

March 1965

London, S.W.1.

Produced by 'The Conchological Society of Great Britain and Ireland'

JUNIOR MEMBERSHIP

The following were elected to the Junior Membership of the Society on the dates given:-

14th. November 1964

<u>MASTERS</u>	Philip John	[REDACTED] Rhondda, Glamorgan.
<u>JOHNSON</u>	Ian R.	[REDACTED] Penzance, Cornwall.
<u>SMARTT</u>	John T.	[REDACTED] Dublin, Eire.
<u>HANCOCK</u>	Caroline	[REDACTED] York.
<u>WILKINSON</u>	Rosemary J.	[REDACTED] Epsom, Surrey.
<u>WHITFIELD</u>	Garry Edward	[REDACTED] Warrington, Lancashire.
<u>WARD</u>	Penelope Ann	[REDACTED] Keighley, Yorkshire.
<u>O'CONNELL</u>	Michael Anthony	[REDACTED] London, N.1.

12th. December 1964

<u>TOWNSEND</u>	Christopher M.	[REDACTED] nr. Liverpool.
<u>THISTLETON</u>	Brian M.	[REDACTED] Isle of Wight.

16th. January 1965

<u>TAYLOR</u>	Patrick J.	[REDACTED] Truro, Cornwall.
<u>JOSEPH</u>	Steven Falcon	[REDACTED] London, W.1.

MOLLUSCA IN THE MUSEUMPart I

The majority of our Natural History Museums tend to ignore the invertebrate phylum Mollusca completely from their collections, presumably due to the absence of relevant literature dealing with the collection, preservation, maintenance and storage, of the members of this phylum. It is hoped that the following notes will remedy this deficiency.

The first and major problem concerning the curator will be that of his policy for the Mollusca collection as a whole, this being influenced to a considerable extent by the general policy of the museum concerned, thus if collections of birds, etc., are of a local nature then the Mollusca collections will likewise tend to be restricted to this field, whilst in other museums the policy may be British or even world-wide. However, it should be borne in mind that the policy may also be influenced by collections already present in the museum these often forming a basis for zoogeographical units.

If one of the functions of the museum is the loan of material for study by schools a small collection of large exotic shells proves ideal for still subjects for art colleges. Similarly the diverse shapes and sculpture are extremely suitable for loans to schools for the blind.

Once the departmental policy has been settled, we are faced with the problem of forming the collection, our chief source of material being the result of active collecting or exchange.

The chief requirements for personal collecting are a knowledge of the habits of the Mollusca required, coupled with perseverance and a certain element of luck. The apparatus required varies with the animals' habitats

thus a hammer and chisel prove useful for marine collecting whilst most fresh-water species may be obtained by the use of a garden rake and a fine mesh screen, preferably of copper as this withstands rusting. Plastic bags prove essential whilst glass containers should be avoided due to the risk of accident. Small species are best obtained simply by taking home a sample of the shell sand, river gravel, or for land snails, dead leaves, these being sifted later at leisure.

When collecting shells of shell-bearing species it is preferable to obtain live samples and then remove the animal thus obtaining as perfect an example as possible, if however, one comes across a dead shell of a species unrepresented in the collection from a particular locality then it should be retained.

The method of treatment required for preserving the material obtained by personal field work will depend largely upon the intentions behind forming the collections, also, different techniques are required for the different classes of Mollusca concerned, for this reason it is best to deal with each class separately.

Gastropoda

Terrestrial and freshwater forms are best killed by drowning in a bottle filled with cold, boiled water, the animal being left in this for about a period of twelve hours, alternatively the snails or slugs can be placed in a shallow container containing a mixture of water and propylene phenoxetol which acts as a narcotising agent. The age-old method of plunging the animal into boiling water should be ignored since about 95% of animals killed in this way contract violently making it difficult to examine the anatomical details which are of major importance in classification.

In the case of marine species the animals may be narcotised using propylene phenoxetol as described above, this normally resulting in the animals remaining extended. The technique consists of placing the animal in seawater and, upon it becoming fully extended, slowly adding propylene phenoxetol which forms as a globule on the bottom of the container, and then leaving overnight. The propylene phenoxetol should not exceed 1% of the volume of water.

In the case of nudibranchs it is normally recommended to narcotise using crystals of menthol sprinkled on the surface but this method is far from reliable usually taking twenty-four hours or more to take effect, by which time the cerata and rhinophores have usually broken off rendering the specimen almost useless. The best method I have encountered so far is that of Carlos J. Risso Dominguez, this being as follows:-

After collecting living nudibranchs from the rock pools exposed at extreme low tide place them in a jar containing 30 - 100 cc. of sea water and leave for two or three hours until they are moving about quite normally. Add one or two drops of 20% Nicotine solution per 30 cc. of sea water and leave for about 10 minutes by the end of which the slugs should have become narcotised, if not, add further 20% nicotine solution. The extended slugs are then left in the nicotine solution for about 15 minutes after falling to the bottom of the container unless the mouth and pharynx become extruded in which case the animals are removed immediately and placed in fresh water. Wash thoroughly in running water to wash away all traces of seawater and nicotine solution for about two hours and then fix in 2% formalin for about a day, then rinse thoroughly in running water for three to four hours and transfer to propylene phenoxetol solution. If possible avoid moving the animals from the original container until completely fixed because of the liability of damaging the cerata especially in Eolids. The major disadvantage of this method is the risk of using nicotine solution.

The preservation of the resultant material depends upon the purposes to which the collections are subject, thus if it is intended for scientific study then the animals as well as their shells should be preserved, on the other hand, if it is intended simply for a reference collection then shells together with the lingual ribbon, jaws and love darts will be quite adequate for comparative purposes.

In the former case the animal should be fixed in alcohol or 10% formalin solution for a period of 4 to 24 hours and then washed in running water for 6

to 12 hours, at the same time making sure to remove any excess mucus. The material is then stored in a 1% solution of propylene phenoxetol in 10% glycerol.

This method of preservation proves extremely efficient and has the added advantage that dissection proves the material to be superior to living material for examining the relative position of the internal organs which are normally distorted upon the death of the animal.

If the specimen is required for reference only then the animal should be removed from the shell, this being achieved by means of a bent pin, if however apical portions of the animal remain in the spire these can be removed by soaking the shell in water for two or three days.

The soft remains, upon removal from the shell, should be placed in preservative until a time when the radula and jaw can be extracted using the method described in Wagstaffe and Fiddler.

The surface of the shell should be left in its natural state since in many forms the periostracum affords a taxonomic feature. If the animal possesses an operculum this should be removed and all traces of flesh removed, then rubbed over with oil or butter to prevent cracking, and allowed to dry. When the shell is ready for storage the operculum should be attached to a plug of glass wool with a little gum and inserted in its natural position. The majority of the literature advocates the use of cotton wool for this purpose but this should be avoided due to the risk of calcining.

In the case of species of the land snail genus *Helix* the animal is equipped with a love dart and this should be removed and fixed to a card or glass slide using the same process as that for the extraction of the radula and jaw.

In the case of shell-less forms such as slugs these can be prepared for the reference collection using the technique employed for the preservation of lepidopteran larvae, that is, by squeezing out the internal organs, etc., and then blowing up the skin to its natural shape and allowing to dry.

Amphineura and Scaphopoda

These may be killed and preserved as for gastropods but in the case of Amphineura upon the removal of the animal the shell should be placed between two glass slides and allowed to dry, otherwise the individual plates become curled due to the contraction of the girdle on drying. The radula and jaws should also be extracted and made into permanent microscopic slides as for gastropods.

Lamellibranchs

It is stated that bivalves may be killed by plunging into boiling water but this causes considerable contraction of the animal coupled with a marked depreciation in the value of the shell which tends to crack upon drying. By far the best method is by drowning in cold boiled water or by narcotisation using propylene phenoxetol as for gastropods.

When killed, wash in fresh water to remove all excess mucus and also the contents of the mantle cavity. These should be retained and examined for the presence of symbiotants or parasites such as hydracharines. The animals are then preserved in 1% propylene phenoxetol as for gastropods.

In the case of shells for reference the animal is removed and the shell valves separated, not being bound together as stated in the text books, this being due to the fact that the shell valves show little external morphological variation the identification being based on a combination of the external sculpture together with the internal features of the hinge plate complex and the muscle scars. In the case of small bivalves such as Pisidium, etc., the valves may be separated by warming the shell in a weak 5% solution of Sodium or Potassium hydroxide until the ligament breaks down resulting in the separation of the valves. These should then be removed and washed thoroughly and then allowed to dry over a radiator.

Cephalopoda

These are best killed by injecting chloroform into the mantle cavity by means of a hypodermic syringe having first partially narcotised the animal with propylene phenoxetol. Next inject a 5% formaldehyde solution into the body cavity and then set out the animal on a glass plate in the position required. Immerse in a tank containing 10% formaldehyde or formaldehyde propylene phenoxetol solution for about 24 hours or longer depending on the size of the animal concerned. Remove and wash thoroughly for two or three days in running water and then store in 1% propylene phenoxetol solution, this having the advantage of retaining the pigmentation pattern to a certain extent. If the animal is required for a dry collection then the internal pen or cuttle-bone should be removed and fastened on to a bristol board together with the beaks and radula, and accompanied by a photograph of the entire animal.

Now that the material has been prepared for the collection the problem of labelling arises and this has been dealt with in numerous ways but the best method is that used by Continental and American collectors who allocate a number to the shell or series of shells of a particular species, this number being written in Indian ink on the shell itself. This method admittedly renders the shell relatively unattractive for display but at least means that the relevant data can be correlated with the correct shell. A small label bearing the appropriate number and the name of the species, date of collection, locality, together with any notes about the habitat should be placed in the box with the specimen whilst a chronologically numbered ledger recording further details about parasites, anatomical features, references to any publications relating to the specimen, etc., should also be kept.

In the case of large shells, particularly bivalves, the appropriate details can be written on the shell itself, similarly if any specimens are figured or type material, this should be indicated on the shell in Indian ink. To many people this would seem rather cumbersome but it has the advantage that if a type or figured specimen should be mislaid or stolen, and the number obliterated, it is still possible to identify the authenticity of the specimen by using an ultra-violet lamp which brings up the outline of the original number or label on the shell.

In the case of wet spirit material labels should be written in Indian ink on good paper, the whole label being sealed in a polythene coating and fastened to the animal by means of copper wire or thread. In the case of large cephalopods a system involving the use of numbered metal discs is often employed, these being fastened to the arms of the animal or simply pinned into the visceral mass.

Part II of this article will appear in the next issue of the Newsletter -
No. 13.

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F. R. Woodward

INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

Notice is given of the possible use by the International Commission of its plenary powers in connection with a proposal to suppress Tellina gari Linnaeus, 1758 (Bivalvia), reference number Z.N.(S.) 1461, details of which are published in Bulletin of Zoological Nomenclature, Vol. 21, part 5 (Nov. 1964). Any comments on the above must be sent in duplicate before 26th. May 1965 to the Secretary, International Commission on Zoological Nomenclature, c/o British Museum (Natural History), Cromwell Road, London, S.W.7.

PROCEEDINGS OF THE FIRST EUROPEAN MALACOLOGICAL CONGRESS (Published by the Conchological Society of Great Britain and Ireland and the Malacological Society of London)

This publication, consisting of all papers read at the Congress held in London in September 1962, contains viii + 266 pages, including 32 plates. Price £2 or 6 dollars. Orders should be sent to Mr. J. F. Peake, Department of Zoology, British Museum (Natural History), Cromwell Road, London, S.W.7., England.

WANTED

Journal of Conchology, 1905, Vol. II, No. 5. The undermentioned would be willing to pay a reasonable price for a copy.

Mr. J. F. Ogle-Skan, [REDACTED] Manchester.

FOR SALE (or exchange for volumes not in my library)

Proc. Malac. Soc. Lond., Vol. 10, 11, 13, 14, 15 and 16 (unbound), Vol. 15 (bound). Also large stock of separate parts available for sale or exchange. Rev. H. E. J. Biggs, [REDACTED] Bromley, Kent.

PUBLICATIONS RECEIVED

Conchology Section, Auckland Institute and Museum: 'Proceedings of the Reunion held at the Museum, October 23-25, 1963'.

This account of the proceedings held to celebrate the attainment of its first third-of-a-century, is full of interest. It commences with a verbatim report of the opening speeches and the address given to Dr. A. W. B. Powell, who received warm and well merited tributes as the founder and for long the doyen of the Club. The publication also contains an account of shelling conditions in Western Samoa by R. A. Cumber and two scientific essays of outstanding interest: 'Molluscs and Niches in Intertidal Ecology' by John Morton and 'Deep Water Mollusca of New Zealand' by R. K. Dell.

SHELL LIST received from:- Jean-Felix Pierret, [REDACTED] Belgium. (Priced list with the compiler).

EXCHANGES

Preston M. Blanton, [REDACTED] South Carolina, U.S.A. - I have some very interesting specimens of Busycon carica eliceans Kiener which I collected here and with operculum. Dr. R. Tucker Abbott identified these as intergrades of carica and eliceans. They vary from the almost smooth form of carica to the typical swollen form of eliceans with the wide canal. These latter are very heavy and massive shells.

There are many other specimens to be found here and I will send a list and description of exactly the specimens I have on hand to offer to anyone interested. It would not be necessary to send me a list as I need anything from outside the United States.

Mr. R. W. Armes (member) wishes to correspond with other members with a view to exchanging tropical marine shells. Mr. Armes has spent some years in the East and has a good stock of duplicates; his main interests are in Cypraea, Conus and Voluta.

Mr. P. A. Galea of [REDACTED] Malta, wishes to exchange marine shells with a collector in Great Britain. He is particularly interested in the Cypraeidae, Muricidae and Conidae. Lists available.

INFORMATION WANTED

Publications sent to the last recorded address of one of our members have been returned 'Not Known'; he is Mr. P. A. Maddison, [REDACTED] London, [REDACTED]

The Hon. Secretary would be most grateful if anyone could give information as to the present address of this member.

REQUEST FOR SHELLS

Mr. Stanley Atkin, Curator of the Borough Museum, Central Park, Dartford, wishes to put on display a representative selection of British non-marine shells, and has written asking if any members can let him have well labelled specimens surplus to their requirements, so that this exhibit can be built up. As members will know, the number of museums with good British molluscan collections is extraordinarily small, and for this reason it is hoped that many people will be able to help Mr. Atkin in this instance. Please send anything you can spare direct to Mr. Atkin.

SHELL COLLECTING AT BARRICANE BEACH

When one reads Guide Books for the North Devon coast, this is the sort of reference one finds about Barricane Beach: "Noted for its tropical shells...", or, "Famous for the beautiful tropical shells brought there by the Gulf Stream...". No wonder I longed to go there and pick up with my own hands the sort of shells I had only seen in books. It was therefore with real excitement that I hurried down the steep slope to Barricane Beach this summer (1964). The Beach is a small cove amongst extensive rocks, and is covered with shell sand, although at low tide it widens out into a broad sandy area. As I sifted through the shell sand I was most disappointed! It was most difficult to find anything other than broken pieces of shells, but after a patient search I did find a few Trivia monacha, Hima incrassatus and Ocinebra erinacea, as well as some tiny Patella. There was hardly anything else and what there was, was damaged or broken.

Even after the Spring Tide there was hardly any improvement, and I spent most of my time at Woolacombe in the next cove to Barricane Beach. This one is Gin Cove and I found during a fortnight's stay, well over 40 varieties of shells, although some were pretty rare. Undamaged ones were difficult to find, but still I finished up with a great many small Patella (some in bright oranges) and Ocinebra, also many varieties of Pecten and Chlamys distorta. Anomia were found in beautiful dark purple shades and also some in a blue-green, which I had never encountered before. Also Hima incrassatus abounded, some in a deep rose shade, and Mytilus edulis encrusted the rocks, although none of them seemed to grow very large. In fact the smallness of all shells encountered was very noticeable.

Another noticeable thing was the absence of some common shells, such as cockles, Auger shells, Carpet shells, also Donax and Tellina. A few Dentalium entalis were found, also Barbatia lactea and Navicula tetragona Brit., Nucula nucleus, Emarginula reticulata and quite a few Diodora apertura. Very rarely did I find Calliostoma zizyphinum unbroken, and then again they were rather small specimens. There were many Macra corallina about, as they seem to be all along that stretch of the coast.

Woolacombe sands themselves were pretty bare of shells, though at the southern end of the sands, which is called Putsborough, it was interesting to find almost the same shells as at Gin Cove, although in far fewer numbers. The various Pecten shells, however, were much easier to find, and also were less likely to be damaged, and in particular Similipecten similis was found in profusion and in beautiful reds and oranges. Looking back over my stay at Woolacombe, I must admit that I returned with many thousands of shells, but as they were mostly small this was the result of really hard work, and I still have to be convinced that even one of them came from the Tropics via the Gulf Stream!

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H. Nash

Director: June Chatfield

On 24th. October 1964 a party visited the Hythe area to collect and record non-marine mollusca (N.G. 61/1--3--). The country to the west of Hythe consists of low hills which are the Hythe Beds of the Lower Greensand. Below the Hythe escarpment is the alluvium of Romney Marsh, through which the Royal Military Canal runs.

During the day various habitats were investigated. These included:-
1. A shady roadside bank near Sandling station, 2. A grassy bank in an open field, 3. A stone wall, 4. A mixed wood on a steep slope with few logs and little undergrowth, 5. Royal Military Canal, 6. A small ditch at the side of the canal, the surface film being covered with duckweed (Lemna minor).

The chart below lists the species from Hythe. Results of field work by J. Chatfield in September 1964 are also incorporated. The localities are as shown above, with the addition of No. 7: Grassy bank at Saltwood, 27.9.1964.

One feature of the day's collecting was the very small number of slugs to be found. It would be interesting to know the reason for this, whether it is

SPECIES

LOCALITIES (see text)

	1	2	3	4	5	6	7
<u>Valvata piscinalis</u>					x		
<u>Pomatias elegans</u>							x
<u>Potamopyrgus jenkinsi</u>					x		
<u>Bithynia leachi</u>					x		
<u>Carychium tridentatum</u>	x						
<u>Lymnaea peregra</u>					x	x	
<u>Planorbis planorbis</u>					x	x	
<u>P. leucostoma</u>						x	
<u>P. albus</u>					x		
<u>P. crista</u>					x		
<u>Segmentina complanata</u>					x		
<u>Cochlicopa lubrica</u>	x			x			
<u>Lauria cylindracea</u>			x				
<u>Vallonia costata</u>							x
<u>V. excentrica</u>							x
<u>Clausilia bidentata</u>	x						
<u>C. rolphi</u>	x						
<u>Helix hortensis</u>	x						x
<u>H. nemoralis</u>	x						x
<u>H. aspersa</u>	x						x
<u>Monacha cantiana</u>	x						x
<u>Helicella caperata</u>							x
<u>Discus rotundatus</u>			x				
<u>Arion intermedius</u>		x					
<u>A. circumscriptus</u>			x				
<u>A. hortensis</u>			x				
<u>A. ater</u> agg.		x					
<u>Vitrea contracta</u>	x						
<u>Oxychilus alliarius</u>	x						
<u>Retinella pura</u>			x				
<u>R. nitidula</u>	x	x	x				x
<u>Vitrina pellucida</u>			x				
<u>Agriolimax agrestis</u> agg.		x					
<u>A. reticulatus</u>		x					
<u>Anodonta anatina</u>					x		
<u>Sphaerium corneum</u>						x	
<u>S. lacustre</u>						x	
<u>Pisidium personatum</u>						x	
<u>P. obtusale</u>						x	

a universal feature for 1964, and whether this could be correlated with weather conditions during the year.

A few fossils were collected from the Hythe Beds and identified by D. G. Pickrell. They were: Exogyra latissima, Thetironia minor, Pterotrigonina sp.? (Bivalves) and Deshayesites deshayesi (Ammonite). Although Hythe is not an outstanding locality for molluscs, a list of 35 species of non-marine mollusca and some fossils were obtained as a result of the field meeting.

NOTE: An annotated list of molluscs of the Folkestone area is published in: WALTON, J.W. (1925), 'Folkestone and the country around', Folkestone Natural History and General Sciences Society.