent de grand' peur de moy.

The woman with the stout heart:

Get out of here, you dirty creature,
Who eat the young shoots of the vine;
Be it tree or be it bush,
You have stripped them to the boughs.
With my distaff, if you approach,
I shall land you such a blow
As will be heard as far as Nantes.

The men-at-arms:

O snail, in spite of your big horns
The castle we shall still attack,
And if we can shall drive you away
From this fine resting-place of yours.
Never has a Lombard eaten you
To such a sauce as we shall do.
We shall put you on a fine dish.
Seasoned with pepper and onions:
Put up your horns, we beg you,
And allow us to come inside,
Otherwise we shall attack you
With our cudgels, and they are sharp.

The snail:

I am terrible to look at,
and yet I am only a snail.
My house I carry on my back,
And yet am neither flesh nor bone.
I have two horns upon my head,
Just like an ox, a mighty beast.
My house is a weapon for me,
and my horns I use as cudgels.
If those men at arms come closer
They will get blows upon their heads.
But I think, in good faith,
That they are trembling before me.

In this poem there is an interesting mixture of traditional and realistic detail. The snail is still a dangerous creature, since the people threaten rather than attack it, and the snail itself thinks they are afraid. Yet its typically snailish behaviour (it is described as feeding on leaves), and also the men's looking forward to eating it as a delicacy, have a picturesque effect. Several interpretations have been proposed for this poem, but the most felicitous is that of Maeterlinck (1907). He thinks the snail symbolizes a lord whom his castle (the shell) protects from the revenge of the vassals he has been oppressing. The 15th. century was a difficult time for French peasants, with famine, the plague, and social unrest. The mention of the Lombards could be an allusion to the Italian wars, which started at the end of the 15th. century. The lord was going to find his own vassals much tougher adversaries than the foreign foe. The use of the snail fight in this context shows that by the 15th. century the motif had lost most of its symbolical force, but was still around and could be infused with a new meaning.

The purpose of this paper is to demonstrate a few of the ways in which the snail combat was used in medieval art. I shall refrain at such an early stage from offering a general interpretation of the motif. Later instances, such as the 15th.

century poem, are more easily interpreted because less foreign to our modern mind, but they show some alteration of the primitive meaning. Earlier ones are more obscure, and this is in particular true of the carving from Barcelona. I should be grateful for suggestions, as well as other examples of this motif in art.

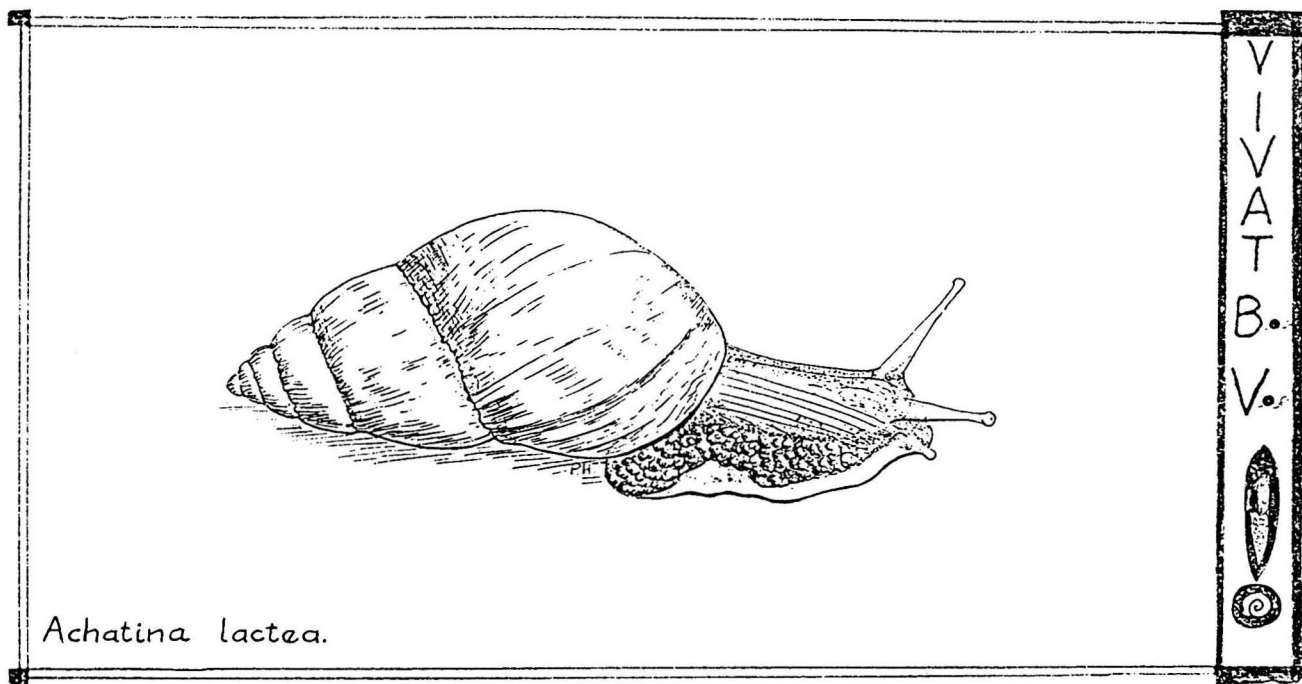
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THE BEHAVIOUR OF ACHATINA LACTEA REEVE IN CAPTIVITY

In the Conchologists' Newsletter 90:196-197 (1984) attention was drawn to the fact that Achatina lactea had been found alive in Somalia and that 5 were to be kept alive. These 5 were handed over to Miss P. Halliday and the following is a transcription of the voluminous notes she kept on their day to day behaviour, illustrated by a figure of a living animal she drew for my 60th. birthday card! (B. VERDCOURT).



The 5 adult snails were received in September 1983 and placed in a terrarium 18 x 10 x 10 inches (6 gallons capacity) with a 3-4 inch layer of sand. Several rocks, a dead grass-tuft and a lump of pure chalk were added with extra sand at one end and a plastic tray, in which I placed food, at the other. At first I moistened the food before offering it, but the animals took to bathing in the run-off so I stopped this practice to prevent possible drowning. A light was installed in a

metal hood which fitted close over the terrarium to provide both heat and light. I experimented with the light but usually it was switched off overnight or screened, so that a distinct diurnal pattern of day and night was maintained. When they first arrived during warm weather they seemed to show the molluscan equivalent of jet-lag, as, at first, there was no pattern in their activity. After a tour of inspection they all ate enormously and slept at all times of the day and night with no apparent recognition of light or dark conditions. This initial confusion seemed more noticeable by comparison with the predictable, more or less regular habits which they developed after several days.

The conditions I was able to provide were not adequate since, although the terrarium was heated to between 70 and 80°F. and rain periodically supplied which stimulated them into frantic bouts of feeding, the damp cold of the English winter finally killed 4 of the 5 animals. At least I imagine that was the cause of death. Probably the prolonged lower temperatures of 70-80°F after their accustomed maximum of perhaps 110°F was the main factor. Temperature fluctuations in England at that time were more than usually outrageous. Perhaps if the animals had been juveniles they would have adapted satisfactorily but all were adult (Possibly these 4 were all senile anyway B.V.). The animal which survived a further two years may have been younger or more adaptable; it was certainly fully grown and no further addition was made to its shell during the period of captivity.

When only one snail was left smaller quarters were provided, 8½ x 5 x 5 inches with 4 inches of sand, which were confined, hot and humid. The snail immediately remained active for longer periods of time, becoming dormant if removed to a more spacious environment.

To return to the first weeks of the original 5 animals - after several days they would remain extended during the day draped over each other in a heap. At night they would feed greedily, then burrow into the sand as far as the last whorl or just to the aperture rim. If a stone were available they preferred to burrow under that remaining partially extended. Sometimes they would dig a burrow then retreat partially into their shell, so that the body was surrounded by a moist cavity. Occasionally they would remain half-buried in this way for longer periods and then the animal would gradually shrink back into its shell eventually sealing it with an epiphragm. They rarely climbed the glass sides of the terrarium preferring to travel over the sand or through it. They travelled about beneath the surface by both day and night.

With the last surviving animal, dormant periods were irregular and sometimes anticipated weather changes despite the more or less constant temperature of the terrarium, but it must be said that strong winds were able to affect this to a certain degree. Nevertheless, there was definitely a reaction to changing weather outside the immediate environment, as even when the temperature was constant inside the terrarium, the animal fed greedily in summer but little in winter. In 1984, there seemed to be short periods of hibernation in autumn/early winter (Oct.-Dec.). Usually no epiphragm was formed, the animal retreating partially or totally into its shell. This signified feeding again a day or so later. Occasionally, however, a seal was made, sometimes with the mouth of the shell below sand level, sometimes on the surface. This prefaced a longer period of inactivity, and after my experience with the other 4 animals, I made a point of waking the last survivor if it 'slept' for a full week. I used three methods. I first tried turning the shell over so that the mouth faced upwards. This worked well unless the sleep had been a lengthy one. The snail was aware of being upside down and quickly righted itself in the early days although latterly this method did not always produce results. I then tried drumming my fingers on the shell (imitating heavy rain). This worked fairly well, but the best results came from letting water drip heavily on the shell - slow drips from a height, when it emerged very quickly, as if alarmed. The snail would become dormant in overly hot weather too, when it would seal the shell thor-

oughly, but on these occasions was easily coaxed into life by sprinkling the shell with water.

The epiphragm was never consumed, nor dissolved on emergence, just pushed through and then broken into fragments by the emerging animal, and left lying where it fell.

Comparing the behaviour of this last surviving snail (in winter 1985) with my notes of winter 1983, it is obvious that the animal had been failing gradually for some time. It was, for example, slow to right itself when the shell was placed mouth uppermost, and it seemed reluctant to retire into its shell when disturbed or picked up. The latter may mean little, since I frequently did pick up the animal and it was used to such treatment.

As regards eating habits, the original five animals were at first insatiable, behaving in an almost predatory manner when food was offered, immediately and speedily advancing on and greedily devouring carrot, lettuce, apple, pear, banana, Jerusalem artichoke, cucumber and runner beans. All food had to be very fresh, especially for the last survivor; no wilted or stale food was even approached.

The animals possess a keen sense of smell and I have experimented by moving fresh cucumber round the container and on such occasions the animal would immediately change direction to follow the scent.

None of these snails ever accepted 'Bemax' (= whole wheat germ flakes), which most of the creatures in my experience, including molluscs, have thrived on or adapted to, nor did they touch the lump of chalk I supplied.

Few faeces were produced and those rarely, always above ground and often, though not always, before a period of dormancy. Sometimes faeces were produced when the snail became active after a dormant period. At first it took about 24 hours for a slice of carrot to pass through the digestive system, but the final animal was completely unpredictable in this habit, defaecating rarely and very irregularly.

The snails did not produce any noticeable slime trails. I did not have to clean the sides of the storage jar which the last snail had crawled over for two years! Occasionally a chalky smear appeared on the glass, but this could easily have come from a lettuce stump.

Description.

Shell cream/bone-coloured of 7 whorls with characteristic strong achatinid decussation, 9.5 cm. tall, 4.4 cm. wide. Animal cream, slightly darker than the shell and reticulate, with a dark chocolate brown line about 2-3 mm. wide running along the length of its back. The upper surface of the lateral expansions of the foot were also chocolate brown or almost black above but cream beneath. The foot was abruptly widened 3-4 cm. from the head and abruptly narrowed again towards the tail so that from beneath the foot appeared as a broad oval. The whole of the upper surface of the body was strongly rugose-reticulate. In some individuals there were smooth patches on the body, as if a predator had attacked. These patches did not show regeneration remaining smooth and pale in the long-lived specimen during the two years. In January 1984 for a time it did look as if regeneration were taking place, but this did not continue and the fine new reticulation disappeared again. At the time of its death this animal was mainly cream, the chocolate brown line having disappeared completely and the foot having faded. Epiphragms were white and translucent with the exact appearance and patina of candle-wax. The animal was 8 cm. long or more when fully extended, 1.5 cm. tall; head 1.5 cm. wide; eye tentacles 1.5 cm. long, 3 mm. wide at the base; lower tentacles about

5 mm. long, 1.5 mm. wide at the base; foot 6 cm. wide at broadest point.

Diary of notes made during life (edited).

- 9.9.83 5 adults received; fed on carrot (for preference), lettuce, apple, pear and cucumber overnight and then burrowed into sand.
- 10.9.83 The snails became active about 8 p.m. and all five were feeding by mid-night. Two spent the night in the food tray extended and when replaced on damp sand at 9 a.m. next day promptly burrowed.
- 11.9.83 Light left on all day but snails still dormant at 9.30 p.m.
- 12.9.83 One active early in the morning, one deep in burrow; other three had been active in the night.
- 13.9.83 2 & 4 now sleeping, the other three active in early morning. No. 1 definitely seems younger and more active than others and slightly smaller. Light was switched on 7-10 p.m. and when switched off 3 & 4 became active and began feeding but the others were still in their burrows at 11 p.m.
- 15.9.83 All had been active during the night (10 p.m. onwards) and eaten gluttonously of carrot, lettuce and cucumber. 1, 2 & 3 still feeding at 8 a.m.; 4 & 5 burrowing again. At 11 p.m. 3 & 4 active and looking for food.
- 16.9.83 1 & 2 still feeding in the morning, the other three having burrowed. All had been active overnight.
- 17.9.83 Only two had moved and one had disappeared underground.
- 18.9.83 All 5 active. No. 3 started to burrow about 9 a.m.
- 30.9.83 Three active but two have burrowed and not been seen for some days.
- 1.10.83 Four active.
- 7.10.83 All 5 still intermittently active. Very fast-moving when food offered. I waved a slice of banana in front of one animal already feeding on lettuce and it immediately swung round to start on the banana, taking it from my fingers. They emerge from their shells and front half of the body rears up and swings from side to side as if sniffing the air, then they set off purposefully, quickly and very alertly in the direction of the food. They feed for 2-3 nights in succession then burrow deeply and sleep for several days. The same animals are never active together at the same time; never the same number of animals active each night. Nothing about them is strictly regular, but the usual routine is that they become active about 10.30 - 11 p.m. and become dormant again about 8 - 8.30 a.m. They have become more active since I put on the light early in the morning and left it on all day, switching it off about 10 p.m. and syringing the sand and any visible snails. I put a tray of freshly cut-up food in when I turn off the light.
- 10.10.83 No. 3 dead on the surface. It had not moved for several days so not clear exactly when it died. The weather is much cooler now and the snails much less active.
- 13.10.83 No snails got up to feed last night but they were moving underground.
- 17.10.83 Late tonight I partially uncovered the remaining four shells and syringed them. I left cucumber and lettuce on the sand as well as on the food tray. All had been active and one was still eating lettuce in the tray in the morning and showed no reaction when the light was turned on.
- 18.10.83 The same snail was resting on the surface under the light and had stopped eating but responded at once when sprinkled with water by emerging from its shell and eating a slice of carrot. These snails do not graze through their food but tuck a slice of carrot or cucumber under their chin, standing it on edge and biting chunks from it in the same manner as rabbits or guinea pigs. They also bend their eye-stalks over the food, as if to watch what they are doing. They very rarely extend fully but leave the tail end inside the shell. They are very purposeful in everything they do, but especially so with regard to food, and appear to pounce in a predatory manner. I proffered a slice of carrot to the snail just mentioned and it immediately pushed its head forward and began eating, cradling the

- slice between its 'chin' and the two wings of its foot. It consumed the whole slice (about 15 x 5 mm.) within 5 minutes but refused a second slice. I have fed them this way several times. Each night now, I switch off the light, uncover and syringe the four shells and place food near them. They have been active each night but have not necessarily been feeding but often just burrowing. Although the nights have turned colder, quite often down to freezing, the snails have been regularly active and still feeding. They rest in the food tray soaking up water. When I pick them up they retract and squirt the water out!
- 28.10.83 Although some or all of the snails have been active for several nights they have not been feeding and mostly have become dormant and remain inactive unless uncovered and the shells syringed.
- 30.10.83 I gave a small amount of water but did not uncover the shells. They moved about underground but did not come out for food.
- 22.11.83 Offered slices of Jerusalem artichoke which were eagerly consumed. I have recently left them to their own devices except for an occasional evening spraying and they have not come out to feed although they have been active underground. The last few days have been very cold yet tonight without any action on my part, one surfaced and one already on the surface became active. I sprayed them liberally with tepid water and now the former is feeding on carrot and the other is swinging its shell about.
- 1.12.83 Another snail is dead and has apparently been so for some time. One is moving about underground today and one was feeding a few nights ago. Although they are not feeding and despite the cold they have not sealed their shells. The animal feeding on carrot mentioned above is also dead. Perhaps, like tortoises it was unable to digest its food at low temperatures. The terrarium only reaches 70°F at this time of year. I shall allow the remaining two to remain dormant.
- 5.12.83 It has turned mild again after another cold spell. I put the two survivors into a storage jar in deeper moist sand and left them overnight in a warmish room. The animal which had been moving about underground became active after I switched the light off so I let it remain in the warm room with lettuce and carrot as food.
- 6.12.83 Another snail dead. The survivor was eating carrot and lettuce but not artichoke at 8 a.m. and still feeding two hours later so I left it in the heated room with daylight instead of artificial light. They dig a burrow and excavate a cavern in which they rest partially extended. If they sicken in this position they gradually shrink back into their shell.
- 7-12.12.83 Snail active.
- 11.12.83 Snail dormant on surface after eating hugely of cucumber, lettuce and carrot. I am keeping the container in a heated room still although it has been mild for two days then cold again. The survivor seems to anticipate weather changes about two days ahead. It still fills the shell when dormant which the others did not do as they sickened, the mantle shrinking from the shell rim. It is also excreting which the others only managed to do in the early weeks. The animal stays on the surface for this lengthy performance. The survivor exudes water and froth when disturbed. (In later months it became so used to being handled that it ceased to do this and even refused to retract into its shell unless poked).
- 13.12.83 Bitterly cold again but snail is unaffected. The heated room certainly suits it and it has fed every night since 6th.
- 15.12.83 Dormant all day but active and feeding at night. They seem to appreciate and thrive in much damper conditions than I had expected. This last animal looks very healthy and plump now that it is living in warm damp sand.
- 24.12.83 Up until last night (23rd.) the snail had been active and feeding on carrot, lettuce and cucumber, consuming enormous quantities, but last

- night the wind had kept the heated room cooler than usual so the snail had burrowed as deep as possible and has not eaten.
- 26.12.83 Mild weather again and snail is active most of the day and night, feeding on lettuce and cucumber, the latter at the rate of one slice 1.5-2" diameter by 0.5" deep per day. The sand is sticky with moisture and the snail remains half extended in its burrow when inactive. It has been excreting before burrowing. Faeces are salmon pink (carrot?) in 1.5" x 0.04-0.08" strands.
1. 1.84 There is colder weather promised today and that snail knows! For the first time for weeks it has buried itself, yet the temperature in the container remained at 70-80°F.
4. 1.84 I transferred the snail to a small aquarium about 10" square while I dried out the sand in the storage jar. It immediately burrowed and has not fed since. It is obviously happier in a hot humid confined atmosphere.
5. 1.84 I have returned the snail to the storage jar but it did not start feeding as I had expected but extended a cavern and is now resting there with eye tentacles extended and body partially so. It seems healthy enough at the moment. They often remain extended when particularly warm humid conditions prevail and retreat as weather gets colder and/or drier.
29. 1.84 The damaged patch on the foot of the survivor is darkening and beginning to wrinkle. The beast will not eat fresh dandelion leaves nor stale cucumber but it hurries for fresh cucumber.
8. 2.84 Snail still very active, eating mostly cucumber but also some lettuce. The weather has been more or less mild, but with cold penetrating winds keeping the "home" temperature to 70 rather than 80. While in the storage jar the snail spends much time travelling round it but becomes inactive directly it is removed to a larger container.

No more notes kept until

- June 1985 Snail's foot seems broader and paler but the chocolate brown stripe down its back has completely faded away. The damaged patch on its foot also seems larger and has not after all regenerated - it is pale and smooth again and the developing wrinkles have disappeared.
- 4-5.1.86 Snail died overnight. The weather had produced a cold snap at the beginning of January but the snail had been feeding and defaecating normally and had been active all the previous week although inactive the week before that. The storage jar was in its customary position in the heated room and nothing had been altered. The animal had been eating somewhat less for some time and had become more choosy about its food but it still fed regularly. It died with eye-stalks and body partially extended clinging to the side of the storage jar. Outwardly there was no sign of the cause of death although I suspect that the prolonged cold spell might have hastened it; it was probably just old age.

P. Halliday

WEYMOUTH DREDGING TRIP: 25th. JUNE 1988

The sun was shining and it was already warm when the Black Tigress left her moorings at Weymouth Quay at 9 a.m. with ten members, including three divers, on board. The weather was ideal with a calm sea and clear views of the picturesque Dorset coast. Once the dredging started, however, there was little time to admire the scenery.

The first stop was off Redcliff Point where the divers collected a few bags of sand. Sieving this rather unproductive material kept most members occupied until

the first dredge was taken to the east of Osmington Mills. Not having been dredging before, I awaited the results with eager anticipation. I was certainly not disappointed; the dredge disgorged on to the deck a mass of Lithothamnion fragments liberally interspersed with conspicuous molluscs, principally Venerupis rhomboides. After samples had been taken for later examination there followed a somewhat undignified scramble amongst the remaining material which produced a quantity of smaller molluscs including in particular: Nucula hanleyi, Timoclea ovata, Clausinella fasciata, Turritella communis, Aporrhais pespelicani and a single Balcis alba.

Near Durdle Door, the eastward extremity of our trip, the divers went down again eventually to surface with bags of goodies, principally fine specimens of Pecten maximus, which served to wet the appetites of the ship-bound members of the party. The skipper confidently predicted that a single sweep with the dredge would catch more scallops in a few minutes than the divers had found in half an hour. However, in the event, the dredge only produced one live Pecten maximus but small rocks brought up by the dredge and containing a variety of boring molluscs provided more than adequate compensation.

To make up for the lack of scallops the skipper offered to take us to a bed of 'queenies'. This time his efforts met with marked success and he landed a reasonable number of Aequipecten opercularis as well as a surprising variety of other live molluscs including Glycymeris glycymeris, Gari tellinella, Gibbula magus and, adhering to the disarticulated valves of large bivalves, Calyptrea chinensis.

Whilst members were still sorting through the material from the last dredge and packing samples and specimens for the return journey there was some discussion as to whether we should round off the day by dredging in Portland Harbour. The skipper showed more interest than most in the answer to this question and appeared suitably dismayed when he found that his ship was once again to be subjected to the notorious black mud. The mud itself proved an interesting contrast to the sediments already examined. Careful sieving revealed that it was home to a surprising number of small molluscs such as Abra alba, Thyasira flexuosa, Philine aperta, Tragula fenestrata and Odostomia acuta. Adult specimens of Musculus marmovatus were found living inside the ascidian Ascidiella aspersa.

After waiting briefly in Portland Harbour while a last dive was made it was time to return to Weymouth at the end of a very interesting and successful trip. For me, one of the greatest pleasures was to see for the first time live representatives, in the form of Corbula gibba, Nucula hanleyi and Astarte triangularis, of genera with which I was already familiar but only from the fossil record where these genera are often abundantly represented, both in terms of individuals and of species.

Malcolm Symonds, [REDACTED], Ashtead, Surrey, [REDACTED]

BRITISH MARINE WORKSHOP REPORT 1987

It was a cold and beautiful morning and so we set out at 7.30 a.m. on November 28th. 1987 on roads with very little traffic. The Dartford Tunnel was clear and so we made very good time southwards. What surprised us though, was that on the south side of the tunnel there was an extremely heavy frost which sparkled on the trees in the sun. It was just like a Christmas card scene as we raced our way towards Godalming along the M25. We arrived outside Jan Light's house at 9.30 a.m. with plenty of time before 10 when the meeting was to begin. By 10 o'clock everyone had arrived, Jan Light picking up those who had come by train, including William Penrill who had come down through the night from Fife, Scotland. Our group included Jan herself with Phil Palmer, myself, my mother Joan Llewellyn Jones, Peter

Cunningham, Judith Nelson, Christine Street and Bill Pocock.

We started by organising our microscopes on the tables set out and then looking through shell sand from Weymouth and various places around the country, identifying, or trying to identify, the small specimens turning up. Jan Light then showed us some slides that she had taken of the mating of Neptunea antiqua L. which she had brought south from Skye where she had spent a week in January with her family. The Neptunea had been obtained by a local scallop shell diver. Some more sorting and naming small species followed. A sandwich lunch was had by all washed down by a plentiful supply of coffee provided by Jan from her attractive kitchen. Phil Palmer then gave a talk with slides on the 'Evolution of Molluscs' using embryological and developmental stages to strengthen his arguments. An interesting but unresolved discussion took place over the position of the Cephalopods within the Mollusca, because of the enormous differences in their development during the embryo stage. Phil then brought out a large and very 'formalated' squid Loligo forbesii from Millport which he then dissected in front of us, identifying and explaining the function of each of the organs. The ink sac, from which we extracted some ink, the beak, the suckers, the pen were all removed and looked at carefully. The members were then saved from a nasty death by pickling by the removal of the remains and a very much needed cup of tea.

Jan finished the meeting by handing round a complete set of specimens of the British Nucula family and going through the various characteristics that can be used for identification. A very useful session indeed.

The meeting finished officially at 5 p.m. after which a number of us went on a tour of the house finishing up on the top floor where Jan keeps both her beautiful Pecten collection and her aquarium in her study, the walls of which are covered in paintings, shell pictures and books. The shell pictures are a past hobby of hers and were designed and put together by herself. A very good day was had by all, with lots of information gained, lots of shells to look at and of course the enjoyment of meeting with other people with similar interests to discuss with them the many problems that arise from trying to identify small species. This is a workshop that should be attended by all those interested in either small species or British Marine Molluscs. Now write the date in your diary of the next one, keep the day free and make sure that you get in touch with Jan Light to book a place. Details were given in the last Newsletter.

Below is the Christmas card designed and painted using the Squid ink which we looked at during the November meeting.



J. E. Llewellyn-Jones

GENERAL NOTES

SALE OF CABINETS FOR THE BENEFIT OF THE SOCIETY

Although I have never maintained much of a private collection, giving all important material to museums, nevertheless a good deal accumulated. This has now also been dispersed to various museums and the cabinet remains. This was specially made for me by Peter Taylor, formerly of Luton, a botanist at the Royal Botanic Gardens, Kew and a gifted cabinet maker. The cabinet is compartmented and would be of no use for insects, etc.. It measures 62 x 61 x 46 cm. and has 12 unlidded drawers which increase in depth from top to bottom. The number of compartments decreases - the top drawer is 3 cm. deep and has 144 compartments whereas the eleventh is 5.5 cm. deep and has 36 compartments. The bottom drawer is 5.5 cm. deep and has no compartments. It is ideal for a single genus of variably sized species, e.g. *Cypraea*. The facings are probably mahogany but Peter does not remember now. It is totally unmarked and as perfect as the day it was made over 20 years ago. I would not be prepared to entrust it to a carrier. The buyer should preferably fetch it so it can be moved with care. I could perhaps move it myself but only to a reasonably close destination. Cabinets now cost over £50 per drawer and the true value of this one is about £500. Total proceeds will be handed over to the Society. A second small cabinet measures 42 x 38 x 22 cm. and is in need of attention. It has six drawers with glass lids and no compartments. One drawer lacks one knob and the basal pediment a facing strip. About £10 I would say. Will anyone interested please contact me.

B. Verdcourt, [REDACTED], [REDACTED], Maidenhead, Berks., [REDACTED]

RECORDING ON FORESTRY COMMISSION SITES

The Forestry Commission is currently involved in designating areas of forest where conservation takes a high priority in the management plan and some of these areas are also Sites of Special Scientific Interest recognised by the Nature Conservancy Council. The Forestry Commission is aiming to have management plans for these areas formulated by March 1991, but before this can be done, records of the flora and fauna need to be compiled. Where species of particular interest or sensitivity are found, this information is added to the stock maps used by foresters who are working on site and they will then know of the special interest and where care is needed.

Any help which members of the Conchological Society can give will be appreciated. Records are satisfactorily presented on the existing non-marine mapping scheme cards, but an interpretation of the fauna lists, extra notes and advice on habitat management and the value of the species present would increase the use of the lists by Forestry Commission staff who are not specialists in molluscs.

The Forestry Commission are pleased to issue access permits for recording purposes and anyone interested in taking part should contact Dr. June Chatfield at the Gilbert White Museum, The Wakes, Selborne, Alton, Hampshire, GU34 3JH. Perhaps this work could provide sites of interest for the Society's field meeting programme and also an incentive to collect and record from sites where information on the fauna is needed for conservation.

June Chatfield has been in discussion with Mr. Rod Stern, the former Conservation Officer of the West Downs area of the Forestry Commission and proposes to set up a co-ordinating team with the Society's Conservation Officer Dr. Martin Willing

and the Field Meetings Officer Mr. Ian Killeen. The team will then offer help and co-ordinate with the appropriate regional officers of the Forestry Commission who will provide lists of sites to be surveyed in their area and issue access permits. Please write in if you would like to help.

June Chatfield

INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

c/o. British Museum (Natural History), Cromwell Road, London, SW7 5BD 01-938 9387

Opinions published in the Bulletin of Zoological Nomenclature

The following Opinion was published on 23 September 1988 in Vol. 45, Part 3 of the Bulletin of Zoological Nomenclature.

Opinion 1502 Conus fergusonii G. B. Sowerby III, 1873 (Mollusca, Gastropoda):
specific name conserved

CHRISTMAS 1988 AND THE NEW YEAR

The Newsletter Editor sends Seasonal Greetings and Good Wishes for 1989 to every reader.

Do please support your Newsletter by sending in more articles, reports, reviews and comments of all kinds which are needed for future issues. As far as possible I like original material rather than newspaper cuttings. The latter sometimes present problems over copyright involved with syndicates, authors and others. Clear line drawings of shells and diagrams are most welcome. Beginners, juniors and all others should start writing now!

P. E. Negus

There will be a PORCUPINE MEETING at Lancaster University on Saturday 1 April and Sunday 2 April 1989. The theme will be the Irish Sea. Presentations will cover a range of subjects concerned with the marine biology of the Irish Sea and its environs. Conchological Society members will be welcome. For further details please contact Dr. Shelagh Smith, [REDACTED] Hayton, Carlisle, Cumbria, [REDACTED].

NEW ASSOCIATION

Association Francaise pour l'Etude des Mollusques Continentaux, Museum de Sciences Naturelles, 12 rue St. Michel, 28000 Chartres. To co-ordinate the efforts of all people interested in land and freshwater molluscs.

CONCHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

1008th. (Ordinary) meeting held on 21st. May 1988 at B.M.(N.H.)

In the Chair: Mr. D. C. Long with 30 members present.

Nominations and elections to Membership: 2 Full Members

Mr. M. R. Bates, [REDACTED], London, N17.

Ms. J. W. Murray, [REDACTED], Seven Kings, Ilford, Essex, [REDACTED].

Lecture of the Day: Mr. I. Killeen on 'Non-marine Mollusca of Suffolk'.

Announcements and Correspondence: Society postcards are now available at a price of 10p each (or 11 for £1). Mrs. Rands announced that plastic boxes of assorted sizes were for sale; this was her final purchase. Members were reminded about the summer programme of field meetings. Porcupine are holding their spring field meeting at Lancaster University from 31 March - 2 April 1989. Further details are available from Shelagh Smith and will be given in the December Newsletter.

Meeting closed 4.58 p.m.

Exhibits

- D. W. Guntrip - Testacella haliotideia from a new 10km square in Bedfordshire
- D. T. Holyoak - Toltecia pusilla should be called Paralaoma caputspinulae
- I. J. Killeen - Suffolk Mollusca
 - Distribution of Conchological Society members in Britain
- J. Light - Marine Conservation Society Nudibranchs of the British Isles
- D. C. Long - Suffolk mollusca and papers
 - Acicula fusca from Vice-county 33
- T. Pain - Strophocheilus Spix, 1827 (Pulmonata, Acavacea)
- E. G. Philp - Deroceras caruanae now the commonest garden mollusc at Aylesford, Kent.
- E. B. Rands - Plastic Boxes for sale.
 - Books for sale.
- M. B. Seddon - Land-snails from Sri Lanka (Acavus, Cyclophorus)
- F. Woodward - Nautilus pompilus found on 13 December 1986 by Duncan Ritchie on the east coast of the Kintyre Peninsula in Kilbrannan Sound, Argyll, Scotland.

The Editor of the New York Shell Club Notes, Dorothy Raeihle, has asked for permission to reproduce the article "Christopher Columbus and Pteria columbus" (Conch. Newsletter No. 105, pp. 93-95) adding that these powerful speed-boats pick up contraband well off shore then put on an innocent face to come into a quiet cove or residential marina. Meantime Stella Turk has received some corrections on the identity and/or correct identifications of the species of mollusc found on the speed-boat from Dr. Solene Morris of the Mollusca Section (British Museum), as follows: Pteria colymbus, not columbus; Pinctada imbricata, not P. radiata; and Dendrostrea folium, not Lopha folium.

Printed by: D. C. Armsworth, [REDACTED], Baldock, Herts. [REDACTED]