

THE CONCHOLOGISTS' NEWSLETTER

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COMPILER'S NOTE

Having completed 20 issues of the Newsletter, including an Index and List of Corrections, it is now considered advisable to recommence paging from 1. Therefore this issue, No. 21, starts at page 1 and can be regarded as the commencement of Volume 2 of the Newsletter. The suggestion that 10 issues should be regarded as forming 1 volume (Newsletter No. 11, page 69, Dec. 1964) can now be disregarded.

PROGRESS REPORT ON MARINE CENSUS WORK

A detailed account of the present state of the records was made at the A.G.M. on February 18th. this year and will appear in due course in the Journal. These present notes describe in a general way what has been done and how members might most usefully help in the light of the past year's experience.

Over 3,000 records have now been entered on the species-headed loose-leaf recording sheets, following the modified recording method started a year ago. Several thousand more must be listed before we can think of circulating a provisional Census list, but the scheme is growing well. The following resume of how records and specimens are dealt with may be of some interest to readers who are already helping with the Census or who may be encouraged to do so.

When a list of species is received it is placed in the appropriate folder numbered for that Census Area: it would be as well to mention here that as yet no lists whatever have been received for C As 1, 2, 4, 5, 6, 8, 10, 14, 27, 28, 33, 34, 37, 39 and 40; 4, 8, 10 and 40 are entirely off shore, but the others all have some coastline and it is hoped that members will make a special effort to submit records from any of these Areas. (See Heppell, D., 1965. The British marine Census Areas. J. Conch. 25 (7): 299-303 for map and definition of Census Areas). As soon as possible each species is checked against entries already made under the relevant species-heading on the loose-leaf sheets. If a dated entry of equivalent status is already made for the Area - even from a different section of it - no further action is taken. It is marked as being desirable for the records only if it falls into one of the following categories:-

- 1) A completely new record for the particular Census Area, even if represented only by valves or worn shells.
- 2) A new record for this century.
- 3) An upgrading of an existing record, i.e. live specimens (A) or empty shells in good condition (B) replacing worn shells (C).
- 4) A dated record to replace the many undated ones salvaged for stop-gap use from the earlier Census Maps.
- 5) A record of which the submitter is uncertain: these are examined whether or not they are likely to be entered on the Census sheets.

If the species is one particularly required for the Voucher Collection a note to this effect is added. A letter is then sent to the correspondent asking if the particular species can be forwarded for authentication, and on receipt of these the Recorder checks them against the list, initialling and dating each one personally examined, and correcting any errors in identification. Should any specimen need specialist opinion it is retained and sent to the appropriate referee. The specimens are finally all returned, excepting any donated to the Voucher Collection, and the records written up with a note of the numbers examined plus as much information as has been submitted. It cannot be too strongly emphasised that any observations on

the ecology or behaviour of the living animals are very desirable since there are large gaps in our knowledge of how many of the species live and breed as well as where they live.

Several members have ruled their own recording forms following the prototype published in the Newsletter for June 1966 (No. 17), and one group even duplicated a number, complete with headings. This is a great help, providing as it does, easily filed information, especially on live records. When members do not use this form but submit a straight list of 'B' specimens all from the same beach and collected over a short period of time, it would lessen checking time if all could do what some do already - namely prefix each species with its Winckworth number, and arrange in the order of the Winckworth list: but entries on the 'standard' form are always preferred since time is saved, and space provided for the Recorder's comments. Attention should be drawn to the fact that the only complete check list of marine molluscs (Winckworth, R., 1932. *The British marine Mollusca*. J. Conch. 19 (7): 21-252) is, naturally, somewhat out dated in certain aspects of nomenclature and classification, but it has become so familiar through wide and long usage that it forms a pragmatic basis, as it stands, for unifying Census work. For instance it is possible to issue shorthand information to members about the coverage a particular Area has so far received by listing the Winckworth number, abbreviated name of species and its status - A, B or C (a, b or c for last century records). At the present time Dr. J. Bowden and Mr. D. Heppell are producing a series of preliminary papers, with copious and detailed notes, in preparation for a definitive check list of British Mollusca (see Bowden, J. and D. Heppell, 1966. *Revised list of British Mollusca*. 1. Introduction; Nuculacea - Ostreacea. J. Conch. 26 (2): 99-124).

Several members have contributed to Census work as much as possible whilst building up their own type collections or compiling a list for publication from a particular part of the coast. The lists they make from individual beaches - often several in any one Census Area - are all filed in the Area folders and have been the source of many new records. They also form material for the 'Shore Directory' scheme started by Mr. D. Heppell (see Newsletter for Dec. 1965, No. 15). The mutual aid inherent in this aspect of Recording work makes a firm basis for co-operation because identification checks can be as valuable to the collector as the authenticated records are for the Census.

As the present notes are being written the vertebrate and invertebrate life on the shores of the far South-west is being devastated by oil and detergent pollution, and the effects are undoubtedly going to be far-reaching and long-lasting. It is unlikely that the various populations of animals will be built up again in quite the same way, so that pre-March 1967 and post-March 1967 may form a distinct break in the history of the marine fauna. Contemplation of this disaster and all it implies brings conservation to the forefront of the mind. The interest in conchology is growing apace and live-collecting on a large scale can soon threaten a species with extinction, as has been discussed in recent correspondence in 'Hawaiian Shell News'. However in defence of collecting small numbers of Voucher specimens the following points must be made. In order to conserve species one must know precisely what lives where with corroborative evidence of the preserved whole animal, furnished with adequate data. Specimens are sent to the British Museum (Natural History), National Collections, as donations by the Conchological Society. Furthermore there is a shortage of preserved material of British marine molluscs so that in building up such a collection members will be helping students all over the world who use the B.M. collections for study. For those who still feel they are unjustified in collecting the live animals, attention is drawn to the possibility of collecting examples of different species washed up after storms, already dead or dying, and if preserved promptly, of potential value to the Voucher Collections. Any dead specimens should be preserved in 5% formalin (19 parts of water - preferably sea water - to 1 part of 40% formalin) or 70% industrial spirit. For posting they are best packed in polythene bags with preservative-saturated cotton wool: use tubes for small or fragile specimens and pack the total quantity of bags and tubes in a tin. Alternatively specimens can be sent live to the Recorder: no specimens connected in any way with the Census should be sent direct to the B.M. (N.H.). Normal postage costs are a very heavy burden on our Society, so do please send stamps to cover return of shells.

Thanks are given to all those who have assisted with Census work already. Please continue helping and encourage others to take an interest in this worthwhile project.

Stella M. Turk
April 1967

THE GLANDFORD SHELL MUSEUM - NORFOLK

Shell Houses and Shell Museums are to be found in many places in these islands. One of the best I have seen is the one at Glandford, just north of Holt. These exhibitions nearly always owe their origin to the initiative of one person and in this case it was Sir Alfred Jodrell, Bart., of Bayfield Hall. The Museum was built specially to house the collection of shells he made over a period of sixty years. At the present time the Museum is controlled by Trustees and is growing and improving under their care; it is well worth a visit by any members of the Society when in the vicinity. The Museum is open from 9.0 a.m. to 4.0 p.m. in the winter and 9.0 a.m. to 5.0 p.m. in the summer; the admission is 6d.

Besides a vast number of shells the Museum includes many other items of interest in the historical, archaeological and other fields. Unfortunately all the Mollusca, though excellent specimens, have no localities and most have no names. The Trustees now plan to make the Museum one of educational value and the present writer has made a series of suggestions to this end, some of which have already been implemented.

It is hoped that space will soon be made for a good collection of local marine mollusca covering the adjacent Norfolk coast. Also a good collection of non-marine mollusca of the county, which will be named and located so that young people may learn something of the interest to be had in collecting mollusca, and be encouraged to make their own collections. They can also help with the work of the census surveys made by the Society, studying especially their own areas. There are considerable potentialities in this Museum as about 8,000 persons visited it in 1965 and very many of them were young people.

Some local help is needed and the writer would be glad to hear of anyone willing to assist with the approved scheme for improvement when it is sanctioned by the Trustees. Local collections will be welcomed and some shells from other parts are needed. For instance a few named and located Chitons are needed for the shelf showing the Classes of the Mollusca. A few specimens of Norfolk fossil Mollusca could be put to good use.

Whilst local workers would be of less cost to the Trustees, any competent volunteer from a distance would be welcomed, and if prior approval of the Trustees has been given, some help with travelling expenses would be forthcoming. I should like to hear from any member of the Society willing to contribute specimens of local interest, but the actual specimens should not be sent to me, they should go direct to Mrs. L. Page, Church House, Glandford, Holt, Norfolk, with the necessary notes and labels.

Rev. H. E. J. Biggs

READING CIRCLE SCHEME

This scheme has now been in operation for a year. Membership has risen to 25, which is quite good, being approximately 10% of the eligible (British resident) members of the Society. This short note is being published, however, as several members may have missed the original announcement, and others may be unaware that the scheme has started.

Details of the journals covered are given below. In order to prevent the scheme getting unwieldy total membership of each circle is being restricted to about 20. The figures in brackets indicate the number of "places" still vacant for each publication. The contributions for 1967 are 2/6d. per journal per year. These are sent to me; I take out subscriptions to the various journals and circulate them to the interested members as they reach me. Each

member is responsible for sending on the issues to the next person in the circle.

If anyone wishes to see specimen copies before deciding to join I will send them gladly.

Journal	No. of issues per year	Places available
Basteria	4	(4)
Hawaiian Shell News	12	(7)
Journal of the Malac. Soc. of Australia	1	(4)
Journal de Conchyliologie	4	(just starting)
Nautilus	4	(4)
Veliger	4	(just starting)

Charles Pettitt
c/o. National Institute of Oceanography,
Wormley, Godalming, Surrey.

INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE A.(n.s.)78

ANNOUNCEMENT

Required six-month's notice is given on the possible use of plenary powers by the International Commission on Zoological Nomenclature in connection with the following names, listed by Case Number (see, Bull.zool. Nomencl. 24, pt.1, 6 March 1967):

1777. Suppression of Voluta citrina, V. strigosa and V. leucostoma Gmelin, 1791 (Gastropoda).

Comments should be sent in duplicate, citing Case Number, to the Secretary, International Commission on Zoological Nomenclature, c/o. British Museum (Natural History), Cromwell Road, London, S.W.7, England. Those received early enough will be published in the Bulletin of Zoological Nomenclature.

February 1967

W. E. China
Assistant Secretary

PUBLICATIONS RECEIVED

Conchological Society of Southern Africa - Circular No. 82 (Feb. 1967)

This issue contains several matters of general interest. It appears that a scientifically important shell collection, certainly the largest in private hands in South Africa, has gone to the U.S.A., with the sale of Mrs. Helen Boswell's collection. Mrs. Boswell, however, is reported to be retaining her interest in Conchology.

There is a most useful definitive article on the endemic cowries of S. Africa by Prof. Dr. Schilder: these number eleven, although in all the cowries found in the region amount to forty-odd.

D. H. Kennelly reviews recent molluscan 'finds' in South Africa, which include the Japanese Latiaxis mawae, a possibly new Fasciolaria, and various range extensions.

'A Shelling Trip in Britain' by R. Pollard gives an excellent impression of the moods resulting from attempts to find marine shells round our coasts, starting from scratch, by one long used to the delights of tropical seas.

Among newly elected members is Mrs. T. Whitehead of West Australia, and we take pleasure that all the people mentioned above are also members of our own Society. The circular also records the death of a council member, Mr. Leo Cock of Natal.

A very successful Club weekend trip is (as such things should be) fully and attractively reported, and there are many short items of interest to the student of New Zealand mollusca. It appears that the middle of Auckland itself is an excellent spot for collecting small snails of many species.

Norm Gardner writes on Vicimitra maoria Finlay and also an illustrated article on High Tidal Molluscs of Rangitoto Island, and B. Elliott contributes a thoroughgoing report on collecting Paryphanta in West Nelson. There is also an obituary of Joyce Allan.

T. E. Crowley

SALES AND EXCHANGES

1. Peter Cresswell of [REDACTED], Invercargill, New Zealand, wishes to acquire British shells, principally non-marine species, and offers in exchange New Zealand shells, both marine and non-marine, including some of the rarer dredged deep-water shells, Paryphantas and the smaller land species. Lists can be sent.
2. The Ming Ching Trading Co., 254 Min Chyuan Road, (P.O. Box 2), Taichung, Taiwan, send a list of specimen sea shells from the Island of Formosa, priced in sterling, and would be pleased to receive cheques drawn on British banks. Prices vary from 2d. to £18.
3. Abacus Hobbies, 218 N.E. 1st. Avenue, Miami, Florida, send a list of species of the Florida Tree Snails, genus Liguus. They list fifty three varieties, from 50 cents to 50 dollars.
4. Errol Law, [REDACTED], Point Fortin, Trinidad, W.I., requests correspondents. He has been collecting for five years, mostly by skin diving, and wishes to exchange West Indian Marine Shells for those from other parts of the world.
5. Hano Sea Shells, 1598 Third Avenue, New York, U.S.A., are willing to accept specimen shells in exchange for publications, of which they have a large stock. Details on application.
6. Wing Cdr. A. E. Gouriet, [REDACTED], Luxborough, Watchet, Somerset, wishes to sell a collection of tropical marine shells, including many cones and cowries, about 350 moderate-sized shells in all, not localised but mostly in brilliant condition. Price £35.
7. Charles Cachia, [REDACTED], Naxxar, Malta, G.C., would very much like to start exchanging shells with any members of the Society who might be interested. He is prepared to send sea-shells from his home shores in exchange for any from the British Isles.
8. For sale to the highest bidder: Pleurotomaria (Mikadotrochus) beyrichii Hilgendorf, Japan, perfect shell with operculum. Proceeds of sale will be given to the Conchological Society. A. E. Ellis, [REDACTED], Carshalton, Surrey.
9. For Sale. Thiele "Handbuch der Systematischen Weichtierkunden" Part 2. Opisthobranchia and Pulmonata. 1931 edition, bound in green cloth, as new. £4, or nearest offer. H. E. J. Biggs, [REDACTED], Bromley, Kent.
10. Divaricella divaricata. Two good examples, British, live-taken, with full data. For sale or exchange. Offers to Mrs. N. F. McMillan, [REDACTED], Bromborough, Cheshire.
11. Request for living specimens of H. virgata. Dr. D. E. Pomeroy of the Department of Forestry and Natural Resources, University of Edinburgh, 10 George Square, Edinburgh 8, would like to hear from any member who could provide living H. virgata required for a study of aestivation. The ideal requirement is as follows: (a) 200 snails, all from a single locality in West or South-west England, Wales or Ireland, at a place with an annual rainfall exceeding 30", and collected between July and September. (b) A similar collection from Southern Europe, at a place having a warm, dry summer. However, any offers will be considered.

GENERAL NOTES

Nesovitrea hammonis and petronella

H. W. Waldén (1966), Zur Frage der Taxionomie, Nomenklatur und Ökologie von Nesovitrea hammonis (Strom) und petronella (L.Pfeiffer), Arch. Moll. 95:161-195; English summary. The taxonomic relation of Helix hammonis Strom, 1765, and H. petronella L.Pfeiffer, 1853 (now referred to Nesovitrea) has long been controversial. The purpose of this paper is to demonstrate their specific distinctness, to clarify the nomenclature and to elucidate their ecology. Reasons are given for preferring H. hammonis to either H. viridula Menke, 1830, or H. radiatula Alder, 1830. It looks as though the little snail we are accustomed to call Retinella radiatula should now be renamed Nesovitrea hammonis.

A. E. Ellis

A useful "local list" of Mollusca for an area in which such lists are not common is Lakeland Mollusca (Trans. Carlisle Nat. Hist. Soc. XI. 1967). The whole volume of the Transactions is devoted to Mollusca and comprises "A Preliminary List of the Marine Mollusca of Lakeland", by Marjorie Garnett and Mary M. Milne (the former a member of the Conchological Society) and "Non-marine Mollusca of Lakeland; Notes on their Distribution and on the occurrence of Molluscs in the Food of Birds" by Ernest Blezard. It is very well produced with 2pp. of good photographs of marine species. The non-marine Mollusca, despite the title, are mostly (though not altogether) from Cumberland, very many from the Carlisle area. A number of interesting altitudinal records are given. No price is given. The Society's Hon. Secretary is Geoffrey Horne, 17 Yetlands, Dalston, Carlisle.

An indoor meeting in Liverpool.

On December 3rd. 1966 an informal meeting of local conchologists was held in Liverpool Museum by permission of the Director, Mr. T. Hume. Thirteen were present, seven members, five visitors, and an enthusiastic Junior. The purpose of the meeting was to enable rather isolated workers to meet others, and to discuss plans for work in 1967. It was decided that our main object for 1967 was to survey the Mollusca of some of the various Nature Reserves in Lancashire and Cheshire. Preliminary steps towards this had already been taken, and the idea has been warmly welcomed by the Cheshire Conservation Trust Ltd., and the fullest co-operation promised.

It is also hoped to gather records for the Marine Census from our area (Liverpool Bay).

The main purpose, however, was to enable people to meet fellow-workers and this was successfully achieved; there was much useful conversation, and also several requests for further indoor meetings.

Our first field meeting was fixed for Cotterell Clough (nr. Manchester) on January 14th. 1967.

Mrs. N. F. McMillan

JUNIOR MEMBERSHIP

New Members elected

12th. November 1966

HEATH, Ashely Richard, [REDACTED], Thorpe Bay, Essex.

10th. December 1966

MORRISON, Stephen, [REDACTED], Wolverhampton, Staffordshire.

THOMSON, Derek Vincent, c/o. Saunders-Roe Ltd., Apprentice Centre, Whippingham Road, East Cowes, Isle of Wight.

21st. January 1967

OWEN, Nigel Paul Croton, [REDACTED], St. Mary's, Isles of Scilly.

STREET, Michael Leslie, [REDACTED], Newhall, Burton on Trent,
Staffordshire.

18th. March 1967

DAVIS, Simon, [REDACTED], Hove 4, Sussex.

Change of Address; Alison Howell, now [REDACTED], Edgbaston,
Birmingham 15.

FIELD MEETING - TO MACCLESFIELD CANAL, CONGLETON, CHESHIRE,

3rd. SEPTEMBER 1966 - LEADER - MRS. M. FOGAN

Four members and two visitors met at Congleton Station, on Saturday afternoon, September 3rd., and proceeded to walk to the Canal, which is close to the Station.

The following Mollusca specimens were recorded.

Near Congleton Station.	<u>Land Mollusca.</u>	<i>Hygromia hispida</i>
<i>Discus rotundatus</i>		<i>Arion hortensis</i>
<i>A. ater</i> , agg,		<i>Milax budapestensis</i>

Macclesfield Canal, Congleton.	<u>Fresh Water Mollusca.</u>	
<i>Viviparus viviparus</i>		<i>Bithynia tentaculata</i>
<i>Lymnaea stagnalis</i>		<i>L. peregra</i>
<i>Physa fontinalis</i>		<i>Planorbis corneus</i>
<i>Planorbis carinatus</i>		<i>P. vortex</i>
<i>P. albus</i>		<i>Acroloxus lacustris</i>
<i>Succinea pfeifferi</i>		<i>Sphaerium corneum</i>
<i>S. lacustre</i>		<i>Pisidium amnicum</i>
<i>Pisidium</i> sp. (to be identified)		

Towpath and Wall of Bridge	<u>Land Mollusca.</u>	
<i>Cochlicopa</i> sp. (identified by Dr. Kerney as <i>C. lubrica</i>)		
<i>Vallonia excentrica</i>		<i>Helix nemoralis</i> (d.)
<i>Discus rotundatus</i>		<i>Arion intermedius</i>
<i>Vitrea</i> sp. (identified by Dr. Kerney as <i>V. contracta</i>)		
<i>Oxychilus alliarius</i>		<i>Retinella radiatula</i>
<i>R. nitidula</i>		<i>Zonitoides nitidus</i>

The Canal was found to be in a reasonable state for navigation for small boats, and was not choked by weeds, as is the case of many canals in Cheshire which have been examined. It would appear that in parts of the canal an attempt had been made to strengthen the canal banks with steel plates, as some of these were already in position.

The excursion ended about 5.30 p.m. and members left the canal for tea in Congleton. The weather was fine, and the collection of Mollusca was very rewarding.

J. F. Ogle-Skan

FIELD MEETING - TO BUNTINGFORD, HERTFORDSHIRE, 1st. OCTOBER 1966

LEADER - M. R. BLOCK

Only three members turned up, (Miss J. Chatfield, Dr. M. Kerney and myself) together with my wife Margaret, who acted as my chauffeur. The main business was to examine what is probably a unique site for *Ena montana* in the British Isles. This is a short stretch of bank and about 30 yards of

deep ditch, thickly grown with grass and nettles bordering the A 10 at the northern extremity of the village. Ena montana was present in large numbers, 20 being taken from a patch of the bank about a foot square. After the recent heavy rain they were climbing grass stems and seemed very active. The soil is a sticky calcareous clay, and the nearest trees are a fringe of elms and sycamores on the opposite side of the road.

As building development is approaching this remarkable colony it may be necessary to arrange a transplantation of the enids to another site, as has been done with Lacinaria biplicata at Barnes Bridge (reported in Newsletter No. 18, September 1966).

As the party was so small it was also very flexible, and we were able to visit the steep chalk slopes and beech woods of Royston Downs, where we were soaked by a heavy shower and found very few snails of any kind; and stopped to dredge several streams and ponds on the way back. The latter were also disappointing.

After tea, kindly provided by my mother, a quick dredging tour was made round the ditches and rivers of Ware, Dr. Kerney taking 7 species of Pisidium, all new for that 10 km. square.

The species found at the various sites were as follows:-

Buntingford. Ena montana, Cepea hortensis, Hygromia hispida, H. liberta, H. striolata, Monacha cantiana, Helix aspersa (one dead shell), Vallonia excentrica (one dead shell), Clausilia bidentata, Cochlicopa lubrica, C. lubricella, Discus rotundatus, Ena obscura, Oxychilus alliarius, Retinella nitidula, Arion ater agg., A. intermedius, A. hortensis, Agriolimax reticulatus.

Royston Downs. Helicella itala, H. virgata (dead), Cepea hortensis (dead), Vallonia costata, Hygromia hispida, H. striolata, Cochlicopa lubrica, C. lubricella, Monacha cantiana, Pupilla muscorum, Discus rotundatus, Arion ater agg., A. intermedius, Oxychilus cellarius, O. helveticus, Vitrina pellucida ? (young), Agriolimax reticulatus.

Small pond by road S. of Therfield, near Royston. Pisidium personatum, Lymnaea truncatula (very large and abundant), L. peregra (one), Planorbis leucostoma.

River Rib, Braughing, near Ware. Pisidium casertanum, P. subtruncatum, P. nitidum, Ancylus fluviatilis, Lymnaea peregra.

River Lea, New River and drainage ditches at Ware; collections mixed. Planorbis planorbis, P. vortex, P. corneus, Lymnaea peregra, L. auricularia, Potamopyrgus jenkinsae, Ancylus fluviatilis, Pisidium casertanum, P. personatum, P. obtusale (one only), P. milium, P. nitidum, P. subtruncatum, P. henslowanum.

FIELD MEETING - TO LEEDS & LIVERPOOL CANAL, LANCASHIRE, 8th. OCTOBER 1966

A small but energetic party of 5 members (one a Junior) met at Parbold to investigate the Mollusca of the Leeds and Liverpool Canal. This canal is still used commercially and Mollusca were scarce, only Bithynia tentaculata (L.), Lymnaea peregra (Muller), Physa heterostropha Say, Planorbis carinatus Muller and P. vortex (L.) being taken. The banks yielded Cochlicopa sp., very young, Discus rotundatus (Muller), Arion hortensis Fer., Arion ater (L.), s.l., and Agriolimax agrestis agg.

The disused Tarleton branch of the same canal was next visited and found much more productive. In addition to the spp. listed above the following were found: Valvata cristata Muller, V. piscinalis (Muller), Lymnaea palustris (Muller), L. stagnalis (L.), Succinea cf. pfeifferi Rossmassler and Sphaerium corneum (L.). On the bank was Helix hortensis Muller, Oxychilus alliarius (Miller) and Zonitoides nitidus (Muller).

The most interesting sp. obtained was Physa heterostropha Say (or what is usually termed heterostropha, anyhow!) as although recorded from nearly all the canals in N.W. England it seems now to have disappeared from all except this canal and the Shropshire Union Canal.

Nora F. McMillan

FIELD MEETING - TO SONNING COMMON AND NETTLEBED, NEAR READING, BERKSHIRE

16th. OCTOBER 1966

On the morning of 16th. October 1966 eleven members and friends met at Reading Station and set off in a convoy of cars to woodlands near Sonning Common. The first habitat to be investigated was Bear Wood near Stoke Row (Nat. Grid 41/694838), a mixed woodland at the junction of plateau deposit and chalk. Due to the cool, damp weather many slugs were to be seen crawling on wet logs and trees of which Arion subfuscus (Draparnaud) was exceptionally abundant. Some dead shells of Azeca goodali (Ferussac) were found amongst Brachypodium sylvaticum (Huds.) Beauv. (Slender False-brome grass) on a bank at the edge of the wood.

From Bear Wood the party moved to the beech woods at Checkendon to search for Limax tenellus Muller, but apart from other common woodland species the search proved negative. However, in open beechwoods S.E. of Nettlebed (41/704860) a fine specimen of Limax cinereoniger Wolf (a large speckled slug with a tripartite sole) was taken, whilst in Lambridge Wood (41/733845) we were pleased to see specimens of Limax tenellus an attractive yellow slug with black tentacles which was to be found crawling on the beech trees. This slug has a somewhat local distribution. The day was concluded with the recording of fresh water and marsh species at Sonning Eye.

J. E. Chatfield

FIELD MEETING - TO COTTERILL CLOUGH (NATURE RESERVE), CHESHIRE

14th. JANUARY 1967

On a still dry day 5 members, a visitor, and a junior met to see what they could find in Cotterill Clough and the experiment of a winter meeting was found to be unexpectedly rewarding, a total of 24 species of land Mollusca and one freshwater species being obtained in quite a small part of the Reserve.

Cotterill Clough is S. of Manchester (NGR 805839), a deep steep-sided valley in the Keuper beds, the whole clothed with mixed woodland. The total area is 28 acres but we only explored part of one side. The following species were taken:

Carychium minimum Muller, s.s. det. Dr. Kerney

Lymnaea peregra (Muller) Dead shell in stream

Succinea pfeifferi Rossmassler

Columella edentula (Drap.)

Marpessa laminata (Mont.)

Hygromia hispida (L.)

Discus rotundatus (Muller)

A. hortensis Ferussac.

Euconulus fulvus (Muller)

Cochlicopa lubrica (Muller), s.s.

Acanthinula aculeata (Muller)

Arianta arbustorum (L.)

Punctum pygmaeum (Drap.)

Arion circumscriptus Johnston

A. ater (L.) juvs. The aggregate sp.

Vitrea crystallina (Muller), det.
Dr. Kerney

Oxychilus cellarius (Muller)
Retinella radiatula (Alder)
R. nitidula (Drap.)
Vitrina pellucida (Muller)
A. laevis (Muller)

O. alliarius (Miller)
R. pura (Alder)
Zonitoides excavatus (Alder)
Agriolimax agrestis (L.), aggregate

FIELD MEETING - TO SOUTHPORT SHORE, LANCASHIRE, 25th. FEBRUARY 1967

On Saturday 25th. February, a small party of six, comprising four members and two visitors (J. & M. G. Fogan, J. F. Ogle-Skan, W. S. Jones, N. F. McMillan & A. G. Roberts) assembled at Southport Railway Station and proceeded to Southport Shore. This is a sandy shore, with no large rocks or stones, etc., in view to either side. The pier, under and near which five of us collected, is composed of iron pilings and woven rush breaks, which were disappointingly free of live gastropods, due perhaps to the force with which the tide comes up the gully beneath the pier. After only perhaps a half-hour collecting we were forced to retreat by a torrential downpour, and made our way back to the road and promenade, half-sheltered by the pier under which we walked. A total of 27 marine species was collected, and also 8 non-marine species collected nearer the promenade amongst the sand-dunes and green turf. over which the Pier passes.

The marine species collected are as follows:-

<u>Turritella communis</u> Risso	Frequent	<u>Clathrus clathrus</u> (L.)
<u>Natica catena</u> (da Costa)	Frequent	<u>N. poliana</u> Chiaje A few
<u>Neptunea antiqua</u> (L.)	Fairly frequent, but all rather small	
<u>Buccinum undatum</u> L.		<u>Acteon tornatilis</u> (L.)
<u>Philine aperta</u> (L.)	one	<u>Mytilus edulis</u> L. a few valves
<u>Ostrea edulis</u> L.	two old valves	<u>Chlamys opercularis</u> (L.) one small odd valve
<u>Cardium echinatum</u> L.	Valves not uncommon	<u>C. edule</u> L. Complete specs., two live, fairly frequent
<u>Venus striatula</u> (da Costa)	one living specimen, fresh shells not uncommon	
<u>Donax vittatus</u> (da Costa)	single valves	<u>Tellina tenuis</u> da Costa Common, two living specimens
<u>T. fabula</u> Gmelin	Common	<u>Macoma balthica</u> (L.) Common
<u>Abra alba</u> (W. Wood)	few complete shells, and some alive	
<u>Pharus legumen</u> (L.)	moderately frequent	<u>Ensis ensis</u> (L.) several
<u>E. siliqua</u> (L.)		<u>Mactra corallina</u> (L.) frequent
<u>Spisula subtruncata</u> (da Costa)	not uncommon	
<u>Mya arenaria</u> L.	one half-grown valve	<u>Barnea candida</u> (L.) Half a dozen valves, all right ones
<u>Thracia phaseoline</u> (Lam.)	2 specimens	

Unless otherwise stated, all the above were dead shells.

List of non-marine species taken at Southport (all taken alive):-

<u>Helix aspersa</u> Müller	One young one	<u>Helicella caperata</u> (Montagu)
<u>H. virgata</u> (da Costa)		<u>Arion circumscriptus</u> Johnston (det. Ellis; the form Walden calls <u>silvaticus</u>)
<u>Milax sowerbyi</u> (Ferussac)	2 specs. confirmed Ellis	
<u>M. budapestensis</u> (Hazay)		<u>Agriolimax reticulatus</u> (Müller) (det. Ellis)
<u>A. caruanae</u> Pollonera	(det. Ellis)	

Ann G. Roberts

FIELD MEETING - TO SANDWICH, KENT - 11th. MARCH 1967

Director - R. Fresco-Corbu

This field meeting was attended by 9 members, and was enjoyed by all in spite of the very keen off-shore wind.

The dual purpose of this meeting was: (a) the addition of records to the non-marine census, (b) marine collecting on the sandy beach between the Club house and Shell Ness.

The 10 kilometre square covering Sandwich already contained 33 entries and this figure was increased to 55 by the end of the day. The additional species were recorded by Dr. Kerney, who accompanied the party, and of these the most interesting find was the rather local *Monacha cartusiana* (Müller) which occurred all along the dunes fringing the beach. Dead shells only were found but many in very fresh condition. Seven other species were found on the dunes: *Helix aspersa* Müller, *Helix nemoralis* (Lin.), *Helicella gigaxi* (L.Pfeiffer), *Helicella virgata* (da Costa), *Helicella caperata* (Montagu), *Pupilla muscorum* (Lin.) and *Vitrina pellucida* (Müller).

As a result of the beach collecting 64 species were listed. Of these only 9 were also found alive (A), 32 were dead shells only (B), and 23 consisted of single valves only (C).

The complete list which is appended below follows the Winckworth nomenclature.

<i>Emarginula reticulata</i> Forbes and Hanley	B	<i>Diodora apertura</i> (Montagu)	B
<i>Patella vulgata</i> Lin.	B	<i>Patelloida virginea</i> (Müller)	B
<i>Calliostoma zizyphinum</i> (Lam.)	B	<i>Gibbula magus</i> (da Costa)	B
<i>Gibbula cineraria</i> (Lin.)	A	<i>Lacuna crassior</i> (Montagu)	B
<i>Littorina saxatilis rudis</i> (Maton)	B	<i>Crepidula fornicata</i> (Lin.)	B
<i>Natica catena</i> (da Costa)	A	<i>Natica poliana</i> Forbes	B
<i>Velutina velutina</i> (Müller)	B	<i>Trivia monacha monacha</i> (da Costa)	B
<i>Trivia monacha arctica</i> (Montagu)	B	<i>Nucella lapillus</i> (Lin.)	B
<i>Ocenebra erinacea</i> (Lin.)	B	<i>Neptunea antiqua</i> (Lin.)	B
<i>Buccinum undatum</i> Lin.	A	<i>Nassarius reticulatus</i> (Lin.)	B
<i>Nassarius incrassatus</i> (Strom)	B	<i>Lora rufa ulidiana</i> (Thompson)	B
<i>Dentalium entalis entalis</i> Lin.	B	<i>Nucula sulcata</i> Bronn	C
<i>Nucula nucleus</i> (Lin.)	C	<i>Nucula turgida</i> Leckenby & Marshall	C
<i>Glycymeris glycymeris</i> (Lin.)	C	<i>Arca lactea</i> Lin.	C
<i>Anomia ephippium</i> Lin.	C	<i>Mytilus edulis</i> Lin.	B
<i>Modiolus modiolus</i> Lin.	B	<i>Ostrea edulis</i> Lin.	C
<i>Pecten maximus</i> (Lin.)	C	<i>Chlamys varia</i> (Lin.)	C
<i>Chlamys distorta</i> (da Costa)	C	<i>Chlamys opercularis</i> (Lin.)	C
<i>Astarte sulcata</i> (da Costa)	C	<i>Cardium echinatum</i> Lin.	B
<i>Cardium edule</i> Lin.	A	<i>Cardium crassum</i> Gmelin	C
<i>Venus verrucosa</i> Lin.	C	<i>Venerupis rhomboides</i> (Pennant)	C
<i>Venerupis pullastra</i> (Montagu)	B	<i>Petricola pholadiformis</i> Lamarck	C
<i>Donax vittatus</i> (da Costa)	B	<i>Tellina tenuis</i> da Costa	A
<i>Tellina fabula</i> Gmelin	A	<i>Tellina crassa</i> Pennant	C
<i>Tellina donacina</i> Lin.	C	<i>Macoma balthica</i> (Lin.)	A
<i>Scrobicularia plana</i> (da Costa)	C	<i>Abra alba</i> (S.Wood)	B
<i>Ensis ensis</i> (Lin.)	B	<i>Ensis siliqua</i> (Lin.)	B
<i>Solen marginatus</i> Montagu	B	<i>Mactra corallina</i> Montagu	C
<i>Spisula elliptica</i> (Brown)	A	<i>Spisula solida</i> (Lin.)	C
<i>Mya truncata</i> Lin.	A	<i>Hiatella arctica</i>	B
<i>Pholas dactylus</i> Lin.	B	<i>Zirfaea crispata</i> (Lin.)	C
<i>Teredo norvegicus</i> Spengler	B	<i>Calopodium albidum</i> Lamarck	C

The above list was sent to Mrs. Turk - the marine recorder - who states that it includes 26 completely new records for Census area 13, one new dated record and 7 upgraded records.

In conclusion I would like to thank Mrs. Llewellyn Jones for sending me her list of species.

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

DANGERS AND DELIGHTS; COLLECTING IN ADEN

For those who are fortunate enough to visit the tropics, the variety and strangeness of the marine fauna can provide a never-ending source of delight and interest. Nevertheless, a tropic beach can be completely devoid of shells, and the wonderful Indo-Pacific shells seen in collections were often won by hard work and sometimes not a little risk. When I first learned I was to spend a year in Aden my knowledge of that part of the world was limited to the information in the song. If the rocks of Aden really were barren and I was going to find no fossils, then I decided I would have to compensate by an interest in the modern marine fauna. Travelling by air means stripping oneself of everything but the barest essentials, and I arrived with little equipment other than tweezers and binocular microscope, while my literature was confined to Tucker-Abbott's little book on "Sea Shells of the World". I was to find that literature on the area was practically non-existent; that the public library was situated in a notoriously anti-European area and that the only museum dealt almost wholly with antiquities. I was starting from scratch. However, I was fortunate in having the distant encouragement and help of a most competent conchologist, Herbert Biggs, and in meeting in Aden a young Australian naturalist, Joe Warren, with experience of underwater swimming and a keen interest in tropical fishes. I was able to wean Joe over to more than a little interest in shells, and he was my almost constant collecting companion.

Obviously the first problem was the heat. After a flight of only eleven hours from London a shade temperature of 104° sapped energy, mental and physical, so that collecting trips were shorter than they might have been in England. Dehydration was a real danger. Even when only exercising moderately, 2 - 3 pints of water an hour are lost. Excessive dehydration means dizziness, fainting and even death eventually. You learn to combat this by drinking as much as possible before going out, by retaining body fluids while out, by carrying as much water as practical with you, and by cutting down eating in the field. By a carefully graduated exposure to the sun, a tan was quickly acquired and after a short acclimatisation it was possible to spend a day on the glaring white sands of a shadeless bay without undue discomfort. Hats were not necessary, and clothing was minimal and far from Savile Row standards! Soft Safari boots and sunglasses were a must, but the pith helmet and spine pad disappeared long ago and even salt tablets are now looked on with some suspicion.

At first sight the area looked anything but promising. The forbidding crags, shimmering a dull brown in the full glare of the sun, were almost bare of vegetation, just as the rocks in the sea below were almost bare of sea-weed. Near high water mark the rocks were covered with nondescript winkles, limpets, small turbos, knobbly dog-whelks and so on. These shells were often badly eroded and covered with limy algae. A quick search along high water mark showed promise of better things, for glistening wetly among the shingle, were cowries and other shells, worn and useless as specimens, but nevertheless things of beauty in themselves. When the tide went out things became more interesting. The variety of shells increased. Very large chitons clung to the black and purple lava, congregating in the crevices. The difference to our own faunas became more apparent. Repulsive looking holothurians moved sluggishly in the shallow water, the arms of sea stars waved everywhere from crevices. A two or three foot zone of the rocks was covered in white oysters (*Lopha cucullata*) and a few cuts on the hands soon taught us a healthy respect for their razor-sharp edges. Nestling among them were often other bivalves, *Perna*, various Ark shells and so on. Bright purple Xanthid crabs retreated into hollows and waved threatening claws. A whole population of hermit crabs lived near low water mark and sometimes there was a glimpse of red, a quick dash into the waves and

a bright Clanculus with a small crab inside, was captured. Strangely we never found live examples of this colourful shell. Looking over the rocks into the sea a profusion of small coloured fishes could be seen and Joe was able to spot and name these with great skill. Our first visit yielded some thirty different species of mollusca.

In places around the perimeter of the Aden peninsular, the forbidding lava reaches the sea as steep slippery cliffs covered in loose fragments of ash and dust, but elsewhere between the rocky headlands ("Ras" in Arabic) are wide sandy bays. To reach these it was necessary to travel through the built-up areas and even in those days, attacks by terrorists were occurring. In the crowded narrow streets a companion with a sharp eye was helpful to survival and no one lingered longer than necessary even in the shopping areas. A curfew meant returning by sunset, that is about 6 p.m., so night collecting was impossible. Public transport was very good and in The Crescent, under the benevolent eyes of the statue of Queen Victoria, we would change to a tiny blue eleven-seater bus. (This figure was nominal - the actual number carried depended on the good humour of the passengers and their capacity to fit themselves into corners or to sit over a hot engine, and twice this number was not unknown). Arabs and off duty troops mingled good-humouredly on these buses; any abuse usually came from large private cars. The bus followed recently built roads and precariously clinging viaducts, around Conquest Bay as far as Gold Mohur light-house. It was less unsettling not to look out as the bus rounded some curves, especially when the driver was laughing and joking with passengers at the same time. From there on progress was on foot, over the headlands and along the sandy bays, or by scrambling around the rocks at low water. As each headland was progressively higher and the loose lava slippery and dangerous, the number of people in each bay tended to get progressively less and the collecting better. The last ridge was about 600 feet high, a respectable climb in the heat, and beyond Round Island Bay, steep cliffs cut off further exploration except by sea.

Beyond the unusual lava-arch of the Elephant's Trunk were a whole series of wonderful pools in which algae coated the rocks in bright colours, scattered with clumps of violet-tipped coral. Blennies skipped in and out of the shallow water and all sorts of fish, crabs and molluscs were to be found. The list of shell species began to grow as these pools were gleaned over. On the wet sand of the more deserted bays were multitudes of little landcrabs, each living in a shell, which fled up the beach as we approached. A sharp eye, a sudden rush and grab, and another species would be added to the list, the only time I have ever collected shells "on the hoof". A few species were found only in this way and we never succeeded in finding their actual habitat. Unfortunately the shells used by these crabs are usually damaged. Owing to their vast numbers, homes are at a premium and as a result, as the crab grows, larger shells may not always be available. Instead, parts of the outer lip are apparently broken away to make more room and almost the whole columella and inside part of the whorls are removed, presumably by solution. So characteristic is this enlargement that similar shells used by crabs can be easily picked out among bleached shells of the Raised Beaches.

For a long time we failed to find any live cowries and this became almost an obsession with us. Numerous worn cowries turned up on the beaches, to maintain our interest. Joe was the first to triumph - to my chagrin as a conchologist! He had visited the most inaccessible of the bays on his own and on his return placed some small but beautiful examples of Arabica grayana and a number of Ornamentaria annulus on the table before me. The latter had been found in a pool and the former in crevices at extreme l.w.m. on the exposed end of a Ras, where the water was roughest. At last we had found where to find certain species and further examples soon came to light. The rough water, the jagged crumbly rock and the inaccessible positions, called for agility and nerve. The danger of being washed off the rocks was very real and at the least you could be sure of a soaking. The hunt was on and Joe was becoming an enthusiastic cowry hunter. However, the next find was mine. I had managed to get transport to the next peninsular, Little Aden. Physically the area was similar with sandy bays separated by long headlands of dark lava but it included one large bay which is much more sheltered - Bandar Sheikh. On the whole, less people visited the coast there, the population was smaller and the water less polluted. At low tide colonies of annulus, in all stages of growth were found in pools, and under flat stones I found many examples of Erosaria turdus,

looking like nothing but lumps of muddy jelly until the mantle drew back and the delicately spotted shell appeared. Other species were found, small examples of Ponda carneola, Erosaria nebrates and Paulonaria gracilis notata, usually deep in crevices.

Beyond the large headland of Ras Mujallab Heidi we found some bigger pools and in the clear waters of these we witnessed many minor dramas. In one pool a small Puffer Fish had been stranded, which immediately blew itself up indignantly when lifted out to be photographed, its big round eyes looking strangely pathetic. A crab carrying a sponge on its back scurried across a sandy floor, but the camouflage effect was rather lost because the sponge was bright blue in colour! In another pool a voracious Moray eel chased and devoured all the other small fish which could only dart here and there in panic until their turn came. Clinging to the side of one large pool was a two year old pearl oyster, and we saw some most attractive white and orange sea-slugs.

Meanwhile we had acquired further equipment and with a snorkel it was possible to get under the water of the shallow bays, and searching literally opened up to us a whole new world. The myriads of small coloured coral fishes, and the masses of sponge dappled by the sunlight, added to its strangeness. Shells were by no means easy to find among a welter of boulders, coral and sponges. With breathing apparatus further exploration was possible. Between 15 and 25 feet below water level were colonies of two species of Pinna almost buried in the sand. Examples of Ostrea hyotis with a shell weighing 6 or 7 lbs. were not rare and occasionally a tiger cowry ventured into the open. Other cowries, cones and harp shells were found rarely. But this fairytale world had its dangers also. Although Aden has a bad reputation for sharks, to Joe's intense disappointment (and my intense relief!) we only saw one shark and that at some distance. Our only defence - our shark knives - seemed very feeble. In fact there was little to be done, except to try to look inedible. Some other fishes can also be dangerous. Scorpion fishes and Stone fishes, cling sluggishly to rocks, so well hidden as to be almost invisible and they are armed with poisonous spines which can inflict dangerous wounds. Rays, lying flat in the sand, may have nasty spines in the tail and the numerous purple sea-urchins have brittle spines, many inches long, which as all James Bond fans know, can be most painful if stepped on with the bare foot. Another danger lurks under ledges and in holes in the lava. You never feel in these with the fingers but use a knife or iron bar for these are the hiding places of the Moray eels, whose savage bite can almost sever a finger. Yet it is under just such ledges that you may be lucky enough to discover Mauritia mauritiana. Purple Seawasps, a kind of jelly-fish, cause burning swellings, and scratches and scrapes on coral can easily turn septic. Even among the shells there are villains, for the Geographic Cones have a venomous sting which can be fatal. I still shudder when I remember a member of the sub-Aqua club who innocently picked up a living Geographic Cone from the sea-bed and having nowhere else to put it, tucked it under his swimming trunks. Luckily it fell out and was lost. With sensible precautions however, most of these hazards can be avoided and once you have penetrated the underwater world you are seldom deterred from a repeat visit.

Apart from this underwater world, other less likeable sites proved conchologically just as interesting. The shallow dirty lagoon between the Causeway and the Aden isthmus, with its flamingoes and pelicans, and full of all sorts of unsavoury rubbish, was rich in small shells, for myriads of Cerithids and Nassas crawled over the mud in the hot shallow water. The long stretch of Khormaksar Beach, though often heavily fouled with oil, was a good source of washed-up shells, especially after strong monsoon winds had been blowing for several days. We were to collect hundreds of fossil species from the Raised Beaches and search the high ridges of Shamsan for snails but these are other stories as also was a wonderful visit to Mombasa, in Kenya.

The full list of species collected in a year has still not been fully worked out but it has an impressive length. A new locality for the newly described species Littorina urieli was discovered and some non-marine snails were collected live for the first time. A lovely little Tivela from Masirah Island appears to be new and has yet to be described. The fauna was demonstrated to have remained more or less the same since Pleistocene times, and the edibility of many species was demonstrated by their presence in middens we investigated along the coast. Collecting and preparing specimens helped to pass what might otherwise have been a tedious duty. Now that the discomforts

are forgotten, many wonderful memories remain of swimming under the bays, or sitting high on a Ras, the monsoon breeze cooler at that height, watching the Sooty Gulls down on the beaches, or a Kite skimming the cliffs where its nest lies, or just gazing out where the blue waters of the Gulf of Aden were flecked with the white of the waves, and wondering what treasures lay beneath the miles of water unseen by any human eye and destined to remain for ever deep below the glittering surface

Philip Cambridge, July 1967

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UNORTHODOX ORTHOGRAPHY

"Do you spell it with a V or a W?" inquired the judge.

"That depends upon the taste and fancy of the speller, my Lord," replied Sam.

In the spelling of scientific names, pedagogic adherence to the rules and practice of orthography is preferable to Sam Weller's more liberal attitude. Zoologists (not that Botanists have any cause for smugness on this score) have not invariably followed the best precedents when culling names for their species and genera from the ancient classical writers, who are the ultimate fons et origo of biological nomenclature and terminology. According to the rules laid down by the ICZM, an author's original spelling of a name, even though inaccurate or ill conceived, must be retained unless it is obviously a lapsus calami, that is an inadvertent spelling or misprint, so it seems there is no remedy. All the same, certain names deserve to be placed on a 'black list' even though they cannot be rejected: the following are selected examples of such 'naughty words.'

Buccinum is from Latin bucina, = trumpet, in which the u is long, so the generic name of the whelk should be Bucinum. The gratuitous insertion of a second c affects the pronunciation as well as the spelling.

Janthina: the correct spelling is Ianthina, in which both the i's are short.

Lymanaea should be Limnaea (Gk. limnaios, = marshy). It is just as well, however, that Lamarck did slip up, as otherwise his genus would be a junior homonym of Limnaea Poli (= Unio Philipsson).

Succinea is from Latin sucinum, = amber, with a long u, so that Sucinea would be more correct - the Buccinum error again.

Littorina, littorea and littoralis: the Latin for shore is litus, with a long i, so as in Buccinum the double consonant falsifies the pronunciation.

The trivial name laevis: the Latin adjective for smooth is levis. The diphthong may perhaps be condoned, as it serves to distinguish levis with a long e from levis (= swift) with a short e, on the analogy of the cognate Greek adjective leios, in which there is a diphthong.

Lauria cylindracea: cylindraceus is not classical; the adjective cylindratus does occur once (in Pliny); cylindrica is acceptable, being directly derived from Gk. kulindrikos, latinised as cylindricus.

Vallonia excentrica: the epithet should be spelt eccentrica, as the prefix ex- becomes ec- before c.

Arion lusitanicus: the adjective should be lusitanus. Incidentally, the o in Arion is long.

Occasionally a choice of spelling is available. For instance, there is ancient precedence for three variants of Mytilus: Mitulus, Mytulus and Mitylus;

in all four the first syllable is long.

Some words have a classical aspect yet are unknown in classical or even medieval literature. For example, the adjectives lacustris and rupestris are not to be found in a Latin dictionary, but were fabricated on the analogy of palustris, which is genuine. The termination -ris is feminine, though palustris qualifying a masculine noun does occur once, in Columella (circa A.D.50), a writer on husbandry. Acroloxus lacuster would be philologically more agreeable than A. lacustris.

Lymnaea peregra (Buccinum peregrum Müller) offends the literary purist: there is a noun pereger, meaning one who is abroad or a traveller, but no such adjective. Müller seems to have overlooked this fact and treated pereger like glaber, glabra, glabrum. Aplexa Flemingi is rather a pity: the word is improperly constructed from the Greek noun plexis, a plaiting or weaving.

Probably few of those concerned with zoological nomenclature care or even know whether the names they use are etymologically legitimate or not. The way a word is spelt is no doubt of academic interest, not of practical importance, but nevertheless it behoves those who draw from classical springs not to muddy the water.

A. E. Ellis

LAND AND FRESHWATER MOLLUSCA OF THE BOULONNAIS

From May 25th. to the 31st. 1967, the Geologists' Association held a field meeting in the Boulonnais, that part of France between Calais and Boulogne which lies closest to England. While attending this meeting Mr. D. G. Pickrell and myself did a certain amount of molluscan recording, and as it is very many years since any account of the fauna of this area has been published, it seems worth while to give some of our results. The British National Grid can be extended to this corner of France, and the relevant 10-kilometre squares are in fact shown on certain Ordnance Survey base maps (e.g. on the 1/625,000 base map ('10-mile' map)). We collected in three of these squares: TR/50 (Wimereux - Ambleteuse), TR/51 (Cap Gris-Nez - Wissant), and TR/60 (Marquise - Hardighen).

The fauna of land and freshwater Mollusca is very similar to that of south-east England: out of the 55 species found, only two (Theba pisana and Hygromia subrufescens) are unknown in East Kent (vice-county 15), although two further species (Clausilia dubia and Cochlicella acuta) are there known from only one site each. Theba pisana lives in abundance on the sand dunes at Wissant, together with Cochlicella acuta. The genus Helicella is well represented in the area, both on the dunes along the coast and inland on the Palaeozoic limestones around Ferques: Helicella caperata, H. gigaxi, H. virgata and H. itala are all common (H. candidula was searched for but not found). A single freshly-dead shell of Hygromia subrufescens was found by Mr. Pickrell in the Jocien limestone quarry, 1km. east of Elinghen (14: this and subsequent locality numbers refer to a map of the Ferques area published in Proc. Geol. Ass., Lond., 77 (1966), part 4, figure 1). On grassy roadsides and in waste places Hygromia striolata and Monacha cantiana abound as in south-east England. Monacha cartusiana occurs in some of the quarries around Ferques. Very little woodland collecting was attempted, but a coppice above the Briqueterie de Beaulieu (8), 1.5 km. east of Ferques, yielded Clausilia rolphi and a living specimen of the very local Acicula fusca. Limax marginatus was common in a disused quarry near Chapelle de Ste. Godeleine (11), 4 km. SSW of Ferques, gliding about on the damp rock surfaces. Succinea oblonga was found living in barely damp, unvegetated clayey hollows in a limestone karst surface above the Randon-Dolomie quarry (13), 1 km. ENE of Elinghen (verified by dissection by Dr. L. Lloyd-Evans). But perhaps our most interesting find among the land Mollusca was Clausilia dubia, which occurred in great abundance after rain all over the Jurassic limestone cliffs at Cap Gris-Nez. This makes the old record for Dover Castle (J. Conch. 13 (1911):276), the only verified station in Britain south of Yorkshire, rather more comprehensible. We found C. dubia nowhere else in the Boulonnais, although C. bidentata was common everywhere.

The remaining land Mollusca call for little comment and were mostly familiar species of southern England. Oxychilus helveticus was widespread, and

O. draparnaldi turned up among rubbish in several places. Among the slugs, all the common Arion were found, including the grey form of Arion 'circumscriptus' (A. silvaticus of Walden; see Ellis, Conchologists' Newsletter, No. 17 (1966): 117.

We did very little freshwater collecting. The millpond in the village of Wissant yielded Valvata cristata, Potamopyrgus jenkinsi, Lymnaea peregra, Pisidium amnicum, P. casertanum, P. personatum, P. subtruncatum and P. nitidum. Potamopyrgus jenkinsi is well established in the area.

M. P. Kerney

COCHLICELLA ACUTA COLONIES IN THE ISLE OF WIGHT

When the Conchological Section was formed within the Isle of Wight Natural History & Archaeological Society by my husband, at the request of the President in 1963, very few, if any, members had any idea of how to collect or name the species found.

Starting with about 9 members, all beginners, it seemed at the time a pretty hopeless task, but now, with close on 40 members, some really interesting work is being done; for example, the survey of Land and Freshwater Mollusca carried out by one of our junior members.

However, having discovered Cochlicella acuta in fairly large numbers on Bowcombe Downs in 1964 (about September), the Section decided to scour the Island and finally found another colony on Tennysons Down near Freshwater. The colony here was decidedly smaller and less attractive than those at Bowcombe, and scattered over a smaller area.

On another visit to Bowcombe after warm rain had brought out large numbers of specimens, some quite large, there were about 11 members, so we decided to take an area 35 paces by 45 paces, pick out an average spot, measure out a plot a yard square and check numbers found in one square foot, and an average of about 75 were found above and below the foliage - one thistle having 27 specimens on it. It is interesting to note that this particular meadow was in the centre of the Island and contained some luscious green thistles, whereas Tennysons Downs overlooked the sea.

The findings at the end of the count averaged about 675 specimens in this square yard, and the results were as follows:

Bowcombe Downs M.R. 474 878

Tennysons Downs M.R. 332 854

Banded forms 21%

Forms with banded body whorl only 17%

Unbanded forms 62%

Minimum height 16 mm.

Maximum height 20.5 mm.

Average height 18 mm.

Banded forms body whorl only 81%

Unbanded forms 19%

Minimum height 10 mm.

Maximum height 14 mm.

Average height 13 mm.

The count per square yard on Tennysons Downs was less than 50 and they were smaller, the maximum height being less than the minimum height from Bowcombe.

The specimens from Bowcombe had much darker bands, almost jet black and very clear cut, against those of Tennysons. For records purposes four excellent transparencies were taken of 12 specimens crawling on the leaves of a large thistle.

E. I. Prebble (Mrs.), Shell Museum, Binstead, Ryde

FIELD MEETING TO LEICESTERSHIRE, 6th. MAY 1967

This meeting was held jointly with the Leicester Literary and Philosophical Society, and was led by Mr. I. M. Evans of Leicester Museum, whose local knowledge enabled us to visit suitable molluscan habitats in the western part of the county. In spite of a rather low attendance from our own society (four members),

the meeting was highly successful in its object, which was to record for the 10-kilometre square mapping scheme the Mollusca of a hitherto badly neglected county. In the account which follows, an asterisk (*) is attached to those species new to Leicester (vice-county 55).

A first stop was made at Aston Firs (42/4593) about 2 miles east of Hinckley, a piece of mixed deciduous woodland on rather heavy clay soil. The grass roadside verge outside the wood yielded, among other species, Hygromia liberta, Oxychilus helveticus and Vitrea contracta*. The wood itself provided 11 species, including Carychium tridentatum*, Cochlicopa lubrica (seg.)*, Punctum pygmaeum*, Arion intermedius, A. circumscriptus (form silvaticus), A. subfuscus and Vitrea crystallina (seg.)*.

Next we visited the Ashby canal at Basin Bridge (42/393960), 1 mile north-east of Higham-on-the-Hill. A prolific freshwater fauna was quickly recorded, including Viviparus viviparus, Valvata cristata*, Lymnaea auricularia, Unio pictorum, U. tumidus, Anodonta cygnea, A. anatina, Sphaerium rivicola and Dreissena polymorpha, and also a good list of land species from the adjacent bank, including Carychium minimum (seg.)* and Retinella radiatula*. Immediately north of the road bridge is a small Phragmites swamp, which has developed in the silted-up remains of a turning place for barges. Here Vertigo antivertigo* was living in great profusion, in association with Lymnaea truncatula, L. palustris, Planorbis leucostoma, Succinea pfeifferi, Sphaerium lacustre, Pisidium casertanum, P. personatum and P. obtusale. This little group of habitats - canal, canal bank, and swamp - produced in all 56 species from an area less than 50 yards square, and others which we failed to find (e.g. Vitrina pellucida and Vitrea spp.) were no doubt missed.

Last, a visit was paid to the same canal about 10 miles further north (43/349109), 1½ miles south-east of Measham. A section of the canal had here been drained, exposing great numbers of recently dead mussels (Unio pictorum, U. tumidus, Anodonta cygnea and A. anatina). The freshwater fauna was very similar to that near Higham, and a fairly good list of land species was also compiled from the canal banks and nearby roadside verges (49 species in all).

Although this excursion could give only a first impression of the molluscan fauna of Leicestershire, some interesting points emerge. We entirely failed to find Discus rotundatus, usually so ubiquitous a species. The apparent absence of Hygromia striolata was also rather surprising, and also, to members from the London area, that of Monacha cantiana, which in the south abounds everywhere on roadside verges and waste ground.

M. P. Kerney

GENERAL NOTES

JUNIOR MEMBERS ELECTED 20th. MAY 1967

WEAVER, Kevin W. [REDACTED], Nairobi, Kenya.
BIRD, Penelope [REDACTED], Upper Layham, Hadleigh, Suffolk.
FLUX, Alan James [REDACTED], Ventnor, Isle of Wight.
RIDDELL, Christopher William [REDACTED], Totteridge, London, N.20.

BRITISH SHELL COLLECTIONS: The Turner Collection, Harris Museum, Preston, Lancs.

Two cases of shells are on display in the museum, illustrating the morphology and classification of mollusca. The remainder of the collection - forty eight drawers - is in cabinets in storage. It consists almost wholly of gastropods, both marine and freshwater, from all parts of the world. The cones and cowries are very well represented though there do not appear to be any of the very rare species, and the Indo-Pacific region is perhaps the best represented. The labelling is unfortunately sometimes incomplete or sketchy. No records exist about the donation and it is not known in the museum who "Turner" was. Much of the material appears to have been bought, as some labels bear the remark "Sir D. Barclay's Sale 7/91" or "Ex. Coll. Dr. C. C. Claremont" and some, for example Siphonaria calcarea Dunker, bear the remark "Identified by Sowerby 5/95". Sowerby's works seem to have been largely used in the determination of the species.

Access to the collection can be arranged by application to the Museum Curator, giving a few days' notice wherever possible.

The museum also has a collection of British Fossils in storage, stratigraphically arranged. It covers all geological periods but is strongest in Palaeozoic material.

Philip Cambridge

SLUGS IN SCHOOL BIOLOGY. A short article with this title, by D. Pallant of Beverley Grammar School, Yorkshire, appears in the School Science Review, Vol. 48 (No. 166), pp. 782-786, June 1967. There is an illustrated key to the genera of British slugs, and paragraphs on Dissection, Digestion of cellulose, Ecology and Embryology.

REQUESTS FOR EXCHANGES, SALES, ETC..

Mr. R. H. Raemaekers of [REDACTED], Anvers, Belgium, wishes to exchange molluscan fossils with other members of the Society. He can offer an unusually complete range of Belgian Miocene specimens, all identified and localised.

Dr. E. Rolan, [REDACTED], Vigo, Spain, wishes to exchange marine shells of Spain for those from other countries.

Jabez J. Shin, c/o. Holmes and Narver, Inc., A.P.O. San Francisco, 96333, U.S.A., is starting to collect cowries and wishes to exchange with other collectors; he offers cowries from the Marshall Islands.

Anver H. Master, [REDACTED], Zanzibar, a dealer in shells from Zanzibar, wishes to contact collectors or dealers interested in purchasing specimens from that area.

Chuck Snell, [REDACTED], San Diego, California 92109, U.S.A., wishes to contact collectors interested in buying, exchanging or selling rare tropical shells, cones, cowries, etc. Send list with details and values.

Dr. I. Flasar, [REDACTED], Czechoslovakia: Books wanted:

Quick: The anatomy of British Succineae - Proc. Malac. Soc. London, 20.

Ellis: British snails, 1926.

Ellis: Census of the distribution of British non-marine Mollusca. Journ. Conch., 23:13-244.

Books offered for exchange:

Clessin: Deutsche Exkursions-Mollusken-Fauna. II. Auflage, pp. 1-663. Nürnberg, 1884.

Geyer, D.: Unsere Land- und Süßwasser-Mollusken. III. Auflage, pp. 1-224. Stuttgart, 1927.

Wagner, H.: Die Raublungenschnecken - Gattungen Daudebardia, Testacella und Poiretia. pp. 1-259. Budapest, 1952.

Zilch, A. - Jaekel, S.G.A.: Mollusken/Die Tierwelt Mitteleuropas, Band II, Ergänzung, pp. 1-294.

Likharev, I.M. - Rammelmejer, E.S.: Nazemnye molljuskij fauny SSSR. pp. 1-511, Leningrad, 1952.

Likharev, I.M.: Molluski - Clausiliidae. - Fauna SSSR. pp. 1-317. Leningrad, 1962.

Grossu, A.V.: Mollusca - Gastropoda Pulmonata. - Fauna Republici populare Romine, Voll. III, Fasc. 1, pp. 1-518. Bucuresti, 1955.

Grossu, A.V.: Mollusca - Gastropoda Prosobranchia, Opisthobranchia. - Fauna Republicii Populare Romine, Voll. III, Fasc. 2, pp. 1-220, Bucuresti, 1956.

PUBLICATIONS RECEIVED

Poirieria - Vol. 3, Part 6 (March 1967): This issue, as usual, contains a number of articles of considerable general interest: "A Search for Rhytida yaldwini Dell" by O. J. Marston describes a caving expedition in search of a sub-fossil Rhytida known previously only by its Holotype, three paratypes, and a few fragments. Five trips and a great deal of mud-washing produced three adult

shells and a number of juveniles.

There is a note on Chione stutchburyi and its distinction from C. aucklandica by N. Gardner, abstracts of recent papers on New Zealand mollusca, and an article on the fauna of a culvert in the Heathcote-Avon Estuary by Frank Climo. This fauna was in sharp contrast to that in the estuary itself, a fact mainly attributable to the high water velocity. A very useful recipe for an emulsion to protect fragile periostraca is provided by Norman Douglas and there are various detailed collecting notes from a number of localities.

Conchological Society of Southern Africa: Circular 84 (April. 1967)

This issue includes some supplementary notes to K. H. Barnard's 'Personal Names in South African Conchology' by D. H. Kennelly, an account of a shelling expedition to Aldabra Island by Shiela Smith, which includes a listing of the marine shells found (they all seem to be large shells) - and a useful note on Cypraea oweni Sowerby, by E. Dee.

Circular 86 (June 1967)

Notes of general interest in this issue include one on recent finds of Cypraea broderipi Sowerby, and large dredged Voluta festiva Lamarck, by E. Dee, an article on Volema pyrum (Gmelin), its nomenclature and range and a short note on Aldabra Island, both by D. H. Kennelly.

Acting Secretary/Treasurer is Mrs. L. Kerr, [REDACTED], Kenilworth, Cape.

T.E.C.

PALAEONTOLOGICAL RESEARCH LABORATORY,
3616 Garden Club Lane, Charlotte,
North Carolina, 28210, U.S.A.

This institution is anxious to acquire, either by purchase or exchange, a study series of marine shells from the waters of Great Britain and Ireland, the Mediterranean and the Red Sea. They are particularly interested in identified suites of gastropods in small lots, representative of any specific water regions and typical of the marine shell ecology.

The Library of this institution is interested in obtaining journals and books on shell morphology or shell collecting in England.

Will collectors or dealers who are interested, please contact the Laboratory as soon as possible.

Produced by THE CONCHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

ECOLOGY

Ecology is defined by Webster as "biology dealing with the mutual relations between organisms and their environment". The word "ecology" has the same Greek root as "economics": "eco" means "a place to live". (Gr. oikos = a house. -Ed.) Ecology is a natural science that cuts across a number of other sciences - physics, chemistry and geology as well as botany and zoology. The mutual relationships with which ecology deals can be extraordinarily complex, but this paper will merely attempt to set out a few basic ideas.

As in every science, ecology has a special vocabulary. This is not done to confuse the novice or to make things sound unduly weighty, but to set out clearly the special ideas and relationships with which the science deals. The ECOSYSTEM is the unit of the ecologist. It includes all the living and non-living things in a habitat - rock, soil, air and water, as well as plants and animals. A HABITAT is the abode of a plant or animal, especially the particular location where it normally lives. As shell collectors we recognize that limpets are found living on rock or stones, not in mud, and that the mud snail, Nassarius obsoletus, is almost never found living on a rocky cliff. These are entirely different kinds of habitats, and the inhabitants are adapted to that particular environment. The ecologist looks at an ecosystem and observes both the environmental factors and the COMMUNITY of living organisms in their natural relationships. Although the community depends on the environmental factors, the community also affects the environment. Sometimes these changes are small or subtle; sometimes they are large and important - as when man intentionally alters a habitat. Man alters habitats every time he drains a swamp or builds a dam or clears woodland for farming. (As an aside, man almost always alters his environment, even when he does not consciously set out to do so.)

One of the most important concepts in the study of ecology is that of TROPHIC LEVELS or feeding levels. Think of the ecosystem as a functioning machine, with the sun as the motor or engine of that machine. The sun provides energy in the form of light. However, green plants are the only form of life that can use light energy directly. Ecologists call the green plants PRIMARY PRODUCERS. They can take carbon from the carbon dioxide in the air, and hydrogen and oxygen from water, and through a process called photosynthesis ("putting together with light") use the sun's energy to produce a kind of sugar called glucose. They change some of the glucose into starch, and they can make other things like proteins by adding nitrogen and phosphorus and other materials taken from the environment. You can easily recognize grass and trees as primary producers, but there are others: the green scum of algae in a pond, mossy rocks in a stream, the seaweeds (marine algae) which come in many shades of brown and red as well as green, and a large portion of the plankton. Although many things are included in the term "plankton" - single-celled animals, small jellyfish and tiny crustaceans called copepods, as well as the larvae of some molluscs and other animals - perhaps 90% of the food in the ocean is provided by minute single-celled plants. Plankton has been called the "grass of the sea". Most of the other life in the sea derives nourishment from it, though often very indirectly.

After the primary producers, the next higher trophic level is that of the HERBIVORES. Although most herbivores are animals, such as cows or chickens, there are a few parasitic plants like mistletoe. A great many molluscs are herbivores, scraping algae off rocks as do the periwinkles, limpets and chitons, or eating the plants in your garden, like slugs and land snails such as Helix.

Above the herbivores are the CARNIVORES, the meat eaters, but in this case there may be two or three or more levels of carnivores eating each other. Although we divide things into categories for ease of study, nature does not divide things that neatly. It is difficult to find a neat place to put the pelecypods, the bivalve molluscs. They are filter or deposit feeders, and they will take almost anything that comes along, if it is small enough for them to digest. Some bivalves can filter out food particles as small as one micron (about $1/25,000$ of an inch), and when you are dealing with such small things the distinction between herbivore and carnivore becomes meaningless. Some fungi and many parasites are meat eaters. Animals at each level are eaten by larger or stronger animals at a higher trophic level. The relationships are often complex. A sick carnivore may find himself the victim of an animal from the same trophic level. Man eats primary producers, herbivores and carnivores.

A diagram of an ecosystem would indicate that each higher trophic level must be smaller in terms of biomass (amount of living matter, not necessarily number of units) than the one below it. Each plant or animal uses up part of its food intake for metabolism, producing energy for activity and releasing heat. Only a portion of what it eats can be turned into tissues that can be eaten by others. A mathematically inclined scientist once estimated that 10,000 pounds of diatoms (microscopic plants) are eaten to make 1,000 pounds of copepods, and 1,000 pounds of copepods to produce 100 pounds of smelts. The 100 pounds of smelts, when eaten, give 10 pounds of mackerel which, as food, make 1 pound of tuna. This pound of tuna when eaten by a man will probably increase his body weight by only $1/10$ of a pound! There must be larger numbers at the lower trophic levels, and higher rates of reproduction, because they must make not only enough tissue for the next higher trophic level but also produce enough offspring so that the trophic level itself can be maintained despite losses.

However, at all trophic levels there is some matter that is not consumed. This matter, and the energy and minerals contained in it, would be lost to the ecosystem if it were not for a fourth trophic level - that of the DECOMPOSERS, the fungi and bacteria. They have the unique ability to reduce complex organic compounds, such as proteins, to simple non-organic compounds which the primary producers (green plants) can use to manufacture food. Without the activities of the decomposers, many minerals and other nutrients would be locked in a form that could not be used by living plants and animals.

Although molluscs are not decomposers, they can help the decomposers. Dr. Ruth Turner recently pointed out to the New York Shell Club that although man considers shipworms and their relatives to be pests, they are just part of the clean-up squad of the ocean. They bore not only into wharf pilings and wooden planks, but also into the logs and trees that are frequently swept into the ocean. By riddling them with holes, the shipworms and their relatives prepare them for the decomposers, who reduce them to usable units. Just think of all the driftwood one tide can leave on a beach, and you can imagine what a mess the ocean would be in a year or so without the decomposers!

With the energy from the sun, there is constant flow of matter through the ecosystem. Matter is used and re-used in a most efficient manner. Green plants use carbon dioxide from the air and give off excess oxygen. Animals use oxygen and give off carbon dioxide as one of the waste products of their metabolism. With the proper balance of plants and animals you can create a small ecosystem in a sealed gallon jar of pond or sea water. Each type of plant or animal contributes something to the ecosystem of which it is a part, and there usually is a fantastically large number of kinds of living things in a habitat, many of them too small for us to see with the naked eye. There are many predators and many types of prey. The ecologists talk of "food chains" and "food webs" and try to understand the predator and prey relationships. Most animals have a preferred type of food, but they have a degree of latitude so that they can survive the loss of one kind of food. The wide variety of plants and animals, and the web of food requirements, makes for stability within a community. The community continues even though one kind of plant or animal is destroyed.

My point here is that the molluscs you collect are only small parts of large communities of living things. They can be found in almost any climate,

on land or in fresh water or in salt water. There are many different kinds of habitats, each with a different kind of community of living things. Even between high and low tide on a single beach there are differences in habitat. Littorina saxatilis (the rough or yellow periwinkle) and Littorina littorea (the common periwinkle) are both found between high and low tide. However, as L. saxatilis can live with less moisture, it is normally found living higher on the beach than L. littorea.

Like all animals, molluscs need both food and shelter. If you are looking for a particular family or species of mollusc, a knowledge of its ecology will help you to look in the more likely places: when I promised to collect local Lymnaeidae (a family of fresh water snails) for a friend at the University of Montana, it made life a lot easier to know that the Lymnaeidae are usually found in shallow water or in mud at the shore of a lake or stream.

In the ocean, fine sand is a difficult place for molluscs to live, because waves often shift the sand, and sand is a hard place to get firm footing, but many species are able to burrow in the sand and feed with only their siphons extended. Digging or fanning in a sandy area might bring unexpectedly fine results, uncovering several species. However, you are likely to find even more species in a sheltered bay that has grasses both for shelter and more food for the herbivores that feed the carnivores.

Looking for land snails is generally more painstaking than looking for marine or fresh water molluscs, but you learn to look in the more likely places - under the bark of a dead tree or in decaying vegetation on the forest floor. Since the snails need moisture, you are not likely to find them in a sunny, exposed area. Unless you are particularly dedicated, you will not spend too much time looking for snails in a pine or spruce forest, as it provides an environment that is too acid for most snails and slugs.

When I go shelling, I try to look at the total environment, making mental notes in case I find the same type of habitat in the future. I find my interests broadening beyond conchology and malacology to all of nature. You can use ecological principles without being conscious that there is such a science, but I believe you will find your shelling more interesting, as well as more productive, if you go with a conscious awareness of habitat and the needs of different molluscs.

Marian Schroth

With acknowledgments and thanks to the author and the New York Shell Club. (First issued in 'New York Shell Club Notes', No. 133, June/August 1967)

THE BIOLOGICAL COUNCIL

The Biological Council was formed in 1945 to enable representatives of the Societies and Associations in the Biological sciences to meet periodically and draw on each others experience. It was soon realised that another body was required to deal specifically with the professional interests of biologists and it was largely on the initiative of the Council that the Institute of Biology was founded in 1950. Since then the Council has continued to meet twice a year to deal with the more academic problems of the Societies that are now affiliated to it and where required to advise the Institute of Biology on such matters.

The Council publish an Annual Calendar of Biological Societies listing particulars of the officers of, and the journals published by, the various biological societies in the United Kingdom, together with dates of their meetings. It also publishes a list of abbreviated titles of Biological Journals and a compilation of newly coined words used by biologists. Meetings of editors of journals are also organised from time to time.

In March 1965 the Conchological Society was accepted as an affiliated member of the Council, and I accepted a request by the Council of this Society to serve as our representative.

One important privilege which affiliation gives members of our society

is the right to use the library of the Linnean Society of London, for reference purposes. Unfortunately we cannot borrow books. The Library is situated in Burlington House, off Piccadilly, and no ticket, etc., is required for admittance. The Library contains a large number of rare and useful molluscan works, and the staff are extremely helpful.

Charles Pettitt

POEMS ON CONCHOLOGY

To feed upon the peach's bloom
T' inhale Dianthus' sweet perfume,
And rest upon the Rose;
To revel in the gay parterre,
So sweet, so costly, and so rare,
"From morn till dewy eve," and there
To take the last repose, --

Helix! may suit thy taste and form,
And I like thee would shun the storm
Of life, and live alone;
Like hermit in a safe retreat,
From scenes where false ones coldly greet,
And uncongenial tempers meet,
Unknowing and unknown.

The above charming verses are representative of the 72 stanzas on shells in "Poems on Conchology and Botany" by Sarah Hoare (Simpkin & Marshall, London, 1831). I have been unable to ascertain any particulars about the poetess except that her name is on the title page of this slim volume, which deserves wider popularity. In my MS "Zoological Garden of Verses" is a note that her publishers were "bombed to blazes in 1941." A few more of the enchanting lyrics from this poetical shell-cabinet are quoted below, as an aperitif to whet the appetite for more, although copies of this immortal work are probably not now readily obtainable.

Chiton! thou ne'er hadst cause to fear, There's grace in thy unstudied dress,
The warrior's lance, the warrior's Which adds to native loveliness,
spear, There's music in thy name;
Though still in coat of mail; Thy varied rays, and polish bright,
Health to thy breast, and peace serene, Charm the unwearied gazer's sight,
Enjoy thy pleasures submarine, Then fair Tellina! claim thy right,
May no rude spoiler intervene, And swell the breath of fame.
Thy safety to assail.

Not unattractive is thy mien,
Solen! though not in splendor* seen,
With tempting charms to win;
'T is not the richly broider'd vest,
By fashion's fondest child possest,
Was ever yet esteem'd a test,
Of genuine worth within.

But not alike to all is bloom,
Or elegance, or gay costume,
Or fair proportion given;
Yet still in all around we find,
Some good peculiar to its kind
Some useful power to each assign'd,
The gift of fav'ring Heaven.

Yet the soft-violet colour'd ray,
That paints thy robe, may well repay
Thy want of glitt'ring store;
The Atlantic storm thou'rt wont to
brave,
And in Pacific seas to lave,
To bask upon the Indian wave,
That breaks on Java's shore.

Oft times beneath a homely guise,
The real worth that secret lies,
Most tenderly endears;
So Cardium! one of the fair host,
Though least in beauty, still can boast
Superior claims to reign the toast,
Above her gay compeers.

Mactra! Though not advanc'd to wear
The palm of conquest, yet thine air
Of pure simplicity,
Might charm the most fastidious eye,
That satiate with variety,
Turns from the glare of finery,
To rest awhile on thee.

We will not spurn thy simple guise
Dentalium! nor thy form despise,
'T were thankless as 't were rude,
Giv'n by his power whose mighty hand,
Th' unlimited creation plann'd,
And made all good--thou must command
Our praise and gratitude.

Spondylus! Those repulsive arms,
Believe me, ill secure thy charms,
From man's all conquering hand;
He'd seek the distant barbarous clime,
Or Hymalayan* steep sublime;
Nay--sacrifice his health, his prime,
To hold thee at command.

I would not doubt with impious mind,
Teredo! good in thee to find,
Though navigators dread
Thy piercing power--and with dismay
Cast thee as direful foe away,
And, ah! for thee--profusely pray
For curses on thy head.

Thou Strombus! hast no fine array,
 No physiognomical display,
 To seize upon the soul;
 Sensations rise at sight of thee,
 Far other than the ecstasy,
 That beauty's winning sovereignty,
 Inspires from pole to pole.

Fair Argonauta! not a soil
 Adown thy robe--thou wouldst recoil,
 From vulgar, mean, or course*;
 Enough of elegance displays,
 Thy form, to fix the admiring gaze,
 And reverentially to raise
 The mind to Beauty's Source.

Th' ambitious view in courts to shine,
 The proud desire to charm mankind,
 To Turbo none impute;
 And yet this dress of studied care,
 Where emerald, azure, gold appear,
 Implies no vast dislike to wear,
 A royal birth-day suit.

Alike to thee to float at ease,
Lepas! upon the summer seas,
 Or midst the tempest's foam;
 Thine architecture firmly braves,
 The lightning's glare, the infuriate
 waves,
 And howsoe'er the ocean raves,
 Secures thee still a home.

(*Sarah's spelling)

In these unromantic days Sarah's pearls of poesy can still be appreciated, though perhaps not quite in the way she intended or would have approved.

A. E. Ellis

FIELD MEETING - TO AREA NEAR HEYSHAM HARBOUR, LANCASHIRE

18th. JUNE 1967

Immediately on the south side of Heysham Harbour and the railway station and sidings serving it, is a flash approximately 500 yards long by 350 yards wide, containing fresh water and separated from a sandy shore by a strip of land only about 200 yards wide at its narrowest point. The purpose of the meeting was to record mollusca in the area before it is disturbed by the erection of a new power station. The party consisted of 4 members, 2 visitors and the leader who was Mr. E. F. Greenwood, Keeper of Botany, City of Liverpool Museums. The weather was very warm and dry and had been so for several days prior to the outing and in this respect not ideal for the purpose of collecting.

The flash and area around in which we collected on the first leg of the journey is in the 1 Km. square 34/4059. The flash itself contained only a few spp. which were:- Potamopyrgus jenkinsi (E. A. Smith)

Planorbis albus Müller (1 specimen only)

Lymnaea peregra (Müller) and L. truncatula (Müller)

The ground by the flash which we examined, consisted of an unused goods track laid on ballast and bordered by an old sand dune area. Species recorded were as follows:-

Lauria cylindracea (da Costa)

Vallonia pulchella (Müller)

Cochlicopa lubrica (Müller), C. lubricella (Stabile)

Arion ater (L.) agg., A. circumscriptus Johnston

Agriolimax reticulatus Müller, A. laevis (Müller)

Vitrea contracta (Westerlund)

Retinella radiatula (Alder)

Oxychilus alliarius (Müller)

Euconulus fulvus (Müller)

Discus rotundatus (Müller)

Hygromia striolata (C. Pfeiffer) H. hispida (L.)

Helicella caperata (Montagu)

Cepaea nemoralis (L.) (Shell only)

and some Pisidia specimens (to be determined) in some almost dry sandy mud.

A nearby salt-marsh yielded -

Hydrobia ulvae (Pennant) and

Phytia mysotis (Draparnaud), the latter being a new vice county record obtained by Mr. Dennison.

On the return journey we visited some fields, ditches and an abandoned marshalling yard in the adjoining 1 Km. square - 34/4060. These yielded:-

Potamopyrgus jenkinsi
Planorbis leucostoma Millet
Arion ater
Discus rotundatus
Cepaea nemoralis
Pisidium casertanum (Poli)

Lymnaea peregra
Succinea pfeifferi Rossmässler
Arion circumscriptus
Oxychilus alliarius
Pisidium personatum Malm

W. F. Edwards

FIELD MEETING - TO PITSFORD, NORTHAMPTON, 16th. SEPTEMBER 1967

A joint meeting with the Conchology Section of the Northamptonshire Natural History Society and Field Club was attended by three members from this Society, who assembled at the Station entrance on a grey and damp morning.

Most of the collecting during the day was around Pitsford Reservoir and close to the village of Pitsford. The Reservoir is situated in the valley of a small stream and was opened in October 1956. Investigations along the edge and examination of strand-line debris showed that only a limited molluscan fauna had been established. This included Lymnaea stagnalis, L. peregra, Planorbis albus, Anodonta anatina, Sphaerium corneum, and S. lacustre. The abundance of partly amphibious species, e.g. Succinea putris and Lymnaea peregra was an outstanding feature. An investigation of the Reservoir some years hence to study possible changes in fauna would be interesting.

The grassland at the edge of the reservoir was disturbed and grazed, and, apart from large numbers of Arion intermedius was not rich in mollusca yielding only Cochlicopa lubrica (seg.), Vallonia pulchella, V. excentrica, Arion ater (agg.), Retinella radiatula, Vitrea pellucida and Agriolimax reticulatus.

An avenue of trees alongside a lane at the southern end of Pitsford Reservoir provided a more varied terrestrial fauna and many of the species which one would expect to find in this type of habitat. These included Cochlicopa lubrica (Seg.), Helix nemoralis, Hygromia liberta, Arion intermedius, A. circumscriptus, A. hortensis, Vitrea crystallina (seg.), Oxychilus cellarius, Retinella nitidula, Vitrea pellucida, Limax maximus and Agriolimax reticulatus. The abundance of the midland species, Hygromia liberta and apparent absence of H. hispida was noteworthy.

Finally some of the stone walls in Pitsford village were examined for rupestral and garden molluscs and the following were added to the list:- Lauria cylindracea, Helix aspersa, Hygromia striolata and Discus rotundatus.

The day was pleasantly concluded by tea in the Humfrey Rooms, the headquarters of the Natural History Society in Northampton, where members were able to examine some of the Society's cabinets containing collections of molluscs and fossils. Thanks are due to Mrs. P. List who arranged the meeting and to the members of the Northamptonshire Natural History Society for their hospitality. It is hoped that a liaison between the two societies will lead to further investigations into the molluscs of this area in the future.

J. E. Chatfield

GENERAL NOTES

BIOLOGICAL COUNCIL - OVERNIGHT ACCOMMODATION IN LONDON

The Biological Council has made arrangements for members of the affiliated societies to stay at Aster College, The Middlesex Hospital Medical School, Charlotte Street, London, W.1., during the University vacations. Aster College has just been completed and contains in all 170 single bedrooms, each centrally heated and fitted with running hot and cold water. The rooms are, of course, intended for Medical Students, but it is expected that a limited

number will be available for letting during vacations. The cost per night for a single room (no double rooms available) is 30/-d. including English breakfast. For reservations please write to the Bursar at Aster College. The telephone number is 01-636-8333.

PUBLICATIONS RECEIVED

'TABULATA' Vol. 1 No. 1 (July 1967)

This is a Club magazine newly produced by the Santa Barbara Malacological Society, U.S.A., which was founded in 1962. The contents indicate that, as is usual with American Societies, interest lies almost entirely in the marine sphere. The magazine is named after a locally favourite shell Neptunea tabulata Baird 1863, found in deep water off the west coast of North America.

The magazine is pleasantly varied in content, much of it naturally dealing with matters and personalities of local interest, but there is an article on elementary classification, one on the rare Colubraria procera Sow. by Lawrence Thomas, and an interesting note on the valid forms of Pteropurpurea macropterus Desh. by John Phillips, who examines the work of Dr. Emerson, defines certain recognisable subspecies of the genus, but lists them as species in the summary.

Another page deals with news from shell societies round the world, and contributions are invited. A note makes the old-fashioned point that Conchology deals with shells and Malacology with the animals in them: it seems that the definition of the terms so ably set forth in Dance (Shell Collecting - an Illustrated History, 1965, pp. 273-4) has not yet reached California!

The address of 'Tabulata' is P.O. Box 30191, Santa Barbara, California, 93105, U.S.A.

T.E.C.

'THE W.A. SHELL COLLECTOR' - April 1967

This is a fairly new periodical issued by the West Australian Shell Club, founded in 1965 (Corresponding Secretary, Mrs. Beryl Yates, [REDACTED], Bedford Park, W.A.). It contains a number of items which offer great promise of increased future circulation. An article by Mrs. N. Jones deals with Murex cornucervi (or monodon) from the Broome area and there is another by Mrs. T. Whitehead, member of this Society, on cones most commonly found on the West Australian coasts.

Barry Greaves writes about keeping marine molluscs in aquaria and rightly points out the need for observation of the many species whose habits are still quite unknown. Much may be learned even in the case of animals which cannot survive aquarium life for long.

CIRCULAR 87 (July 1967) of the Conchological Society of Southern Africa (Secretary - Mrs. M. C. Giles, [REDACTED], Flower Street, Gardens, Cape Town.)

Southern Africa is a large place and the Society is accordingly split into various groups, or branches and these send in notes of their recent activities and unusual discoveries for publication in the circular. Range extensions are always of interest, and one report by D. H. Kennelly is concerned with Donax serra, recently found at Kei Mouth. In this case the range extension was concluded to result from successful human attempts to found a new colony.

The main article in the issue consists of a compilation on the Sowerby family by Percy Elston. It is of interest to read that G. B. Sowerby III who was responsible for processing such magnificent works as Reeve's 'Conc. Icon.' and the 'Thesaurus Conc.' was in fact colour blind.

T.E.C.

'Coquillages Marins' by J. Arrecgros, published by Librairie Payot, 1 Rue de

Bourq, 1003 Lausanne, Switzerland. Recommended as an excellent and inexpensive small book on Mediterranean and Atlantic marine shells, coloured illustrations, cost about 11/-. Also 'Mollusques terrestre et de l'eau douce' - details not available at the moment. (Item from Mrs. Betty M. Smith)

EXCHANGES, CORRESPONDENTS, SALES, ETC.

Mrs. C. Jordan, [REDACTED], S.E. South Australia, - first-rate specimens only, please.

Mr. Edwin C. Theiler, [REDACTED], Bellmore, Long Island, New York, U.S.A. 11710, is keen to exchange shells - Murex wanted in particular - many varieties from Long Island offered; also shells from other parts of the world.

R. M. Elliott, of [REDACTED], Barcombe, near Lewes, Sussex, (Member) would like to hear from anyone with 'conchological contacts' in Singapore, as he will be visiting there shortly. Any members specific 'wants' will be tried for.

WANTED - A copy of 'British Snails', Ellis, 1926 - Brian M. Thisleton, [REDACTED], Carisbrooke, Isle of Wight.

FOR SALE - A fine series of specimen shells - cypraeas, mitras, murex, cones, etc. collected around the Territory of New Guinea - Miss K. J. McRae, [REDACTED], P.O. Rabaul, Territory of New Guinea.

FOR SALE - Step: Shell Life, 1945 Edn. 17/6d.; Cox: The Scallop (Shell Oil Co.) 1957, 17/6d.; Jeffreys: British Conchology, Vol. 3 only, thin paper edn., £1; Shells take you over World Horizons, Article in National Geographic, July 1949, 5/-. All post paid. C. Pettitt, [REDACTED], Liphook, Hants.

'Catalogue of Living Cypraeidae' by Walter O. Cernohorsky (1963) 24pp. cyclo-styled, quarto, 12/-. (Reduced from 15/-) Limited supply. Apply H.E.J. Biggs, [REDACTED], Bromley, Kent.

'The Cowry', edited by Lt. Col. R. J. Griffiths. Published once or twice per annum, 6/- per part. Vol. 2 starts shortly. Some parts of Vol. 1 still available. Apply H. E. J. Biggs.

PAPERS FOR STUDENTS

No. 8. 'Dissecting Snails' - M. R. Block, B.Sc.
6 pp.; 7 pp. figs. Price 4/-

No. 9. 'The Identification of British Chitons' - Gillian Matthews, M.Sc., Ph.D.,
3 pp.; 1 p. figs. Price 3/-

CHRISTMAS 1967

The compiler sends greetings and good wishes to every reader.

Produced by THE CONCHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

10-KILOMETRE SQUARE RECORDING SCHEME FOR NON-MARINE MOLLUSCA

The appended map shows the state of recording to January 1968, and incorporates about 33,000 10-kilometre square species records, as against about 22,000 a year ago. My best thanks are due to all those who have helped. A comparison with the earlier map (Newsletter No. 20, March 1967, p.137) will show that most of the progress has been achieved in or adjacent to areas for which at least some coverage was already available. Clearly much new ground must be tackled, and Ireland in particular still badly needs attention. I should be glad to send further information on the mapping scheme to anyone not yet participating in the work of recording and who would like to help. The scheme is essentially a corporate venture by the Society as a whole and its success depends on our enthusiasm. Please do all you can in 1968!

As work proceeds, it becomes apparent that certain species tend to be under-recorded, or wrongly recorded, because of difficulties of determination. The following notes may be of help:

Valvata cristata. Common, but often passed over as the young of some species of Planorbis. The perfectly circular whorl-section is however distinctive.

Carychium spp. The two British species are clearly figured in J.Conch.23 (1953): 306. The most reliable distinguishing feature is the presence in C. tridentatum of a flared expansion on the columellar fold about half a whorl back from the aperture. Often this can be seen through the transparent shell, but sometimes it may be necessary to break away part of the body whorl above and to the left of the aperture. This can be done neatly with the corner of a sharp razor blade. C. tridentatum is the usual woodland species, and C. minimum is common in marshes and other very wet places, but both may be found together in habitats of intermediate character.

Planorbis carinatus and P. planorbis. Care should be taken to distinguish these species. The rather closely-whorled var. dubia of P. carinatus is not infrequently mistaken for P. planorbis.

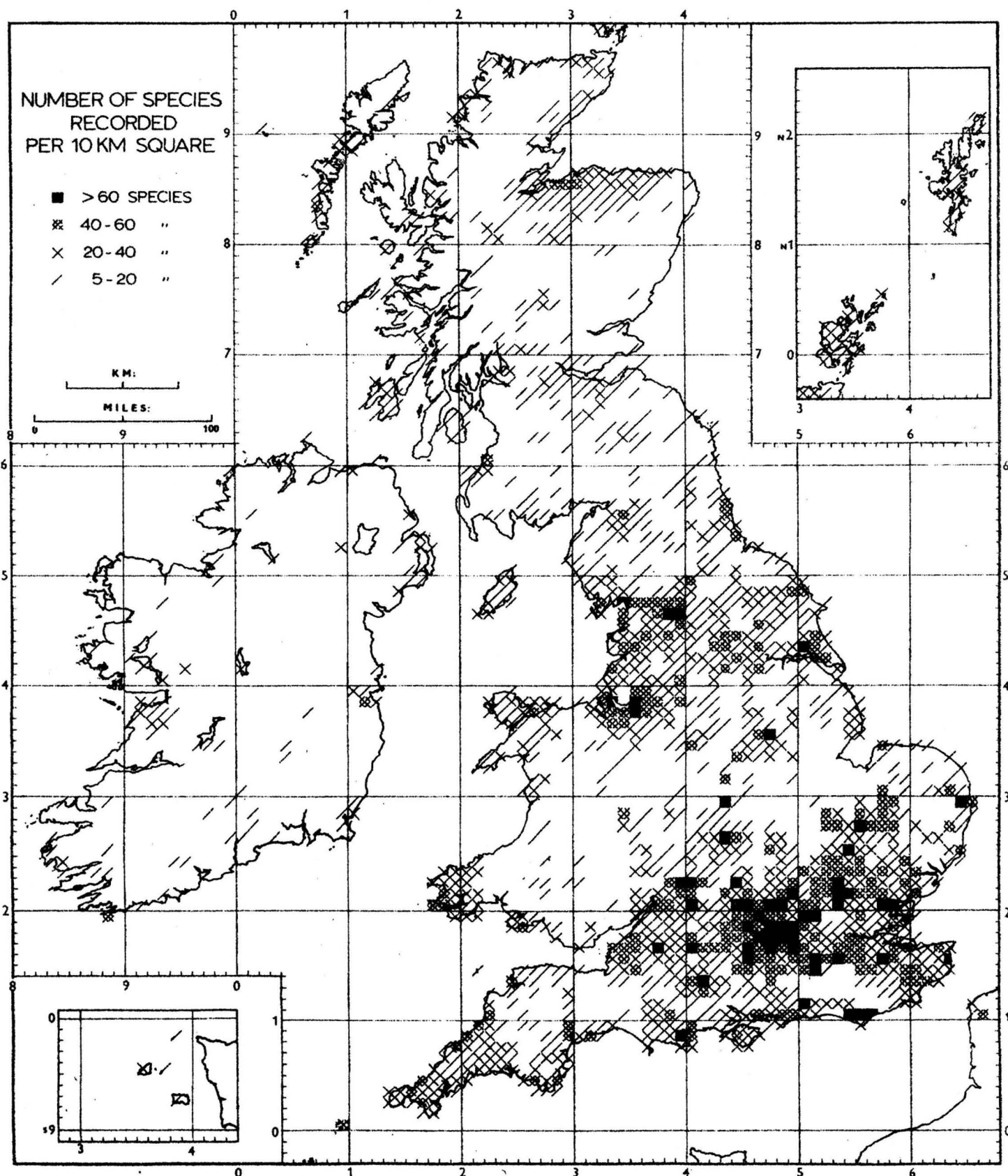
Succinea putris and S. pfeifferi. Only well-characterized shells can be identified with confidence; if in doubt, please send living or preserved material to the Recorder. S. pfeifferi is certainly the commoner and more widespread species in Britain.

Cochlicopa spp. Dwarf forms of C. lubrica are often mistaken for C. lubricella, from which they can be distinguished by their broader proportions, rather conical (not fusiform) shape, more tumid whorls, and usually darker colour. If in any doubt, preferably record as C. lubrica, which is by far the commoner species. For illustrations, see Proc.Malac.Soc.30(1954):204.

Arion 'circumscriptus'. It is probable that at least three species have been confounded under this name. Pending the publication of a definitive paper in the Journal of Conchology, specimens for identification should be sent to Mr. A. E. Ellis, 21 Ashcombe Road, Carshalton, Surrey (see also Newsletter No. 17, June 1966, p.118).

Vitrea crystallina and V. contracta. Both species are widespread in Britain. The differences are well figured by Kuiper, J.Conch.25(1964):276.

Oxychilus helveticus. This species has been wrongly recorded on a number of occasions, large examples of Oxychilus alliarius or exceptionally dark and



Map showing the number of species of land and freshwater Mollusca recorded to January 1968 for each 10-kilometre square of the British National Grid. (post-1950 records only)

glossy specimens of O. cellarius being mistaken for it. A good diagnostic character in O. helveticus is the jet-black edge of the mantle, which can be seen clearly through the shell as a dark transverse band when the animal is retracted.

Retinella pura. A common but badly under-recorded species, often passed-over as the young of R. nitidula, especially when of the brown form.

Agriolimax caruanae. This slug has become frequent in gardens and waste places in many parts of Britain and Ireland, and should be watched for. It may be known by its remarkable activity, by its clear chestnut-brown colour faintly speckled with black, and by the prominent white ring around the respiratory opening.

Anodonta spp. The species are often misidentified. If in doubt, please send specimens to the Recorder.

Pisidium spp. I should be very glad to name any Pisidium sent to me, preferably cleaned (see Newsletter No. 20, March 1967, p.136).

M. P. Kerney, Hon. Recorder for non-marine Mollusca,
Dept. of Geology, Imperial College, London, S.W.7.

MOLLUSC HUNTING IN THE SCOTTISH HIGHLANDS

1967 saw my first season as a recorder for the Land and Freshwater Census. Being Mother on a family holiday limited my Highland mollusc hunting to the "base camp" area of Ceannacroc, Glen Moriston, and other places dictated by family choice of day trips. This proved very frustrating as I seldom had long enough to investigate all the likely-looking spots. Also I usually had to search hard for the species I did find as the weather was rather dry. It was, however, exceptionally midgey, and the most essential items of equipment proved to be those which kept out or discouraged these midges. I had help in the person of small son, an enthusiastic turner-over of stones and logs, and a reliable reporter and collector of his finds. In addition I did not miss the opportunity of dissecting out the contents of the stomachs of brown trout caught by my husband.

The western and central part of the Scottish Highlands can, for the purpose of the Land and Freshwater Census, ecologically speaking be divided into two main environments: the higher ground which is moorland and mountain, and the lower ground which is cultivated land in the glens, both of which have their accompanying lochs and rivers. While molluscs are sparse in the former locality, the glens have a thriving if limited population. There are in addition various special environments. I visited nine localities in all, the more interesting of which are discussed below.

Ceannacroc, Glen Moriston (28/23-12-), is a fairly typical glen locality although it lies at the extreme western (upper) limit of present cultivation in the glen. It is about 500 feet above sea level. The geology comprises non-calcareous Moine schists and gneisses, overlain by glacio-fluvial deposits and pockets of peat. While boggy heather and grass moorland form the higher ground, most of the low ground is occupied by open mixed woodlands (pine and birch) and a little arable land. To the south and east there are Forestry Commission plantations. There are numerous small streams and a large river, the river Moriston, which drains into Loch Ness. The small streams are largely devoid of mollusc life as they are subject to scouring action at flood-times, but in the latter in its calmer stretches and backwaters I found Lymnaea peregra (Müller), Pisidium casertanum (Poli), P. subtruncatum (Malm) and P. milium (Held). Most bogs and lochans below 1,000 feet contained some molluscs, but while one might contain many animals, its neighbour could be quite bare. This fauna consisted of Lymnaea truncatula (Müller) rather than L. peregra, and P. casertanum, P. personatum (Malm) and P. obtusale (Lamarck). The chief home of land species was around the group of houses and in the rather weedy gardens, where numerous snails and slugs were to be found under rubbish and stones beside walls and fence posts rather than in the middles of the gardens. It was not easy to find molluscs in the higher ground. Arion ater ater (L.) and Agriolimax reticulatus (Müller) are considerable mountaineers, and were found, largely by chance, as solitary individuals in all sorts of

places, the former were even to be found creeping about in the heat of the midday sun. Arion subfuscus (Draparnaud), also solitary, was present in isolated places if there was a stand of birch trees or bracken. Despite hopes to the contrary, all specimens of Agriolimax reticulatus which were dissected proved to belong to this species and not to A. agrestis (L.).

There was an excellent opportunity to visit Dundreggan (28/354156) further down Glen Moriston, when the small loch formed by damming the river Moriston here was drained to allow the dam to be overhauled. This draining revealed several river terraces covered by peaty silt one to six inches thick. Pisidiums of the same species as found in the river at Ceannacroc were found in many small communities at all levels down to -15 feet. These communities could be seen at a distance as they were marked by the footprints of gulls and oyster catchers which had been eating the Pisidiums. Pisidium nitidum (Jenkyne), a species commonly found in lochs, was present at -1 to -4 feet, together with Lymnaea peregra, which had also been eaten by birds. It will be interesting to discover if P. nitidum survives the draining and if not how long it would be before recolonisation takes place. Time was short and I was unable to collect land molluscs in this area.

A very brief visit was made to Foyers (28/49-29-) on the east side of Loch Ness. Foyers is an economically depressed industrial village, with a considerable range in habitat including Loch Ness itself, derelict surroundings to factory buildings, village refuse dump, gardens large and small, arable land, and both deciduous and coniferous woods, all non-calcareous. At least as many species as found at Ceannacroc could be expected from here, but I had only half an hour in which to search, and I am not content with five species only.

The Totaig locality (18/87-25-), on the west coast, with a more equable climate than the central highlands, proved most interesting as it was the only calcareous area I visited, there being bands of calc-silicate rocks in the Lewisian gneiss. I regret that I only managed two visits on bright and sunny days, and that these visits did not include any ground recently cultivated. However, a search in the open deciduous and damp woodland rising steeply from the sheltered east coast produced a somewhat different fauna from that collected elsewhere.

None-the-less, I found the best place so far to look for land molluscs, if sheer numbers of species are required, is in the walled garden of a lodge, the more overgrown the better. I spent a very rewarding afternoon in the garden of what is now Invergarry Castle Hotel (28/314005), beside Loch Oich in the Great Glen, where I found a total of 21 species. Freshwater species were not well represented, however, Lymnaea peregra being found as one dead shell and much spawn, and there were no Pisidiums.

Thus I have discovered that the Scottish Highlands are not so devoid of molluscs as one might think, and I believe Dr. Kerney will agree with me that the large blanks on the Census map reveal a paucity of recorders rather than a lack of molluscs. I have only once drawn a complete blank, and that was at a sheepfold beside Loch Cluanie, where I hardly expected to find anything, although there are probably molluscs around the houses a mile along the road.

I am indebted to Dr. M. P. Kerney for help with the identification of species, especially the Pisidiums, and to Mr. A. E. Ellis for verifying Arion subfuscus.

Ceannacroc

Lymnaea truncatula (Müller)
Lymnaea peregra (Müller)
Ancylus fluviatilis (Müller)
Cochlicopa lubrica (Müller)
Discus rotundatus (Müller)
Arion hortensis (Ferussac)
Arion subfuscus (Draparnaud)
Arion ater ater (L.)
Oxychilus alliarius (Miller)
Retinella (Perpolita) radiatula (Alder)
Vitrina (V.) pellucida (Müller)
Limax maximus (L.)
Lehmannia marginata (Müller)

Totaig

Succinea pfeifferi (Rossmässler)
Cochlicopa lubrica (Müller)
Lauria cylindracea (da Costa)
Arianta arbustorum (L.)
Arion hortensis (Ferussac)
Arion subfuscus (Draparnaud)
Arion ater ater (L.)
Vitrea crystallina (Müller)
Oxychilus cellarius (Müller)
Oxychilus alliarius (Miller)
Retinella (Perpolita) radiatula (Alder)
Retinella (Aegopinella) pura (Alder)
Agriolimax reticulatus (Müller)

Ceannacroc (continued)

Agriolimax reticulatus (Müller)
 Pisidium casertanum (Poli)
 Pisidium personatum (Malm)
 Pisidium obtusale (Lamarck)
 Pisidium milium (Held)
 Pisidium subtruncatum (Malm)

Dundreggan

Lymnaea peregra (Müller)
 Pisidium casertanum (Poli)
 Pisidium milium (Held)
 Pisidium subtruncatum (Malm)
 Pisidium nitidum (Jenkyns)

Foyers

Potamopyrgus jenkinsi (E.A.Smith)
 Discus rotundatus (Müller)
 Vitrea crystallina (Müller)
 Limax maximus (L.)
 Pisidium casertanum (Poli)

Invergarry

Lymnaea peregra (Müller)
 Cochlicopa lubrica (Müller)
 Lauria cylindracea (da Costa)
 Arianta arbustorum (L.)
 Helix hortensis (Müller)
 Helix nemoralis (L.)
 Discus rotundatus (Müller)
 Arion hortensis (Ferussac)
 Arion subfuscus (Draparnaud)
 Arion ater ater (L.)
 Euconulus fulvus (Müller)
 Vitrea crystallina (Müller)
 Oxychilus cellarius (Müller)
 Oxychilus alliarius (Miller)
 Retinella (Aegopinella) nitidula (Drap.)
 Vitrina (V.) pellucida (Müller)
 Milax sowerbyi (Ferussac)
 Limax maximus (L.)
 Lehmannia marginata (Müller)
 Agriolimax reticulatus (Müller)
 Agriolimax laevis (Müller)

Shelagh M. Smith

WILL YOUR LOCAL COMMON BE LOST?

The traditional 'right' to wander over the Common Lands of England and Wales may soon be lost in many places if more people cannot be bothered to take the simple step of registering commons in their areas. The Commons Registration Act (1965) laid down that all land not registered as common by January 1970 shall cease to be common (see Habitat, Vol. 3, No. 1, p.2, January 1967). From June 30 there will be a registration fee of £5 but until that date, registration, which can be done by anyone, is free. Nevertheless, during the first ten months of the free period, since registration began in January 1967, less than a quarter of the common land in England and Wales has been registered.

Most naturalists have their favourite localities for the study of certain species. Most natural history societies make regular visits to sites of particular interest. Often these sites are common land. It is of vital importance that naturalists see that any common, of existing or potential natural history interest is registered. If this is not done, the owner will gain the right to enclose and develop his land; land which may have been unenclosed for centuries and which may contain habitats represented nowhere else in the locality.

Registration is simple. All you have to do is to mark the area of the common on a six inch map, sign a paper that you believe the area marked is a common, and take or send the map and paper to the County Council.

The map. Some County Councils will supply copies of maps along with the commons registration form. Alternatively, the leading bookseller in a town is usually the Ordnance Survey agent and he can advise on, and supply, the necessary maps. If there is no agent nearby you can send the name of the common and the Parish in which it occurs to Edward Stanford Ltd., 12-14 Long Acre, London, W.C.2., or Cook, Hammond and Kell Ltd., 25 Caxton Street, London, S.W.1., and they will send the appropriate map.

The registration form. This may be had from the County Council and is a simple declaration that the area marked on the attached map is believed to be a common. It contains a definition of common land, a space for the signature of the person registering the common, and one for a JP (who will make no charge) or a solicitor and commissioner of oaths (who will charge a fixed fee of 7/-) to sign that you have read the definition. You do not need to hold any common rights to prove that it is a common, or even state why you believe it to be a common. The official signature is required merely to prevent frivolous

registrations. Your local police station can tell you the address of your nearest JP.

The registration authority. This is the County Council in whose area the common falls. Your nearest County Town Hall will know whether a common is in their area or that of a neighbouring authority. If it is not convenient to visit the County Offices, registration can be done by post.

The Commons Society, whose address is 166 Shaftesbury Avenue, London, W.C.2. (telephone TEMple Bar 7220) will help anyone who still needs advice on registering.

A CONFERENCE OF NATIONAL BIOLOGICAL SOCIETIES

A conference of thirty delegates representing twenty-three societies and organisations was held on 30th. September 1967 at the Biological Record Centre, Monk's Wood Experimental Station, Huntingdon, to discuss progress and problems arising from the 10 km. square mapping scheme which has been adopted by several societies.

Each topic was introduced by a speaker before general discussion from the delegates and among these topics were the size of recording area, the vice-county system, the various grid systems including the European U.T.M. grid, the Irish grid and the National Grid. However, whilst it was relatively simple to formulate a theoretical plan of work for a mapping scheme, it was evident that progress depends ultimately on individual people working the areas in the field and many practical problems have to be overcome. The practical problems of designing recording cards, habitat evaluation and enlisting help from many biologists and naturalists also received attention.

The Conference brought various problems to the fore and promoted further liaison between the Biological Record Centre and National Biological Societies. It was pointed out that the scheme consists of a two-way passage of data, for whilst the individual societies provide the initial data, these records, stored on punched tape at the Biological Record Centre, can be printed as maps for any person engaged in research work on a given species. The ultimate production of an atlas of distribution, in our case of non-marine mollusca, is not the only achievement as much new information is brought to light during the actual field work and the publication of existing data stimulates further field work.

With the increase in distribution records in recent years it is especially convenient to be able to store the records at a central office. Some of the data processing equipment involved in this work at the Biological Record Centre was demonstrated during the afternoon session. Thanks are due to Dr. F. H. Perring and Dr. G. F. Peterken who organised the meeting and to Dr. K. Mellanby, Director of the Monk's Wood Experimental Station.

June E. Chatfield

SOME COLLECTING EXPERIENCES IN BRITISH GUIANA II

(continued from Newsletter No. 20, pp. 139-140)

A notable feature of the savannah areas of tropical countries is their lack of mollusca. This has been frequently referred to in connection with savannah country in East Central Africa and is equally true of South America.

In Guyana the forest belt (see pt. 1) is followed as one proceeds westwards, by an almost flat grass-clad plain or savannah, elevated about 300 ft. above sea level. Here the vegetation consists of grasses, dwarf shrubs and herb-like plants, trees are almost completely absent, except along the rivers, where forest galleries follow the water courses across the savannah.

Towards the northwest the country becomes more undulating, a successive series of terraces and broad plateaux, with bold and in some cases perpendicular sandstone escarpments varying in height from about 1,200 ft. to over 3,000 ft. above sea-level, and eventually forming a large undulating tableland culminating

in Mount Roraima (8,635 ft.).

Much of the grassland areas are subject to flooding during the wet season (February to October), large shallow lakes are formed in consequence of this, but these dry up almost entirely before the end of the dry season (October to February). In spite of this they contain a large molluscan fauna, in which the number of species, as might be expected, is small. The number of individuals is however almost unbelievable. One of these lake-like expanses caused by the flooding of the Rupununi River, was visited by the writer in December 1938; it was almost dry, and as far as the eye could see was littered with the bleached shells of two large aquatic snails, Pomacea urceus guyanensis and P. papyracea. The latter with, as the trivial name implies, a thin paper-like shell, has always been considered by dealers and collectors as a rarity, here it occurred in countless thousands. Living examples could be obtained by digging, but their size (diam. 110mm.) made it impossible to collect but a few, in a country where everything has to be transported by hand.

The ability of these large aquatic operculates to withstand long periods of drought has resulted in their being the only molluscan inhabitants of these extensive but temporary bodies of water.

During the dry season the Rupununi River becomes very shallow, its course being impeded by many sandbanks and rapids. These sandbanks are the home of a number of large freshwater mussels, Prisodon latialata often up to 140mm. in length, P. alatus and Anodontites trapesialis, which resembles the European Anodonta cygnea, and Paxyodon complanata, which is very abundant and used by the primitive Wapisianas Indians for a variety of domestic purposes.

In the pools below the numerous rapids several species of Doryssa, including D. devians and D. lamarckiana occurred. The elongated usually black shells of these Melanids are frequently adapted by the Indians for attachment to anklets worn by the children.

Although the savannah is almost destitute of trees, except for occasional groups of various species of Palms, dense forest galleries are to be found along the river banks, snails are far from common even here, due mainly to flooding during the rains. Several very beautiful species of 'tree snails', such as Corona perversa a sinistral form, C. incisa and C. regalis, occur however, living high up in the branches of large trees. Dead shells are often to be seen on the ground, but living examples can usually only be obtained by persuading an Indian to climb after them, which they are never keen to do, since most of the trees are also inhabited by vast numbers of small ants, with a bite out of all proportion to their size! The writer still has vivid memories, 30 years later, of the effects of an attack by these pugnacious little creatures.

The elevated tableland of Mt. Roraima (8,635 ft.) is about twelve square miles in area, and on it the boundaries of Guyana, with those of Venezuela and Brazil meet at a common point. This very remarkable mountain, together with Mt. Kukenam, is a part of one of the most extensive sandstone formations on the globe, and they both rise with perpendicular cliffs of red sandstone 2,000 ft. in height above the base of the surrounding country. Many extraordinarily high waterfalls descend over the vertical cliffs, having sheer drops of nearly 2,000 ft.

The summit of Mt. Roraima is a bare, exposed expanse of rock, between the crevices of which grow many rare and curious orchids and other flowering plants, besides some low bushes and extremely stunted trees. Snails, as may be expected, are extremely rare, but nevertheless the writer found Plekocheilus fulminans linterai (Sow.) in some numbers, living amongst the roots of the stunted trees and bushes. Sowerby's type material collected by Sir Everard Imthurn in 1884, remained unique until the subspecies was rediscovered at the type locality in 1938. It is apparently endemic to the Roraima plateau, although the nominate race P. fulminans fulminans is widely distributed in the mountains of Venezuela.

No account of Guyana or its mollusca would be complete without some reference to the justly famous Kaieteur Falls on the Potaro River, which has a width in the rainy season of nearly 400 ft., with a vertical drop of 741 ft. Below the falls the river rushes through a deep gorge, the steep walls of which are clothed with dense and luxurious forest. This proved to be the only locality known to the writer for the large and imposing arboreal snail

Orthalicus sultana found living between the great buttress roots, a characteristic feature of many of the larger trees.

Although when compared with many other tropical lands the molluscan fauna of Guyana appears a poor one, it nevertheless contains a number of large and unusual species and this is particularly true of the beautiful tree snails of the family Orthalicadae. It must be remembered that much of this considerable area, about 90,000 square miles, is malacologically completely unexplored. A very short visit to the Courantyne River, which forms Guyana's southern boundary, and which it is safe to assume had never previously been visited by anyone specially interested in mollusca, produced Pomacea (Surinamia) sinamarina in considerable numbers, living attached to rocks below the numerous rapids which are a feature of this river. Yet this comparatively large snail had never been recorded from Guyana before and was referred to by E. G. Alderson (1925, *Studies in Ampullaria*, p.58) as, "this very rare shell"!

If and when the development of this almost uninhabited and only partially explored territory is undertaken, it is reasonable to predict that many new and interesting malacological discoveries will result.

T. Pain

GENERAL NOTES

Succinea putris (L.) in a Pigeon's crop.

In August 1967 some pigeons were shot at Hardham, near Pulborough, Sussex, early in the day. When these were cleaned in the evening, at least 8 hours later, one contained 2 examples of a Succinea and another 8 examples. In the case of the second bird at least two were found to be alive and were put in a plastic box with cabbage leaf where they lived actively for two days and continued somewhat inactive for another two. Some of the animals were partially digested.

Five of the shells which remained intact, including the two which were alive, were examined by me on 31st. August and determined as Succinea putris (L.). Whether or not this could be a possible means of distribution of the species is a matter of speculation. To the best of my knowledge pigeons are not in the habit of regurgitating. The fact that the snails did remain alive for such a period of time is, however, worth noting. I am indebted to Mrs. Joy Pope for the above interesting facts.

H. E. J. Biggs

East Sheen.

East Sheen is becoming known for its population of interesting slugs. Recently Miss P. Halliday found Arion lusitanicus Mabille and Agriolimax caruanae Pollonera in her garden there and has now sent me a species of Veronicella found on a consignment of bananas in a grocer's shop in the same area. Unfortunately it proved to be immature and Dr. Forcart was unable to be sure of the species but suggested it might be V. moreleti (Crosse and Fischer). This is the second specimen of Veronicella sent to me within the past two years (see J.Conch.26:212(1967)). It seems probable that members of this genus are frequently introduced into Britain with bananas which are of course very suitable for the slugs to hide in. Being inhabitants of humid tropical areas they are not able to establish themselves here. They may easily be recognised by their very depressed shape and by the fact that the foot occupies only a narrow central part of the underside of the body.

B. Verdcourt

Ranella olearium, Linn. Syn. Gyrina gigantea, Lamarck.

In 1958 much interest was roused by the taking of live specimens of this shell from deep water off the mouth of the Tugela River, Natal.

Mr. S. P. Dance, at that time in the Department of Zoology, British Museum(Natural History), contributed a paper thereon in 1959, concluding with

the remark that it will be most interesting to see if the species turns up in other deep water stations further East or West.

In September 1967, Mr. E. T. Cooke of East London, brought in a dead specimen of R. olearium, trawled from a depth of 60 fathoms in the Port Alfred area.

Port Alfred is situated about midway between East London and Port Elizabeth, approximately 400 miles South West of the Tugela River, Natal.

Mr. Cooke has generously donated his shell to the East London Museum, and it appears probable that further trawling in the Port Alfred area, may bring to light a living specimen of this deep sea mollusc. Such an event would prove conclusively an extension of the known range.

References: Dance, S.P., 1959, *Gyrina gigantea*, Lam. Journal of Conchology, Vol. 24, No. 10, pp.351/2.

Dell, R.K. and Dance, S.P., 1963, *Ranella olearium*, Linn. Pro. Mal. Soc. of London, Vol. 33, part 4, pp. 159/166.

D. H. Kennelly, Conchologist, East London Museum

Award to a Member.

Miss Eleanor Fogan, one of our Members, has recently qualified for the gold standard of the Duke of Edinburgh's Award, with Conchology as one of her interests. This is surely unusual - is it a new British record?

(Note from Nora F. McMillan)

Junior Members elected 18th. November 1967.

Lymer, Cynthia, [REDACTED], Penkull, Stoke-on-Trent, Staffordshire.

Williamson, Peter George, [REDACTED], Bushey, Watford, Hertfordshire.

Details of the Field Courses on molluscs organised by the Field Studies Council for 1968.

They are both residential courses at field centres, each taking one week, and the total cost is approximately £12. The courses are designed for "specialists, undergraduates, informed amateurs and teachers".

1. Orielson Field Centre, Pembroke, S. Wales.

Enquiries to The Warden.

17th. - 24th. April 1968 - The Mollusca - a study of a phylum, its distribution, adaptation and ecology.

Tutor: M. Lyth, B.Sc.

2. Juniper Hall Field Centre, Dorking, Surrey.

Enquiries to The Warden.

21st. - 28th. August 1968 - The ecology and biology of slugs and snails.

Tutor: June Chatfield, B.Sc.

Publications Announced.

The Invertebrates: Vol. VI, Mollusca I - Aplacophora, Polyplacophora, Monoplacophora, Gastropoda, by Libbie H. Hyman, 1967. McGraw-Hill Book Company, New York. Price \$17.50. 792 pages which include 650 pages of text, 119 pages of bibliography, index. Very well illustrated with black and white drawings - many of them the work of Anthony D'Attilio. "Mollusca I" is now available by order through the bookshop of the American Museum of Natural History, New York.

Van Nostrand's Standard Catalog of Shells, Second Edition. Editors: Robert J. L. Wagner and R. Tucker Abbott. D. Van Nostrand Co., Inc.,

120 Alexander Street, Princeton, New Jersey. Price \$5.95. This enlarged and revised edition contains hundreds more species listings, new sections on several genera, revisions of relative values, additional "quick lists" for northern Europe and southern Australia. International monetary quotations as of January 1967; shell clubs of the world as listed with the American Malacological Union; partial list of shell dealers.

301 pages; illustrations in black and white; stiff paper cover.

British Columbia Provincial Museum booklets recommended.

Publications number 17 and 26, in the excellent series of handbooks issued by the British Columbia Provincial Museum, are worthy of attention by all shell collectors. No. 17, "The Intertidal Bivalves of British Columbia" by D. B. Quayle, and No. 26, "The Intertidal Univalves of British Columbia" by Lela M. Griffith, are available at 50¢ each. The booklets may be obtained from the British Columbia Provincial Museum, Department of Recreation and Conservation, Victoria, British Columbia, Canada.

Publications announced by Paleontological Research Institution, 109 Dearborn Place, Ithaca, New York 14850.

Catalogue of Mollusks - Genera of the Bivalvia: A Systematic and Bibliographic Catalogue by Harold E. Vokes. "A 291 paged catalogue (with index) of all the names of pelecypod genera and higher classification up to 1960. Valid and invalid names, as well as emendation and erroneous spelling of names, are indicated. An important necessary compendium for all natural history libraries and persons interested in the bivalves." (Bull. Amer. Paleont., Vol. 51, No. 232, 1967. \$10.00).

New Reprint (facsimile) 1967, of the important out-of-print text, Catalogue of the Collection of Mazatlan Shells by Philip P. Carpenter, 1857.

576 pages. Full discussion of 694 species. \$6.00. "This rare book of the living shells of Mazatlan, West Mexico, is now available. Illustrations (60 plates) and Index published separately in 1966. The two publications, text, plates and Index, complete the extensive study by Carpenter of the immense collection of Mexican Pacific molluscs."

PUBLICATIONS RECEIVED

Poirieria, Vol. 4, Part 1.

Maintaining its usual high standard, this duplicated publication includes a note by Max Hancock on some results of dredging for small shells in the Bay of Islands; a paper, illustrated by graphs, on the Distribution Pattern of Notacinea parviconoidea within a culvert (in which it is concluded that light is a more important factor than water velocity), by Frank Climo, and an analysis of the shell population found on an eight-year-old practice torpedo, by D. Lamb.

There are contributed notes on Hyridella and on Atalacinea multilineata Powell; N. Gardner provides useful short articles on 'The Value of Spiral Threads in the Identification of Certain Small Land Snails' - notably Pseudoglossula and Fectola, - on Taron monatae Powell and on the common 'Cellana radians' Gmelin vars.

Editors are N. and N. Gardner, Conchology Section, Auckland Institute & Museum, New Zealand.

Conchological Society of Southern Africa - Circular No. 90.

The issue for October 1967 contains as usual, several items of very general interest including a note on the finding of a specimen of Ranella olearium Linn. (see note in this Newsletter).

Mr. C. R. Relph reports a visit to Inhaca Island, where one or two new records were obtained, and Mr. Kennelly contributes an article on Cymatium klenoi (Sow.), which appears to have a noticeably dis-continuous distribution and is so far unknown from Natal and Zululand.

It is very useful to be well-informed about the activities of this Society, because we share quite a number of members with it; the Circular is welcome for this as well as other reasons. Of general interest, the material includes a review of W. O. Cernohorsky's 'Marine Shells of the Pacific' and a thorough and useful compilation of available information on Cypraea amphithales (Melville) by R. O. Carlsson.

Tonna chinensis Deshayes is the subject of a note by D. H. Kennelly who states that a specimen recently found at Bonza Bay constitutes the first South African record.

Editor: Leila Kerr.

T.E.C.

FOR SALE, ETC.

Some copies of R. Rendall's Mollusca Orcadensia (1956) (70 pp.). These reprints are stoutly bound in stiff card, and give an excellent account of the Mollusca of the Orkney Islands, with details of about 300 species. Price 7/6d. each, post free. Accompanying them are reprints (free) of his paper on Orkney shell-games.

Apply to Mrs. McMillan, [REDACTED], Bromborough, Cheshire, who is acting on behalf of Mr. Rendall's executors.

Some plates of Capt. Brown's Illustrations of the Recent Conchology of Great Britain - and Montagu's Testacea Britannica - available.

A copy of Ellis British Snails urgently wanted.

Mrs. McMillan, [REDACTED], Bromborough, Cheshire.

W. J. Adams, of [REDACTED], Woody Point, Queensland, Australia, would like to correspond and exchange with members of our Society, and his special interest is in the Cypraeacea.

A Job Amongst Shells - An opportunity exists for a member to take a job in the Shell & Fossil Department of EATON'S SHELL SHOP, 16 Manette Street, off Charing Cross Road, London, W.1., telephone - GERRard 9391.

BROWSE IN BASKETS FULL OF SHELLS FROM ALL PARTS OF THE WORLD -
AT EATON'S SHELL SHOP, 16 MANETTE STREET, OFF CHARING CROSS ROAD, LONDON, W.1.,
(telephone - GERRard 9391).

THE ISLE OF MAN - Miss Larch S. Garrad will be pleased to help any member who is going to the Isle of Man at any time. She may be contacted at the Manx Museum, Douglas.

Produced by THE CONCHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

ARION LUSITANICUS MABILLE IN IRELAND

Dr. Mary E. Pugh, of the Imperial College of Science & Technology, London, while on holiday in Ireland, collected some non-marine Mollusca, at the request of Dr. M. P. Kerney. Amongst these were four slugs, which reached me (then staying in south Devon) a fortnight after being collected, still alive and well. This much travelled consignment comprised one young Arion ater (L.), one Arion circumscriptus Johnston, and two others, the smaller of which looked like Arion subfuscus, the other like the immature A. lusitanicus I had seen in W. Cornwall. These last two were accorded V.I.P. treatment and reared as pampered pets, and it soon became obvious that both were A. lusitanicus. They were exhibited at the meeting of the Conchological Society on 21 October 1967, and on 6 November the smaller of the two (the one which had at first been mistaken for A. subfuscus) was reluctantly sacrificed so that the identification could be confirmed by dissection. The genitalia proved to be just as depicted by Quick in his Brit. Mus. (Nat. Hist.) Bulletin on British Slugs (1960), fig. 5A. By this time the colour of this slug had become almost uniformly dark leaden grey and the length fully extended about 10cm. The larger slug, more distinctly marked than its companion, was described on 6 October as follows: Sides sepia or chocolate; back (7 rows of rugae) lighter brown, the central 3 rows of rugae darker than the 2 lateral rows on each side, which are light tan; lateral bands dark blackish brown, most prominent on the mantle, widest in front and surrounding the breathing hole; mantle the same colour as the mid-dorsum, slightly paler alongside the lateral bands; foot-fringe the same as the sides; foot-sole pale cream, tinged with yellow in front, greenish behind.

Dr. Pugh has kindly supplied the following note on the habitat: "The specimens were collected on 4 August 1967 from low lying sheltered ground just to the north of L. Eske, Donegal. The soil was peaty, water-logged and presumably acidic, since rhododendrons flourished in that area. It was under one of these shrubs, which was situated near a small stream, that the specimens were found." The locality is just within Donegal West, vice-county H35.

A. lusitanicus was recorded from Ireland by W. E. Collinge in 1893. In Irish Naturalist, vol. 2, p. 148, he suggests that some Arions mentioned by Scharff (Sci. Trans. Roy. Dublin Soc. (2) 4 : 539) "from the west coast, in which the retractor muscles of the oviduct and receptacular duct have their point of attachment on the upper portion of the oviduct and close to the receptaculum seminis.... may possibly be the A. lusitanicus, Mabilie, in which species the muscles are so situated. This species has been found in England, and I can see no reason why it should not occur also in Ireland." Collinge definitely records A. lusitanicus and names four colour varieties from 'Beviheen' (surely a misreading of badly written 'Berehaven'), Bantry Bay (Ann. Mag. Nat. Hist. (6) 12:414). At my suggestion, Mr. Geoffrey Harper of Magdalene College examined the material of 'A. lusitanicus' in the Collinge collection at Cambridge, and this is what he found (25 July 1966): "This afternoon I dissected all the specimens I could find of lusitanicus in the Collinge collection, the two I previously mentioned, and another tube containing an unbanded slug dissected by Quick. Although Collinge labelled it lusitanicus, Quick said rufus and I agree. The ligula is pretty large and Quick had exposed this. The other two slugs, banded, even though 25 and 40 mm. long respectively, were not lusitanicus inside, being instead rather immature ater/rufus aff. I did not disturb the genitalia too much so have not very good drawings. If there is no more material to support Collinge's identification, I am inclined to think the Bantry Bay record must be discredited. If so, we do not yet seem to have any records from Ireland." It would accordingly appear that Dr. Mary Pugh by a lucky chance has added a new species to the Irish fauna.

At the time of writing, A. lusitanicus has been authenticated in the British Isles from Guernsey, Isles of Scilly, Cornwall (Newsletter No. 16, March 1966, p. 108), Exeter, Salisbury, East Sheen (Surrey), Harborne near Birmingham, Attleborough near Nuneaton, Leeds, Durham and Bangor (Caernarvon), but not yet from Scotland.

A. E. Ellis

IN SEARCH OF LAND MOLLUSCS ON CODFISH ISLAND, NEW ZEALAND

To the south of the two main islands of New Zealand, and only two hours away by steamer, lies the third largest island of the Dominion; Stewart Island. A few miles off the north-west coast of Stewart Island, comprising about 6,000 acres and covered with a heavy growth of native bush, is uninhabited Codfish Island.

While Stewart Island, being more easily accessible by regular steamer and air services from the mainland, has been covered to some extent fairly closely by collectors after the small land snails, Codfish Island has had very little attention in that direction.

Dr. R. K. Dell, of the Dominion Museum, Wellington, in his paper entitled, "The Land Mollusca of Stewart and Solander Islands" - Transactions of the Royal Society of New Zealand, Volume 82, pt. 1, pp. 137-156, 1954, records 28 species and subspecies of land mollusca from Stewart Island, of which at least 16 are also found on Codfish.

Given the time, a collector could probably obtain most of the 28 species from Stewart Island, but with a limited period at my disposal, it seemed a far better proposition to collect in the more restricted area on Codfish, particularly as Sealers' Bay, one of the few landing points, was cited as the locality of most of the recorded material from the Island.

On August 28, 1967, accompanied by two stalwart collectors from Christchurch, I set out for Codfish Island. We were transported from Bluff on the fishing vessel, Saint Anthony, skippered by Lloyd Young, a man of considerable experience in those waters. Being en route to the crayfishing grounds off the west of Stewart Island, it took him little out of his way to land us at Sealers' Bay. With a good surf running our landing had to be on to the rocks bordering the beach; an operation which almost cost us the major portion of a valued beer supply! We were fortunate enough to have the use of tentage and equipment left behind by a party of opossum trappers which had departed two days previously when one of their members was drowned while rock fishing. This incident, of course, dampened our desire to do much marine collecting, but as we anticipated being on the island for only four days, there was enough work to do without going near the sea.

The first day we spent rummaging round in the consolidated sand dunes which back the beach. Here, under grass and low scrub, we found a number of Flammulina zebra Le Guillou, Therapsia thaisa Hutton, Paralaoma sericata Suter, and Charopa bianca Hutton. Still under coastal scrub, but off the sand and a little further inland, we found Ptychodon monoplax hiarara Dell, Phrixgnathus rakiura Dell, and other specimens of Phrixgnathus sp, which have yet to be identified. Flammulina zebra has not, to my knowledge, been recorded from Stewart Island, and is quite local in occurrences on the mainland. However, it occurred quite plentifully, and we were able to secure some fine specimens.

The following morning found us investigating a patch of native flax at the western end of the bay. Here, after much scratching amongst the decayed vegetation at the base of the plants, we found the carnivorous snail, Rhytida australis Hutton, in the pale colour form. Another colony of these interesting snails was found on low, flax-covered slopes at the opposite end of the bay. This second colony yielded snails that were of the darker colour form, agreeing well with those found on Stewart Island. The specimens from both of these colonies seemed to be generally smaller than those earlier found on Stewart Island and Native Island.

More living specimens of Flammulina zebra were found under logs in the bush bordering the bay during the second afternoon. Also in the same habitat

were a few specimens of the rarer snail, Phelussa fulminata Hutton. By searching along overhanging vines and on tree trunks a number of Phrixgnathus liratulus Suter and Phrixgnathus regularis Pfeiffer were found. The latter is characterized by peculiar hair-like appendages which grow from the suture. Some of these are so formed as to resemble miniature paddles. An odd dead specimen of Flammulina perditia Hutton, and a number of Fectola sp were collected in leaf mould from the base of trees.

The third day found a distinct change in the weather, with rain squalls having passed in the night. By the time we had roused ourselves and moved into a new collecting area, the sound of a shout brought us out on to the beach, where the Saint Anthony could be seen hove to. Lloyd hailed to say that the weather forecast was not good and that if we wanted to get off the island within the next fortnight, we had better leave immediately. This was a considerable blow to our trip in having to leave so hurriedly, for we had not even collected samples of leaf mould, which usually yield a considerable range of small species.

With Lloyd pouring out a stream of advice on how to negotiate the rocks at high tide, and at the same time break all records in leaving camp and re-boarding the vessel, we were obliged to forego the chance of further collecting. It was perhaps just as well that we did get off when we had the opportunity, for the weather quickly deteriorated and had we waited for the full four days, we might have been unable to leave.

After sorting through the material we did get, some more of the smaller species were found, Allodiscus planulatus Hutton, being the only one named to date. Further identification will have to wait for the longer winter evenings.

Peter L. Cresswell

PROGRESS REPORT ON MARINE CENSUS WORK

The Newsletter provides an excellent means of acquainting the many members interested in the Marine Census with an overall and up-to-date view of the work to which they contribute. It also enables the Recorder to pause and take stock.

Recording a possible total of some 600 species in 40 Areas is a sizeable task. Yet, naturally enough, some members are puzzled that still smaller divisions are not used, such as the 10 kilometre square units currently in use for the non-marine molluscs and various other groups of animals and plants. Since the reasons for this underline the differences and difficulties in any marine recording, it seems worth outlining them.

- 1) The sea represents a much more homogeneous medium than would a similar extent of land, and the barriers to distribution, such as temperature, are much more subtle in their effect: moreover the fact that most marine animals have pelagic larvae ensures that the majority of species are dispersed far and wide. Hence many 'British' species cover very extensive regions of sea, ranging from Iceland to North Africa with no obvious structural or physiological differences. Even those species restricted in Britain to the south or north of the country, reflecting a similar distribution on the Continent, are usually found in several of the Census Areas as at present constituted. By contrast, many land plants and animals may occur in only two or three 10 kilometre squares in Britain. The reasons for this are complex but are mainly due to the greater opportunities for isolation in terrestrial habitats, the patterns of successive colonisation following the last retreat of the ice sheet and the much greater effect that humans have on land surfaces. In support of the hypothesis that the present marine divisions are sufficiently small, the work of Thorson, 1962 (Proc. First Europ. Malac. Congr. pp.5-23) may be quoted: working from published lists on the distribution of marine molluscs from Gibraltar to Murmansk to a depth of 300 metres, he recognises only 15 faunal areas, 7 of these being entirely British and a further 3 including some part of the British Marine Area 1961.
- 2) Whereas our knowledge of the distribution of non-marine molluscs has steadily increased by careful recording on the vice-county system since 1876, the general picture we have of the distribution of marine species is still to a large extent based on the observations compiled by Jeffreys in British Conchology published about 100 years ago. Whilst the changes in marine fauna are probably as gradual through time as they are over space, further

systematic collecting will almost certainly reveal a wider range for many of the smaller and more obscure species.

- 3) Lack of suitable literature has severely limited the number of people who have been able to build up some expertise in identification. The appearance of Mr. N. Tebble's book British bivalve seashells in 1966 is already making a notable difference to the number of correctly named bivalves submitted to the Recorder, but the lack of a similar work on the gastropods still severely curtails the interest collectors show in the smaller species, and their ability to determine them if their interest is aroused. Thus the seeming discontinuity in their distribution reflects that of the spacing out of localities worked by a handful of such collectors.
- 4) Many species are found only beyond the tide marks, so that the chances of finding them alive in situ depends on collectors with diving experience or those having the use of a dredge. Even shore collecting is obviously hampered by tidal rhythms. The strand line provides much material for Census records, but the presence of empty shells - or even live ones cast up - cannot be taken as certain evidence that the species lives in the immediate vicinity.

It follows from the above categorisation that smaller units would not only be unsuitable but would, in fact, give a quite false picture, at the present rate of recording, of certain zoogeographical phenomena such as discontinuous distribution. The degree of accuracy which a 10 km. square recording would suggest will for many many years be quite illusory when applied to marine molluscs. Moreover the herculean labours required to produce even the sketchiest distribution pattern for the 600 odd species using the grid system would produce only a trifling addition to zoogeographical data and perhaps none at all: the mountain would be in labour an unconscionable time to produce the mouse. Of course details of grid reference are included with the full written records whenever possible since this is the quickest and most accurate way of indicating where particular specimens have been found should a further search prove desirable. It may also stress the localisation of some variant or sub-species.

The Census work continues smoothly on the lines described in The Conchologists' Newsletter No. 21. Several thousand records are now entered in the files and the system of encouraging collectors to submit lists, from which the Recorder indicates which species should be authenticated as new to the particular Area, is working very well. In order to keep a clear picture of the state of the Census as a whole, a number of species lists, arranged in Winckworth order (concessions to the many changes both in order and nomenclature will be made at a later stage) have been duplicated so that one can be kept for each Area. As a species is entered in the loose-leaf files, so its presence and status is added to the appropriate Area list. When the groundwork has been completed on these lists, received from the typist only a few weeks ago, it will become increasingly easy to inform collectors which species have already been reported for a given Area. Thanks are due to Mrs. H. Nash for cutting the 16 stencils required.

Appended to these notes is the first Area list to be published. It is hoped that members resident in or visiting C.A.13, Thames, will submit further records as and when possible. One of the other Areas receiving special group attention is C.A.24, Liverpool Bay and it is hoped that the results of their compilation will be published next. References to published reports, however old, of species in either of these Areas, would be welcomed.

Further experience of receiving living marine molluscs through the post has confirmed that both gastropods with shells, and bivalves are best sent virtually dry. Sea slugs need a small amount of water in a polythene or glass container. Screw-top aluminium tins such as are commonly discarded by chemists make very suitable containers, requiring no further postal preparation apart from labels: species can be separated from one another, if desired, by using small polythene bags.

The Recorder is continuing to keep any Beach Directory information in the files. The scheme was suggested by Mr. D. Heppell (see The Conchologists' Newsletter No. 15), and members still occasionally send in useful notes of a Baedeker nature, styled for conchologists. They can enable the Recorder to advise on good collecting beaches in particular Areas, and some members even suggest local individuals willing to act as guides or sources of further

information.

As records accumulate in an orderly fashion the help that the Recorder can give to specialist research on British marine molluscs increases. In turn the results of such research may clarify certain aspects of the ecology and status of particular species. Currently Mr. Jon Cruise is undertaking an investigation of Venerupis spp. at the Fisheries Laboratory, Burnham-on-Crouch. He is particularly interested in Venerupis pullastra (Montagu) and hopes to work on its relationship to V. saxatilis (Fleuriu), the only species of the genus to live in crevices and burrows. With Mr. Cruise's needs in mind the Recorder would be particularly glad of any records of Venerupis spp., especially in the living state: careful notes on details of the habitat and numbers present would be appreciated. Research on British littorinids is planned by Mr. C. W. Pettitt. He intends to concentrate on the complex of problems relating to the 'subspecies' of Littorina saxatilis (Olivi) as listed by Winckworth in his British marine mollusc list (J. Conch. 19:221), described by Jeffreys (British Conchology 3:364-365) and interpreted in various ways by subsequent conchologists. As yet Mr. Pettitt cannot state his needs very precisely, but any records submitted for the Census will be made available to him in his new post in the Zoology Dept. of Manchester University Museum, Manchester 13. Please make careful notes of position on shore and the habitat: specimens collected from such extremes as salt lakes, ditches and marshes to contrast with those from exposed rocky shores will probably be of especial value.

In order to devote the maximum time to the basic task of compiling records for the Census, both from published sources and submitted specimens, letters have to be cut to the minimum: please do not take terser communications as a personal slight!

Lastly I would like to take this opportunity of thanking the members of the Marine Census Subcommittee for their continued support. Mrs. N. F. McMillan has submitted records and loaned me several molluscan faunal lists; Mr. L. W. Stratton has sent records, agreed to act as referee for on-the-spot checks of shells at the Society meetings and once again presented my Report at the A.G.M. whilst Mr. D. Heppell has been very helpful in sending lists and supplying information on newly published material relevant to the Census.

Stella M. Turk

RECORDS OF MOLLUSCS FROM CENSUS AREA 13, THAMES

The following list represents all the records so far compiled for Census Area 13. For new members of the Society it should be explained that this is one of the 40 Census Areas into which the waters of the British Isles were divided in 1961 for the purpose of recording marine molluscs (see J. Conch. 25 (7):299-303 for the article and map by the then recorder, Mr. D. Heppell). The Thames Area extends along the coast from Lowestoft, Suffolk, covers all the Essex coast and ends at Dover in Kent: its seaward limit is defined more precisely by 52°30' N.; 2°30' E.; northern limit of French intertidal zone; line joining Cap Griz Nez and Dover. The bulk of the appended records show the results of a Field Meeting to Sandwich, Kent on March 11th. 1967, led by Mr. R. Fresco-Corbu, and from further visits made by him and Dr. Llewellyn Jones and her son for the purpose of adding to the lists and upgrading some of the previous records. Reports of other species resulted from the Biological Survey of the Blackwater Estuary by the Central Electricity Generating Board in 1960 and 1961: the ecology of certain species was being investigated in an attempt to control the constant blocking of the conduits by marine life, particularly mussels. About 40 further valuable records, many of them nudibranchs have recently been extracted from the faunal lists kept at the Burnham-on-Crouch Fisheries Laboratory, and submitted by Mr. Jon Cruise. C.A.13 has been chosen as the first of the Areas to receive spotlight treatment mainly because it has been a centre of co-operation between Field Meeting members and the Recorder, but also because it represents the under-recorded state of most of the Areas. Members can see for themselves how much remains to be done and can gauge something of the general level of recording. It is hoped to treat Thames as a 'guinea-pig' Area, publishing additional names of species, and of those who submit them for authentication, as soon as feasible after they are received.

Species follow the arrangement in Winckworth, 1932 (J. Conch. 19 (7):211-252) and his amendments, 1951 (J. Conch. 23 (5):131-134) with which most members are familiar, no attempt being made at this stage to incorporate the many more recent changes of order and nomenclature.

A = live record this century; B = shell only this century; C = valves or worn examples this century: a, b, c, as above, but for last century: R = fully accepted record: V = specimens deposited in the spirit collections at the British Museum (Natural History).

It should be made clear that the abbreviated form in which the list is presented is designed to save space, and that the short-hand symbols showing the status of the records are taken from detailed long-hand records in the Census files.

Two species of Odostomia are being checked by Dr. V. Fretter and will be published in the next addenda to the list.

Lo.1	Lep.asell.	AR	S.1	Dent.ent.	CR
Lo.7	Lep.cin.	AR	S.2	Dent.vulg.	BR
Lo.9	Acanth.crin.	AR (no date)	L.2	Nuc.nuc.	AR
G.2	Emarg.ret.	BR	L.4	Nuc.turg.	AR
G.3	Emarg.con.	BR	L.7	Nuc.min.	CR
G.6	Diod.apert.	BR	L.12	Glyc.glyc.	CR
G.7	Pat.vulg.	AR	L.14	Arc.lact.	CR
G.10	Pat.pell.	BR	L.16	An.ehipp.	CR
G.13	Pat.virg.	BR	L.20	Myt.ed.	AR
G.20	Call.zizy.	BR	L.22	Mod.mod.	AR
G.24	Gibb.tum.	BR	L.23	Mod.barb.	CR
G.25	Gibb.cin.	AR	L.25	Mod.adriat.	CR
G.32	Sken.serp.	A	L.28	Musc.disc.	AR
G.38	Lac.crass.	ARV	L.29	Musc.marm.	bR
G.41	Litt.litt.	AR	L.35	Ost.ed.	AR
G.42	Litt.sax.	ARV	L.36	Crass.virg.	AR
G.45	Litt.littoral.	AR	L.37	Crass.ang.	AR
G.46	Hyd.vent.	AR	L.39	Pect.max.	AR
G.48	Hyd.ulv.	AR	L.42	Chlam.var.	AR
G.49	Pseud.conf.	AR (no date)	L.43	Chlam.disc.	CR
G.55	Cing.semic.	BR	L.44	Chlam.operc.	CR
G.58	Alv.crassa	BR	L.66	Phac.bor.	CR
G.63	Alv.cancell.	BR	L.79	Mont.ferr.	BR
G.71	Riss.parv.	BR	L.80	Mys.bid.	BR
G.74	Riss.mem.	BR	L.87	Card.echin.	BR
G.76	Ass.gray.	AR	L.92	Card.exig.	AR
G.80	Sken.plan.	B	L.93	Card.ed.	AR
G.87	Turr.comm.	CR	L.93b	Card.lam.	CR
G.90	Bitt.ret.	BR	L.94	Card.crass.	CR
G.91	Cer.tub.	B	L.95	Dos.exol.	CR
G.98	Tri.perv.	BR	L.99	Ven.verr.	CR
G.100	Clath.clath.	BR	L.100	Ven.cas.	CR
G.103	Clat.clathrat.	BR	L.101	Ven.ovata	CR
G.114	Balc.alba	BR	L.104	Vener.aur.	AR
G.142	Odos.uni.	BR (no date)	L.105	Vener.rhomb.	BR
G.149	Odos.scal.	B	L.106	Vener.pull.	BR
G.150	Odos.eulim.	AR	L.107	Vener.sax.	AR
G.157	Turb.eleg.	BR	L.110	Pet.phol.	BR
G.169	Crep.forn.	AR	L.112	Don.vitt.	AR
G.176	Nat.cat.	AR	L.116	Tell.ten.	AR
G.177	Nat.pol.	BR	L.117	Tell.fab.	AR
G.179	Vel.vel.	BR	L.118	Tell.don.	CR
G.184a	Triv.mon.	BR	L.120	Tell.crass.	CR
G.184b	Triv.arct.	BR	L.123	Mac.balth.	AR
G.189	Troph.mur.	BR	L.124	Scrob.plana	AR
G.190	Nuc.lap.	AR	L.126	Abra alba	BR
G.191	Uro.cin.	AR	L.127	Abra nit.	CR
G.192	Ocen.erin.	AR	L.130	Gari dep.	CR
G.203	Nept.ant.	BR	L.137	Ens.ens.	BR
G.204	Bucc.und.	AR	L.138	Ens.arc.	BR
G.207	Nass.ret.	AR	L.139	Ens.sil.	BR

G.208	Nass.incrass.	BR	L.140	Sol.marg.	BR
G.212	Lora turr.	BR	L.141	Mact.cor.	AR
G.214	Lora ruf.	BR	L.142	Spis.ell.	CR
G.236	Ak.bull.	AR	L.143	Spis.sol.	CR
G.239	Ret.alba	BR	L.144	Spis.sub.	CR
G.247	Phil.apert.	AR	L.145a	Lut.ang.	CR
G.270	Ald.mod.	AR	L.147	Mya trunc.	AR
G.274	Lim.dep.	AR	L.148	Mya arean.	BR
G.308	Anc.crist.	AR	L.149	Sphen.bing.	BR
G.312	Arch.pseud.	AR	L.150	Corb.gibb.	AR
G.320	Dend.fron.	AR	L.151	Hiat.arct.type	BR
G.330	Doto coron.	AR	L.152	H.striat.type	AR
G.331	Doto frag.	AR	L.156	Phol.dact.	BR
G.335	Cory.verr.	AR	L.157	Barn.cand.	AR (no date)
G.347	Emb.pall.	AR	L.158	Barn.parva	BR
G.356	Trinch.coer.	A	L.159	Zirf.crisp.	CR
G.358	Trinch.fol.	A	L.163	Ter.norv.	BR
G.367	Fac.long.	A	L.168	Ter.nav.	AR
G.370	Aeol.pap.	AR	L.170	Thrac.phas.	A
G.373	Leuc.bid.	BR	L.174	Thrac.dist.	CR
G.374	Phyt.myo.	AR	L.176	Cal.alb.	CR
			C.7	Lol.forb.	ar
			C.	Sep.off.	AR (no date)

LONGEVITY IN CONCHOLOGISTS

Recently, when looking up some members' addresses, it occurred to me that conchology appears to be a healthy occupation! The following facts seem to prove it.

Our senior member is Dr. J. W. Jackson, a member for 67 years (elected Jan. 9th. 1901), and after him come

A. W. Stelfox, a member for 64 years (elected Oct. 14, 1903).

Prof. H. L. Hawkins, a member for 61 years (elected 1907).

Dr. Haas, a member for 59 years (with one very small gap), elected Jan. 13, 1909.

Capt. Diver, a member for 58 years (elected Nov. 10, 1909).

Rev. Canon C. Theodore Cribb, member for 57 years (elected April 13, 1910).

Rev. A. J. Arkell, member for 54 years (elected Feb. 11, 1914).

Rev. Canon J. H. Adams, member for 50 years (elected Nov. 14, 1917).

Dr. W. E. Alkins, member for 50 years (elected Feb. 13, 1918).

Members of thirty or forty years' standing are hardly worth mentioning! I do not know what is the record for long-continued membership of a scientific society, but I know of an individual who achieved over seventy years as a Life Member of an entomological society. Indeed, after seventy years' membership his obituary was written by a diligent secretary but was fortunately "crowded out" of the next part of the Proceedings as the obitué wrote indignantly for his Proceedings!

Nora F. McMillan
(38 years' membership)

STRANDLINE SHELLING IN THE EASTERN MEDITERRANEAN

Because of the limited tidal range Greek beaches seldom have an interesting tideline, even after storms. On the mainland Tolon is one of the few with any number of shells. Its wide sandy beach is easily reached by local 'bus from Nauplia, in the Argolid, and it now has its own hotel. The sandy, surf-swept beaches east of Iraklion in Crete sometimes yield nice specimens and since Astarte and Venus species are widely eaten as 'fast' food they may well occur in accessible places although I never managed to track them down.

Cyprus is completely different with few entirely unproductive shores. Salamis has a magnificent strandline with piled drifts of Conus mediterraneus, Columbella rustica and Dentalium, occasional Haliotis, Cypraea lurida and paired

'wings' of palest pink Solecurtus strigillatus. Famagusta has fairly good live shelling among the shore rocks and in shallow water over sand, beyond the old town. Minute species are to be found on the central beach where they are trapped among the higher rocks after the winter storms and the muddy 'lagoon' has Cerithium sp. and Cyclope neritea. Judging by a fine collection, at present preserved in the new Folk Museum, Kyrenia also produces a wide range of species and skin-diving would be worthwhile off-shore. The coastal rocks have a few splash-zone species and deeper water types may be found with hermit crabs 'in residence'.

Turkey's immense coastline has many almost unvisited sandy beaches and even commercial ports like Cannakle are interesting if only for the presence of the familiar mussel, Mytilus edulis. From species shown to me by a local craft-worker I discovered that Edremit-north of Izmir = Smyrna - has superb off-shore shelling, again in shallow water over sand. Murex sp. Chlamys varius, Natica millepuncta and Cypraea lurida were among his haul. It is likely that other beaches in this area, easily reached by 'bus from Istanbul and provided with 'mocamps' for travelling campers by BP - to enable the English to beat the £50 limit - are equally productive.

I hope that despite the restrictions and political upheavals other members will pay a visit to these classic collecting grounds. Before I conclude this brief note I would like to add that with a little encouragement the Cyprus Museum may expand its shell-collection and convert it into a permanent national asset.

Larch S. Garrad

METAMERISM

Metameric segmentation of the body may be defined as the serial succession of similar segments, each containing unit subdivisions of the several organ systems. The segments develop in antero-posterior sequence, so that the most anterior is the oldest and the hindmost the most recently formed. True metamerism is primarily manifest in subdivision of the mesoderm, the tissue in the embryo which gives rise to the muscles and some other structures, and the coelom or body cavity. This basic plan of structure has been evolved at least twice in the animal kingdom, firstly by the Annelid worms (and hence their descendants the Arthropods, viz. Insects, Crustacea, etc.), and secondly by the Chordates, the phylum which includes the Vertebrates. Traces of metamerism are discernible in the origin of the coelomic cavities in Echinoderms, Chaetognatha and even Brachiopods, and in the segmental disposition of the gonads in Nemertine worms. It is most completely developed in marine Polychaetes and in earth-worms, and the primitive chordate Amphioxus. In higher vertebrates metamerism is more apparent in the embryo than in the adult, though even the human body contains segmental structures, such as the vertebrae, ribs, cerebro-spinal nerves and some blood vessels. The pseudo-metamerism of Cestodes (tapeworms) is strobilisation, a method of asexual reproduction, and is in no way comparable with genuine metameric segmentation.

Some zoologists have claimed that metameric segmentation is also shown by some Mollusca, in particular Chitons, Nautilus (heart and gills), and most spectacularly in the recently discovered Neopilina, on the strength of which affinity with Annelida has been deduced. A paper by J. Vagvolgyi, 1967, "On the origin of molluscs, the coelom, and coelomic segmentation" (Systematic Zoology, Vol. 16, pp. 153-168) disposes of this theory, and shows that the serial repetition of certain structures in some molluscs is not homologous with the metamerism of annelid worms, but has been quite independently evolved. The restricted coelom of Mollusca (their main body cavity is a haemocoel or blood space) was also independently acquired. There is no evidence of phyletic relationship between the Annelida and the Mollusca, the origin of which is probably forever lost in the obscurity of Precambrian antiquity.

A. E. Ellis

FIELD MEETING - TO TAWDVALE, NEAR SKELMERSDALE, LANCASHIRE, 12th. AUGUST 1967

Five members, one Junior member and two visitors met at Parbold station and then carried on to Tawdvale, a birch plantation on the bank of the river Tawd. Originally old natural woodland of some seventy-five acres, it was cut down during the First World War but has since re-seeded itself. It is now a scout camp and has therefore been spoilt. The river Tawd was badly polluted by industrial waste from the nearby town of Skelmersdale which is steadily encroaching upon the plantation. Due to the bad conditions prospects for molluscs were not hopeful, but, surprisingly the following species, totalling 23, were collected:-

Potamopyrgus jenkinsi (A.E.Smith) in stream; *Planorbis crista* (L.) in pond; *Lymnaea truncatula* (Müller); *Pisidium personatum* (Malm) det. Stelfox; *Carychium tridentatum* (Risso) det. Kerney; *Cochlicopa lubrica* (Müller); *Arion hortensis* Ferussac; *Arion ater* agg. juvenile; *Arion subfuscus* (Draparnaud); *Arion intermedius* Normand det. Ellis; *Agriolimax reticulatus* agg.; *Limax maximus* L.; *Retinella radiatula* (Alder); *Oxychilus cellarius* (Müller); *Oxychilus alliarius* (Miller); *Zonitoides excavatus* (Alder); *Zonitoides nitidus* (Müller); *Retinella nitidula* (Draparnaud); *Euconulus fulvus* (Müller); *Vitrina pellucida* (Müller); *Punctum pygmaeum* (Draparnaud); *Discus rotundatus* (Müller); *Hygromia hispida* (L.).

We would like to thank the warden Mr. G. H. Lockwood-Bunce for his help in matters concerning the history and geography of Tawdvale and for his interest.

G. E. Whitfield

FIELD MEETING - TO CHIPPING, LANCASHIRE, 9th. SEPTEMBER 1967

The party consisted of 4 members, 2 visitors and was led by Mr. Lord who farms in that area. Permission was obtained for us to visit woods adjoining New Laund Farm, map reference 346547. As the rocks in this district are of Carboniferous Limestone a fat list of species was recorded as follows:-

<i>Carychium minimum</i> Müller	<i>C. tridentatum</i> (Risso)
<i>Azeca goodalli</i> (Ferussac)	<i>Columella edentula</i> (Draparnaud)
<i>Cochlicopa lubrica</i> (Müller)	<i>C. minima</i> (Siemaschko)
<i>Lauria cylindracea</i> (da Costa)	<i>Ena obscura</i> (Müller)
<i>Marpessa laminata</i> (Montagu)	<i>Clausilia bidentata</i> (Ström)
<i>Arianta arbustorum</i> (L.)	<i>Helix hortensis</i> Müller
<i>Hygromia striolata</i> (C. Pfeiffer)	<i>H. hispida</i> (L.)
<i>Monacha granulata</i> (Alder)	<i>Punctum pygmaeum</i> (Draparnaud)
<i>Discus rotundatus</i> (Müller)	<i>Arion ater</i> (agg.)
<i>Arion circumscripatus</i> Johnston	<i>A. hortensis</i> Ferussac
<i>Euconulus fulvus</i> (Müller)	<i>Oxychilus cellarius</i> (Müller)
<i>Oxychilus alliarius</i> (Miller)	<i>O. helveticus</i> (Blum)
<i>Vitrea crystallina</i> (Müller)	<i>V. contracta</i> (Westerlund)
<i>Retinella radiatula</i> (Alder)	<i>R. pura</i> (Alder)
<i>Retinella nitidula</i> (Draparnaud)	<i>Vitrina pellucida</i> (Müller)
<i>Agriolimax agrestis</i> (agg.)	<i>A. laevis</i> (Müller)
<i>Limax maximus</i> L.	<i>Vallonia excentrica</i> Sterki

A nearby river and its banks also yielded:-

<i>Lymnaea peregra</i> (Müller)	<i>Ancylus fluviatilis</i> Müller
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The party then visited an old disused quarry surrounded by farmers' fields in which sheep and cattle were grazing. It was known locally as Knott Hill Quarry, map ref. 346344, and the following species were recorded:-

<i>Cochlicopa lubrica</i>	<i>C. minima</i>
<i>Vertigo pygmaea</i> (Draparnaud)	<i>Lauria cylindracea</i>
<i>Vallonia excentrica</i>	<i>Clausilia bidentata</i>
<i>Arianta arbustorum</i>	<i>Hygromia hispida</i>
<i>Arion ater</i> (agg.)	<i>A. intermedius</i> Normand
<i>Vitrea contracta</i>	<i>Oxychilus cellarius</i>

Retinella radiatula
Vitrina pellucida

R. pura
Agriolimax agrestis (agg.)

A pool in the same quarry yielded:-

Lymnaea truncatula (Müller)
Pisidium sp. (to be determined)

Sphaerium lacustre (Müller)

W. F. Edwards

FIELD MEETING - TO BASINGSTOKE, HAMPSHIRE, 22nd. OCTOBER 1967

A field meeting, attended by six members and friends, was held in the vicinity of Basingstoke, Hampshire, taking advantage of the warm damp weather for a slug foray and general collecting.

Starting at Hackfield Park, the party recorded a total of 150 new records from three 10 km. squares and made 2 new vice-county records for Hants North. These were Milax budapestensis Hazay from a chalk pit near Farleigh Wallop (41/624464) and Pisidium pulchellum Jenyns from the River Test at Laverstoke (41/488486). An attempt was made to cover most of the basic types of habitat, woodland, roadside banks, grassland, cultivated land, marshes, rivers and ponds, each of which has its characteristic association of species. Leaf litter from woodland habitats was sifted for small snails including Carychium tridentatum (Risso), Acanthinula aculeata (Müller), Punctum pygmaeum (Draparnaud) and Vitrea spp.

J. E. Chatfield

FIELD MEETING - TO SOUTHPORT SHORE, LANCASHIRE, 28th. OCTOBER 1967

Five members and two friends braved a wet afternoon to make a further study of the molluscan fauna to the south of the pier at Southport. A brief account of the shore and the first census list appeared in the June 1967 issue of the Newsletter. The 19 species recorded below were not found on the first visit. So far 46 species have been found, mostly as shells. It is interesting to note that Chaster and Baildon record 130 marine species along this shore in "The First Report of the Southport Society of Natural Science" 1890-91. Our most interesting find on this occasion was 2 specimens of Calliostoma papillosum (da Costa), which Chester and Baildon record as being "Very rare, more so than formerly".

Additional species collected (all dead shells):-

Hydrobia ulvae Pennant	- on Pectinaria tubes
Calliostoma papillosum (da Costa)	- 2 nearly complete shells
Aporrhais pespelicani da Costa	- 1 juvenile
Nucella lapillus (L.)	- 1
Ocenebra ericinacea (L.)	- 1
Colus gracilis (da Costa)	- a few
Tricla lignaria Leach	- 2
Mysella bidentata (Montagu)	- on Pectinaria tubes and among debris
Cyprina islandica (L.)	- 1 valve
Mysia undata (Pennant)	- 1 valve
Scrobicularia plana (da Costa)	- frequent
Gari fervensis (Gmelin)	- 1 valve
Ensis arcuatus (Jeffreys)	-)
Ensis phaxoides van Urk?	-) fairly frequent
Corbula gibba (Olivi)	- fairly frequent among Pectinaria debris
Solen marginatus Montagu	-)
Lutraria lutraria (L.)	-) fairly frequent
Mya truncata L.	-)
Zirfaea crispata (L.)	- 1 valve

Several Dutch zoologists have recently been studying the sorting and selective transport of shells along beaches. The following two collections of

the valves of Barnea candida (L.) suggests that this may well be the case along this shore:-

1/10/67 - at Fisherman's Path, a few miles to the south of Southport, 8 left valves, 33 right valves.

28/10/67 - at Southport, 27 left valves, 96 right valves.

Only further and more detailed studies can formally identify this phenomenon.

L. D. Harfield

GENERAL NOTES

To Slug Collectors:- It is a sensible precaution to ascertain whether the consignee is at home before sending living specimens for determination. Neglect of this precaution is liable to be fatal to the slugs besides providing an unpleasant welcome to the returning traveller. There is little use in collecting juvenile individuals of the larger Arions, as the genitalia, on which identification is based, are rudimentary. When it is not possible to collect adults, the young should be reared to maturity before being sent.

A. E. Ellis

Junior Membership: BAXENDINE, Andrew James, [REDACTED], Duddington,
Edinburgh 15.
Elected 17th. February 1968
HEADON, Maurice P., [REDACTED], Stifford Clays, Grays, Essex.
Elected 16th. March 1968
STONE, Christopher, [REDACTED], Northwood Hills,
Northwood, Middlesex.
Elected 20th. April 1968

Reading Circle Scheme: Due to rising costs and failing support the Organiser has decided, regretfully, to stop the Reading Circle Scheme. All subscribers who paid their subscription for 1967 have been notified individually and sent a copy of the balance sheet. I would be grateful if any member who subscribed to the scheme last year and has not received this note would let me know.

(New address: Zoology Dept., Manchester Museum, The University, Charles Pettitt
Manchester 13)

EXCHANGES, SALES, ETC.

Mrs. C. M. Connolly, [REDACTED], Plumstead, Capetown, South Africa, wants a specimen of Halia priamus (Meuschen) (a north African Volute). Sale or exchange.

Mr and Mrs. J. Hertz, [REDACTED], San Diego, California 92111, U.S.A., wish to exchange with members of the Conchological Society. They have intertidal shells, live collected, from the Pacific Coast of the United States and some from Mexico.

Mr. L. Pinter, [REDACTED], Budapest II, Hungary, would like examples (both shells and preserved material) of the following genera: Helicella, Helicopsis, Candidula, Cernuella, Cochlicella, Trochoidea, from all parts of Europe, in exchange for Hungarian specimens.

Shells for Sale: Browse in Baskets full of Shells from All Parts of the World - at Eaton's Shell Shop, 16 Manette Street, off Charing Cross Road, London, W.1. (Telephone: GERRard 9391).

Messrs. Sotheby & Co. have notified the Society that they intend to hold a Sale on 9th. July next, which will include several lots of shells. It is inferred that some of these shells come from old collections, and among them are a Golden Cowrie, an Imperial Harp and a number of Precious Wentletraps. The sale will be held at 34/35 New Bond Street, London, W.1.

THE PREPARATION OF COWRY-SHELLS FOR USE AS COUNTERS

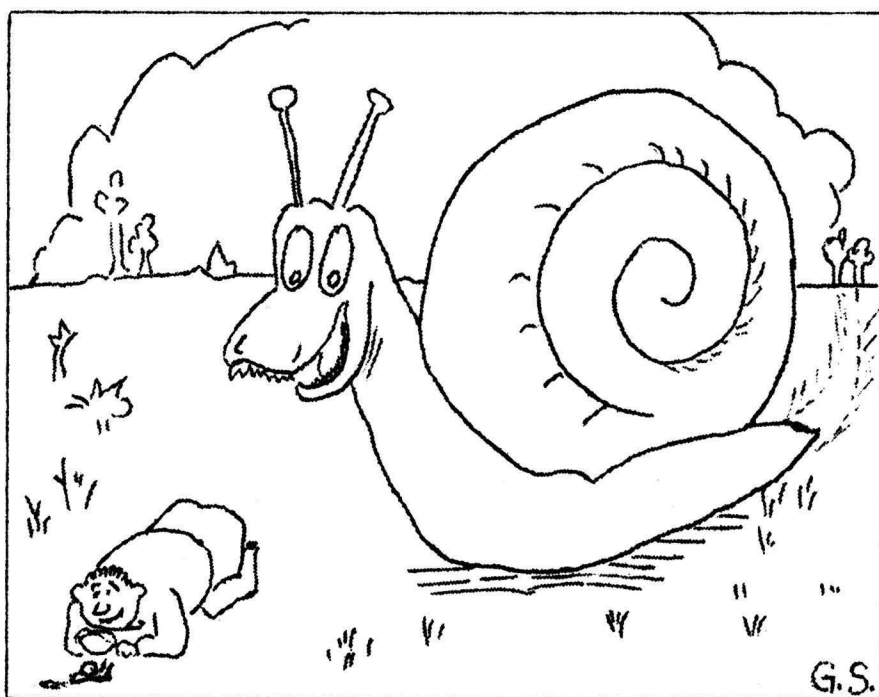
Somalia is not yet a tourists' country and therefore the following eyewitness account of the preparation of cowries for use as counters (and perhaps ornaments also?) may interest ethno-conchologists. By kind permission of the publishers, Messrs. George Allen & Unwin Ltd., it is extracted from The Voice of the Turtle by William Travis (London 1967) and the locale is the Indian Ocean coast of Somalia, between Mogadishu and Lamu, where the Barjun Islands are strung along many miles of coastline. On Fuma, one of the most northerly of the islands, the author describes this cowry-shell business (p.56) thus; "At low tide the eight-and nine-year-olds were sent to scour the reef-flat for a small species of cowry, white-edged and pale brown backed, that hid in the pools there. These molluscs were less than half an inch long and neither ornate nor beautiful nor even rare, for they swarmed in every crevice. Basket loads of these shells were brought back to the village and dumped in the middle of a circle made up of the young married women, nursing their babies, and their struggling toddlers. With bits of bent wire the women hooked out the molluscs from their shells, like winkle-pickers. The meat went into a bowl for chicken food and the empty shells were tossed to the four-and five-year-olds who sat in the centre, either side of a wooden board. Each child had in his hand a tool made up of a rusty nail stuck through a piece of wood which served as a handle. With this they unceremoniously banged each shell breaking open the centre with the nail to form a ragged hole. The mutilated shells, of which now only the hard edge-lip remained, were then passed over to some old women who rinsed them briefly in a pail of sea water and dumped them into small sacks which were sewn up when full. And that was that. From the headman I learnt that these punctured cowries were first sent to Zanzibar. From Zanzibar they went to Aden. From Aden to Port Sudan. From Port Sudan to Addis Ababa and from there out into the distant provinces of Ethiopia, where they were used as counters either for trade or play, no one knew which". The shells fetched about a shilling a sackful in Zanzibar.

Postscript: in 1966 I saw shells of Cypraea annulus for sale in a small town (Kala) of Northern Nigeria, but these shells were complete and not mutilated in any way.

Nora McMillan

ATTENTION PLEASE - LONDON MEETINGS

By direction of the Museum authorities, future meetings of the Society will be held not in the Board Room as hitherto, but in the Conversazione Room (Ground floor). This may be reached by turning left at the far side of the main hall, walking through to the Mollusca gallery, turning right and looking for the door to the room on the left.



MM - MUST HAVE THIS ONE!

Produced by THE CONCHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

ON GARDEN FAUNAS

It seems to me that not enough attention has been paid to finding out just which species of snails and slugs habitually live in our gardens. Any gardener already devotes a good deal of time to trying to get rid of slugs and snails and would like to know how he can further this desirable end, while I, both a gardener and malacologist, am torn between the desire to find out more about the slugs that despoil my garden and to get rid of them.

It is not easy to say what a "garden fauna" consists of, so far as the Mollusca are concerned. Such species as Hygromia striolata, Helix aspersa and Oxychilus draparnaudi among the snails, and the slugs Agriolimax reticulatus, Arion hortensis, with the species of Milax and Testacella strike one as being typical "garden" species, yet a good many other species also occur in gardens (although perhaps not so frequently) and where is the line to be drawn?

During the past few years I have collected "garden faunas" in widely-separated parts of the British Isles with interesting results. Geographically the gardens examined extend from Orkney in the far north of Scotland to Caherciveen in the extreme SW of Ireland, and range in age from five years to over a century and a half. The largest was a derelict estate of 15 acres, the smallest about a quarter of an acre. In addition I have made use of Mr. Ellis' list from an old walled garden at Haverfordwest (J. Conch., 18, 312) and Watson's two lists from Cambridge and Swanage (J. Conch., 18, 336-7). I have not included the molluscan fauna of Kew gardens, interesting as this is, as gardens on this scale are rather beyond the scope of this small enquiry. Details of the Kew Mollusca are given in Kew Bull. for 1907 and that for 1948 (p. 120).

The gardens are as follows; from north to south:-

Mainland, Orkney (5 years old). O. R. Sandstone (Stromness Flags). 6 spp.
Belfast, N. Ireland (? 50 years). Pleistocene Sands. 22 spp.
Newcastle, Co. Down (6 years). Silurian. 18 spp.
Liverpool (at least 150 years). Bunter Pebble Beds. 15 spp.
Bromborough, Ches. (35 years). Bunter Sandstone. 14 spp.
Haverfordwest, Pembs. (age ?). O. R. Sandstone. 23 spp.
Cambridge (50 years). Pleistocene river-gravel over chalk. 20 spp.
West Norwood, London, S.E.27 (70 years). London Clay. 6 spp.
Swanage, Dorset (50 years). Purbeck Limestone. 23 spp.
Caherciveen, Co. Kerry (age ?) (walled derelict orchard). 11 spp.

These ten gardens represent about as wide a range of geography, geology, size and age, as one could obtain; collectively they yielded 44 species of Mollusca out of a possible total of about 106 terrestrial species.

Agriolimax agrestis (L.) s.l. occurred in all 10 gardens.
Arion hortensis Fer. in 9 gardens.
A. "circumscriptus", Discus rotundatus (Mull.) and Limax maximus L. in 7 gardens.
Cochlicopa lubrica (Mull.), s.l., Oxychilus cellarius (Mull.) and Milax sowerbyi (Fer.) in 6 gardens.
Clausilia bidentata (Strom), Hygromia striolata (C. Pfr.), Vitrea crystallina (Mull.) s.l., Retinella nitidula (Drap.), Oxychilus alliarius (Miller), Arion ater L., s.l., Limax flavus L., and Helix aspersa Muller in 5 gardens.
Hygromia hispida (L.) and Agriolimax caruanae Pollonera in 4 gardens.
Lauria cylindracea (da C.), Arion intermedius Normand,

Arion subfuscus (Drap.), Milax gagates (Drap.) in 3 gardens.

All the remaining twenty species occurred only once or twice.

Derelict gardens are even better for snails than cultivated ones, for shelter is more abundant and disturbance absent. An interesting example is that of the small gardens on Hilbre, a sandstone island about a mile off the Cheshire coast and accessible on foot at low tide. These little gardens, the last of which went out of cultivation in 1950, yielded 15 spp. of Mollusca in 1956 and 1957. The list is Cochlicopa lubricella, Discus rotundatus, Hygromia striolata, Retinella nitidula, Oxychilus draparnaudi, O. cellarius, O. alliarius, Vittrina pellucida, Helix aspersa, Arion intermedius, A. hortensis, A. "circumscriptus", Milax gagates, M. sowerbyi, Agriolimax reticulatus (the heavily blotched "garden" form).

Boycott has pointed out that human habitations and their accessories provide conditions which enable some Mollusca to live where the unqualified soil and climate would be too much for them. He instances a ruined old house on Dartmoor which yielded 11 spp. and Hilbre is a similar case. Likewise, abandoned crofts on Hoy (Orkney) often have Arion hortensis or A. "circumscriptus" about them, although only Arion ater and Limax marginatus live on the surrounding moorland.

The chief essential for a garden-living snail is what would be termed "transplantability" in a plant, i.e. tolerance of disturbance. Given this, a garden provides shelter (if not kept too meticulously tidy) and usually adequate lime, plus supplies of tender young green plants. Is it any wonder that the enterprising and progressive species have become camp-followers of man, while those that insist upon peace and quiet lead a harried and insecure existence?

Mr. Stelfox has kindly allowed me to make use of his records from two of his gardens (the two examples from Northern Ireland).

Nora F. McMillan

BRITISH DISTRIBUTIONS OF VIVIPARUS VIVIPARUS AND VIVIPARUS CONTECTUS

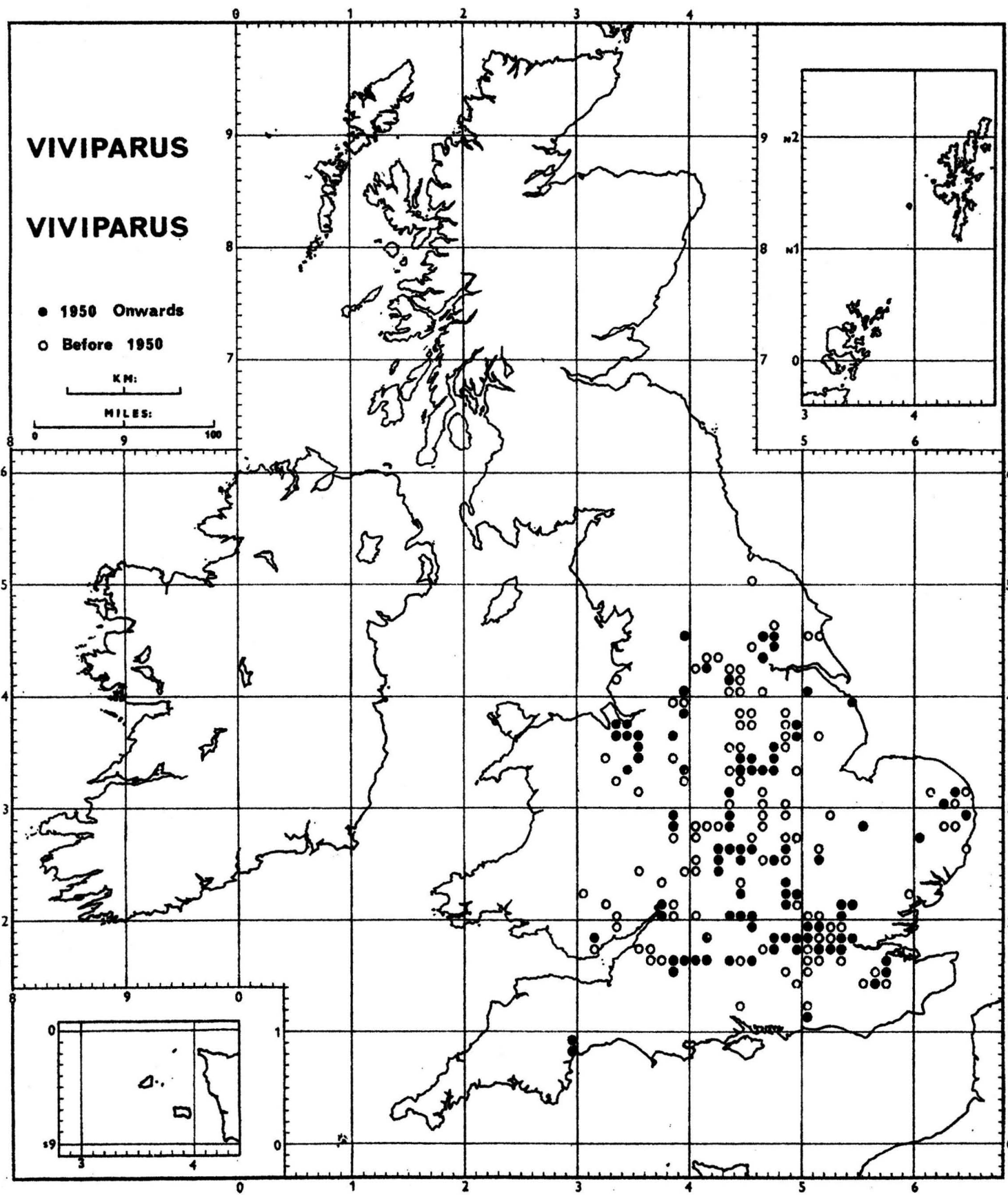
The appended maps summarize available information (to April 1968) on the distributions within the British Isles of the two large freshwater operculates Viviparus viviparus (Linné) and V. coniectus (Millet). They are examples of the kind of maps which it is planned eventually to produce for all our non-marine species.

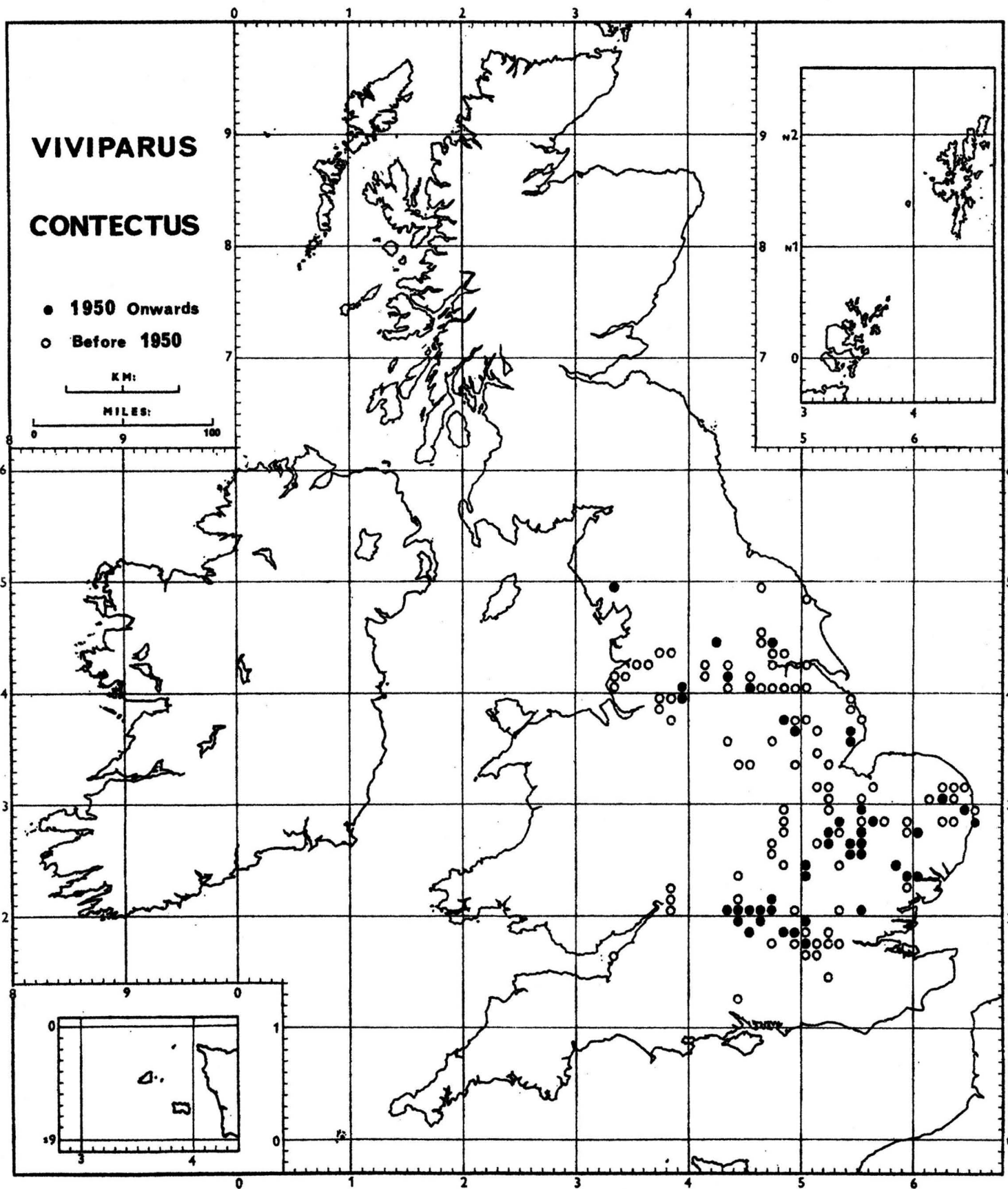
These species have broadly similar ecological requirements - slow-moving, well-oxygenated, calcareous water - and are characteristic of large rivers, canals and marsh drains. However, it is interesting to note that their distributions are far from identical. Viviparus coniectus is much the more eastern species. It is virtually absent from the central and western midlands, where V. viviparus is common, but, on the other hand, it tends to replace that species in East Anglia and Lincolnshire. Both live together in the Thames, but only V. viviparus has entered the Kennet and Avon Canal and reached the Bristol area. I have distinguished between modern (post-1950) records, and records culled from older published or M.S. information, or from museum specimens. However, it is as yet too early to decide whether any genuine changes in distribution are in fact taking place, as insufficient fresh information is as yet available under our 10-km. square mapping scheme to make comparisons with the older records valid.

The Irish records of V. viviparus must be regarded as doubtful, and have been omitted (see J. Conch., 25: 118).

I am indebted to Mrs. Margaret Horrill, of the Nature Conservancy's Biological Records Centre at Monkswood, for kindly preparing the originals of the two maps.

M. P. Kerney





COLLECTING IN AUSTRIA

Whilst on a Geologists' Association field meeting in Austria in September 1966, the opportunity was taken to investigate the Molluscan fauna of several parts of that country. The following report does not attempt a comprehensive account of the fauna, but is rather a collection of fleeting impressions of the more interesting groups found, especially where a radical difference was noted compared with the British fauna.

The areas visited were in the Calcareous Alps and the Central Alps. Very little collecting was done in Lower Austria except in part of the Weinwalt. No freshwater collecting was done.

The fauna of land Mollusca differs greatly from that of Britain. Of 200 species only about 60 are common to Britain. It was also noted that certain families were far more dominant in the Alps compared with their position in this country, for example:- One group that stands out above all others was the Clausiliidae, which were found all over Austria in almost all localities looked at, except in the very high Alps where specimens of Vitrinidae such as Vitrina pellucida (Müller), Eucobresia diaphana (Draparnaud) and the Alpine variety of Arianta arbustorum (Linné) were the only species found.

As well as being common, there were also many more species of Clausiliidae in Austria, the most common and generally distributed being Clausilia dubia (Draparnaud) (many varieties of which were found), Clausilia pumila (C.Pfeiffer), Cochlodina laminata (Montagu), and Iphigena ventricosa (Draparnaud). Laciniaria biplicata (Montagu) is very common in Austria unlike this species in this country. One associated species noted to occur with the Clausiliidae was Ena montana (Draparnaud) which is very local in Britain, probably a relic from a time of more continental climate. One wonders why there was only one species of Ena associated with so many different species of Clausilia

One of the most interesting species found was Arianta arbustorum (Linné). This was found throughout Austria and was far more varied than in England. As already mentioned there was an Alpine form, var. alpicola Férussac, a small yellow shell with white flecks. In other localities were found forms such as var. major L.Pfeiffer, large and dark coloured, var. depressa Westerlund, a large and rather flattened shell, and, at the other end of the scale, var. minuta Ehrmann and var. trochoidalis Roffiaen, a small top-shaped shell.

One interesting species found in the Tauern Pass belonging to the family Ariantinae was Cylindrus obtusus (Draparnaud), which resembles a large pupa about 8mm. long. Another species of the family which was noted but was not at all common was Helicigona lapicida (Linné).

In Austria the Zonitinae are represented by many of the same Retinella and Oxychilus species as in this country, together with a few others, notably the large (25mm.) Aegopsis verticillus (Férussac). Another large species found with the latter was the edible snail Helix pomatia Linné. Of the other Helicinae both Cepaea hortensis (Müller) and Cepaea nemoralis (Linné) were found and were joined by Cepaea vindobonensis (C.Pfeiffer), a larger and rather finer shell than the other two. (Vindobona = Vienna, originally a Celtic settlement on the Danube, later a Roman town). In Semering and Weinwalt was noticed the interesting animal Isognomostoma isognomostoma (Schröter) which resembles the British species Helicodonta obvoluta (Müller). This was also common in Austria. Helix aspersa Müller was noticeable by its absence. Of other groups noted in the family Helicidae 'Hygromia' was well represented by Hygromia hispida (Linné), Monachoides umbrosa (C.Pfeiffer), and Monachoides incarnata (Müller). Of the Helicellinae only Helicella obvia (Hartmann) was common in a few places.

In this article I have tried to give my impressions of the Molluscan fauna of Austria which I found varied and most interesting.

D. G. Pickrell

HOW TO COOK SNAILS

SNAIL SOUP. - Use only the large edible snails in grey shells, and select those of which the shell is closed up. They are first dropped into boiling

water, slightly salted, and boiled for an hour, then extracted from their shells by means of a fork. The black skin that will be found on top must be cut away, as well as the horns and the ring that, starting from this black skin, encircles the snail. They are now laid on a dish and strewn with a handful of salt, whereby the slime is extracted. They next require washing in three or four waters, and must finally be squeezed quite dry. To about fifty of the snails thus carefully cleansed are added two or three quarts of good stock. Boil until they are soft, when they should be taken out and two-thirds of them chopped small. Fry these lightly in butter, and add to them so much of the stock as will be required for soup. Boil them up once more, with the addition of a little mace as well as the whole snails remaining; stir in the yolks of two or three eggs, and serve with toast cut into dice.

SNAIL SAUCE. - Chop some anchovies, previously washed and boned, with a little parsley. Mix a table-spoonful of dried and pounded breadcrumbs and half a teaspoonful of flour with 2½ oz. of butter. Add the chopped anchovies and parsley and sufficient stock to make a sauce of the requisite thickness. In this lay eight or ten snails prepared as directed in the first recipe, a little mace and pepper, and boil up.

SNAIL SALAD. - Snails cleansed and prepared as previously directed are an excellent addition to a potato or other salad. They may be chopped or left whole as desired, and added with salt, pepper, finely-chopped onions, and two parts of oil to one of vinegar.

The Yorkshire Weekly Post, 15 October 1892
(From A. E. Ellis)

CLEANING SNAILS

A leaflet entitled "Hints on cleaning the smaller transparent species of British land Mollusca" was issued by Arthur G. Stubbs (Eastbourne, 1900). As this is now probably difficult to obtain, the following copy may be of use to collectors. The names have been brought up to date.

The materials required are:-

A methylated or paraffin lamp with a regulating wick; a tin or enamel saucepan; a wire tea-strainer; a soft tooth-brush; blotting paper; and two or three fine needles.

Use pure soft water, and bring it up to the boil, regulating the wick so as to keep it just on the boil; do not let it bubble or boil fast.

Let us suppose that we have some living Oxychilus alliarius to clean. Pick out the worst specimen, and put it into the tea-strainer; if the animal is crawling tap it to make it retire, as the Zonitidae with the exception of Vitrea and Euconulus should not be crawling when immersed. Dip the strainer into the boiling water for six seconds, then take it out and turn the shell out on to a piece of blotting-paper or old handkerchief. Roll it over once or twice in order to dry the slime, and thus enable the shell to be held more firmly. Take a needle in the right hand, and hold the shell in the left, in the following manner: -

In a vertical position, the mouth upwards and towards you, the first finger on top, the thumb below.

Insert the needle through the footsole and mantle of the animal, and begin pulling slowly and steadily downwards, following the direction of the last whorl; keep on pulling in the same direction but away from the shell, not coiling round and round (this does not answer with Zonitidae though it does with some other kinds). If the animal shows signs of breaking pull a bit slower and a bit steadier; if the signs continue, let go the shell with the left hand, and let it dangle on the needle in the water again for a couple of seconds, then have another pull, and if it should still give signs of breaking, let it break, and be thankful it was the worst specimen.

Now, the cause of breaking was probably one of the following:-

1. Water not quite boiling.
2. A jerk at the commencement of the pull.

3. Too long or short a time boiling.
4. Eggs.
5. General cussedness.

If the breakage took place 'early on' in the animal, No. 4 is the probable cause and extra care is all that is required.

If about the middle, and you find yourself pulling at one end of a long straggling bit of white stringy snail, and something inside pulling at the other, Nos. 1 and 3 will account for it.

If the breakage takes place just at the 'tip of his tail', when you thought that you had got him all out, but find that his liver hasn't budged, No. 2 is pretty sure to be the reason, and it is a very common one. It is of two kinds: there is the initial plunge of the light-hearted operator; and there is the partial letting go of the animal at the first pull, caused by a weak insertion of the needle in the first place.

Now try the next worst specimen, correcting the above errors, and if after a few further attempts of from four to ten seconds immersion they still break, put it down to cause No. 5 and pass on to something else. Later on try again with a fresh lot of water, a new needle, and a very steady pull.

If you have been successful in getting the animal out entire, you may now proceed to boil two or three together, but do not try to do too many at once, as they are harder to extract after they have begun to cool. Brush the shells with the soft tooth-brush, taking care not to injure the lips, and pick any dirt out of the umbilicus.

The following time-table for the immersion of the different species of Zonitidae may be found useful:-

O. draparnaldi, O. cellarius, and O. helveticus: ten to fourteen seconds. These are comparatively easy to clean.

O. alliarius: about six seconds. Not very easy.

R. nitidula: six to eight seconds. Fairly easy, but the 'tail-piece' is apt to break; it can, however, be generally coaxed out.

Z. nitidus: six to eight seconds. Not easy.

Z. excavatus: six to eight seconds. Easy.

R. radiatula and R. pura: four to six seconds. Not easy, but a great deal depends on the ability of the operator to hold these tiny shells properly.

Vitrea and Euconulus: four to six seconds. These should be in the act of crawling when immersed, otherwise it is very difficult to get a proper hold of the animal owing to the smallness of the mouth. A drop of tepid water will often persuade them to come out, if lightly dabbed on their shells with a paint-brush.

Vitrina pellucida may be easily and rapidly cleaned by immersing, say, a dozen at a time for about eight seconds, and then spreading them out on a piece of blotting-paper; trap the snail between your needle and the blotting-paper, then with the thumb and first finger of the left hand gently pull the shell away from the snail.

Hygromia subrufescens is not easy to clean on account of the difficulty of holding this collapsible species; boil for about eight or nine seconds, then well dry the shell with a soft rag, hold lightly (in the rag if preferred) and be very careful to give no preliminary jerk.

Ena obscura should be crawling when immersed, otherwise they often retire too far to be reached (except with a bent needle, an instrument to be avoided when possible). Use a circular pull when extracting these snails corresponding to the coil of the whorls, and boil from twelve to fourteen seconds.

Azeca goodalli can generally be teased out bit by bit if the animal should break by catching in the teeth; eight to ten seconds. This and the next should be crawling.

Cochlicopa lubrica: boil about eight seconds, and use the circular motion in extracting.

(From A. E. Ellis)

MARINE MOLLUSCA IN ORKNEY

Readers who knew the late Robert Rendall, or who have studied his

"Mollusca Orcadensia" will be interested to know that his fine collection of Orkney marine shells is now housed in the small museum in Stromness, Orkney, and was in fact the centre piece of an exhibition in honour of R.R. this summer.

I myself first started collecting shells on the beaches six years ago when I was 9 and joined the Orkney Field Club. This interest was mostly inspired by my Headmaster, Mr. William Groundwater, who himself made a considerable collection of Orkney shells. Three years ago, when I was 12, I arranged my shells in order for a competition at a County show for a prize donated by Robert Rendall. By that time I had just over 100 varieties. When I was putting them in order, I found I had not a respectable specimen of the common cockle, and had to go out into the garden and hunt among my sisters' garden decorations for one!

About this time, too, Mr. Groundwater introduced me to Mr. Rendall, and I found him a most inspiring and enthusiastic person. It was Mr. Rendall's inspiration that set me to studying shells, not just collecting them - and Orkney is a wonderful place to do this, with its variety of shores. He also encouraged me to join the Conchological Society.

For the last two years, we (because I have driven the family into shells) have kept detailed records of our finds. We have even managed to add a few new records to "Mollusca Orcadensia" in this short time.

Mr. Rendall himself made some changes. He regarded Patella depressa Pennant as a wrong identification, and insisted on adding "Very doubtful R.R." in manuscript in my copy of his book. Further, he agreed that the scale oysters needed revision, and that Monia squama (Gmelin) must be added and marked 'common'.

Three lots of shells collected by Mr. Rendall about 1963, and identified by Mrs. N. F. McMillan, have been sent on to us. They provide two recent records and a new Orkney record:

Skenea cutleriana (Clark) off Saltness, 8 fms.
Thyasira ferruginea Winckworth Brough of Birsay.
Lepton nitidum Turton West shore, Stromness in Laminaria holdfast.

During the last two years' shore collecting I have added the following 4 records which give an increased distribution:

<u>Lepeta fulva</u> (Müller)	Skaill 1967 (twice)
	West shore, Stromness 1967-68
<u>Odostomia scalaris</u> Macgillivray	Birsay 18.2.68
<u>Ossiania alata</u> (Forbes)	Skaill 19.5.67
<u>Zirfaea crispata</u> (L.)	Stromness 1967-68
	Deerness 21.4.68

(Zirfaea was one of Mr. Rendall's recent studies, and it is good to know that he saw and enjoyed these shells shortly before his death.)

and the following 7 new records:

<u>Alvania carinata</u> (da Costa)	Stromness 28.3.68
<u>Cima minima</u> (Jeffreys)	West of Hoy June 1967
<u>Philine aperta</u> Ascanius	Bay of Meil 22.4.67
<u>Polycera quadrilineata</u> (Müller)	(probable) Stromness 13.4.68
<u>Montacuta ferruginosa</u> (Montagu)	1967
<u>Venerupis saxatilis</u> (Fleuriau)	Stromness 26.3.67
	Deerness 27.8.67

(It seems likely that Mr. Rendall included records of this species with V. pullastra)

<u>Abra alba</u> (W. Wood)	Stronsay 8.4.67
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During the last two years I have collected a total of 164 species of Orkney shells, and have just sent a record of them to Mrs. Turk, the Marine recorder, who encouraged me to write this note, in order to encourage other young collectors! I would like to end by saying how much I am indebted to

Mrs. N. F. McMillan and her continued kindness in identifying material.

Alastair Skene, Stromness, Orkney
(Junior member)

PUBLICATIONS RECEIVED

Poirieria Vol. 4, part 2 (Ed. N. & N. Gardner, Conchology Section, Auckland Institute and Museum, New Zealand)

The number is well illustrated with line drawings, and among the reports and articles the following are of general interest:

A reprint of a paper by Dr. Bowden, on the freshwater limpet Latia neritoides Gray, one of the very few molluscs capable of producing luminescence, a phenomenon which is described.

Oyster Farming in New Zealand. Recent developments, officially encouraged, in the cultivation of the 'New Zealand Rock Oyster' are described by D. Lamb. In contrast to the sufferings of the British oyster farmer, pests in New Zealand seem to be a very minor worry.

Laurie Price writes on the land mollusca of Tasmania and N. W. Gardner describes a search in the isolated bush country of the Upper Karamea River for the rare Paryphanta lignaria oconnori Powell.

Collecting shells at Pakawau, Golden Bay by B. Elliott includes listings of the many species discovered.

Tabulata Vol. 1, No. 3, Jan. 1968 (Santa Barbara Malacological Society, California, P.O. Box 30191, Santa Barbara, Cal. 93105, U.S.A.)

This issue comes with a very creditably drawn cover depicting Father Time and Neptune welcoming the New Year (already, as usual it seems, a lusty brat of at least two summers) with the gift of some very fine shells. The contents of Tabulata seem to have been edited with care to provide the members with all possible information they might require, including local tide tables, full details of the Society itself, a summary of the regulations concerning the import of shells, a note on advisable equipment to take when shelling on rocky and stormy coasts, advice on conservation ('Turn that rock back!'), field meeting notes and a list of local recorded 'largest specimens'. There is some additional discussion on the controversial Pteropurpurea macropterus, notes on SCUBA diving, a good short article clarifying the recurring bivalve problem of distinguishing right hand and left hand shells, and a review of other shell organisations round the world including a mention of the British recording schemes.

Circular No. 93 (Feb. 1968) of the Conchological Society of Southern Africa

This number includes an extremely useful article on the genus Dosinia (Veneridae) in South Africa, by A. C. van Bruggen. This clarifies the identification and distribution of the four species concerned, of which D. lupinus occurs also in this country.

D. H. Kennelly contributes one of his informative notes, this time on Cypraea edentula var. denticulata nom. nud. of Turton, and R. O. Carlsson writes some notes on Thais cingulata and the discovery of some specimens with six spiral ridges.

Editor, Leila Kerr

Circular No. 94 (March 1968)

The circular reports that the Society tenanted a stand at the Cape Show (it is presumed this was an agricultural show) - and a very attractive exhibit was mounted, including two tanks containing live shells. Some of the overheard comments are retailed in the report.

D. Freeman writes a note on the derivation of the generic name Amusium. It appears that it is more correctly spelt Amussium and is derived from the latin for a carpenter's measuring tool. It is assumed that a protractor is indicated.

D. Aiken contributes a short note on Scissurella smithi Thiele, with a request for more information on this species.

D. E. Kennelly describes some unusual Cassia varieties bearing a rounded rib on the body whorl, first noticed by Turton (1932), and some comments on the wide distribution of the rare Cypraea algoensis Gray. On this subject, R.P.S.

comments as follows: ".....Certainly if it is a valid species it is quite a rare one, but I would have said that there was probably more than one in the British Museum. I myself have one fairly good one and a number of beach specimens..... It would seem to be a somewhat similar case to C. vredenburgi, where only a small number of 'good' shells are known but a much larger number in poor condition, possibly because the real 'home' of the species has yet to be discovered. In vredenburgi however, the number of very poor shells runs into thousands."

T.E.C.

FIELD MEETING - TO AINSDALE DUNES AND SHORE,
LANCASHIRE COAST - 24th. FEBRUARY 1968

A party of six members and one visitor met at Ainsdale Station, at 2.0 p.m. and proceeded to a car park near the foreshore. The weather was very bright and sunny most of the time, and the atmosphere dry but cold. There was still ice on the dune slacks and on the standing water at the highest part of the shore. Collection of land specimens was done in two separate 10 km. squares - most of square 3421 is covered by the sea of Liverpool Bay except for a small triangle of land in the S.E. corner; the shore and dunes occupy this corner but the dunes also extend into the next square 3431.

The dunes were only sparsely covered by such vegetation as bramble, dwarf willow, and thickets of Sea Buckthorn, still without their summer greenery, and in the first square, 3421, most of the collecting was done in the lee of a wall on one side of the car park. These consisted of:- Helicella caperata (Montagu), H. virgata (da Costa), Helix nemoralis L., Helix aspersa Müller, Vitrina pellucida (Müller), Arion ater (L.), juvenile specimens only, and Agriolimax laevis (Müller).

In the next square, 3431 - still in the dunes area, we found:- Helicella caperata, H. virgata, Helix nemoralis, Vitrina pellucida, Agriolimax laevis, Hygromia hispida (L.), Oxychilus helveticus (Blum), Retinella nitidula (Draparnaud), Cochlicopa sp., to be det., Vitrea sp., to be det..

The shore itself consists of an extensive sand beach, and is part of the Marine Census Area No. 24. No live specimens were found and the material collected is therefore counted as strand line material. The list of species is as follows:-

<u>Common.</u>	<u>Donax vittatus</u> (da Costa)	<u>Mactra corallina</u> Montagu
	<u>Cardium edule</u> L.	<u>Tellina tenuis</u> da Costa
	<u>Macoma balthica</u> (L.)	
<u>Frequent.</u>	<u>Mya arenaria</u> L.	<u>Barnea candida</u> (L.)
	<u>M. truncata</u> L.	<u>Abra alba</u> (S. Wood)
	<u>Tellina fabula</u> Gmelin	<u>Spisula subtruncata</u> (da Costa)
	<u>Cardium echinatum</u> L.	<u>Natica catena</u> (da Costa)
	<u>Buccinum undatum</u> L.	
<u>Infrequent.</u>		<u>Thracia phaseolina</u> (Lamarck)
	<u>Solen marginatus</u> Montagu.	<u>Nucula turgida</u> Leckenby & Marshall
	<u>Ensis ensis</u> (L.)	<u>Venus striatula</u> (da Costa)
	<u>Scrobicularia plana</u> (da Costa)	<u>Lutraria lutraria</u> (L.)
	<u>Pharus legumen</u> Buc., Danz. & Doll.	
	<u>Ostrea edulis</u> L.	<u>Mytilus edulis</u> L.
	<u>Neptunea antiqua</u> (L.)	<u>Cyprina islandica</u> (L.)
	<u>Nucella lapillus</u> (L.)	<u>Natica alderi</u> Forbes
	<u>Turritella communis</u> Risso	
<u>Infrequent and in Pectinaria debris.</u>		<u>Corbula gibba</u> (Olivi)
	<u>Philine aperta</u> Ascanius	<u>Mysella bidentata</u> (Montagu)
	<u>Acteon tornatilis</u> (L.)	<u>Cultellus pellucidus</u> (Pennant) - 1
	<u>Hydrobia ulvae</u> Pennant	specimen

Wm. F. Edwards

FIELD MEETING - TO THE STONEHOUSE BRICK & TILE COMPANY'S PIT,
STONEHOUSE, GLOUCESTERSHIRE, 23rd. MARCH 1968

Some twenty members attended this all-day meeting which was eventually 'rained off' in the mid-afternoon. Close attention was given to collecting fossils from the spoil heaps, where material from the davoei zone of the Lower Lias and the margaritatus zone of the Middle Lias was abundant. Members were able to find ammonites typical of the zones exposed (Androgynoceras, Amaltheus, and Lytoceras), and a large variety of other mollusca, including Pleurotomariid gastropods, several forms of Pseudopecten, Gervillia, Modiolus, Oxytoma, Cardinia and Protocardia, and belemnites.

A cursory search for living non-marine mollusca produced three additional species to the post-1950 Census records for square 32/80 - Arion ater (L.) agg., Retinella radiatula (Alder), and Agriolimax laevis (Müller).

Our best thanks are due to the Stonehouse Brick & Tile Company, and to Mr. Selway, for permitting the visit, and for allowing us to use part of their office accommodation to eat lunch and dry off.

D. C. Long

FIELD MEETING - TO WEST KIRBY, CHESHIRE, 23rd. MARCH 1968

On a very windy March afternoon, 5 members, a junior member and 3 visitors, met at West Kirby, a small seaside resort in the Wirral at the mouth of the Dee estuary to collect marine and land shells. One of the members, who lives in the district, took us to the shore, where we collected the following marine species:-

<u>Tellina tenuis</u> da Costa	<u>Tellina fabula</u> Gmelin
<u>Macoma balthica</u> L.	<u>Scrobicularia</u>
<u>Mya arenaria</u> L. (live)	<u>Mytilus edulis</u> L.
<u>Barnea candida</u> L.	<u>Cardium edule</u> L. (live)
<u>Turritella communis</u> Rosso	<u>Natica catena</u> da Costa
<u>Ensis ensis</u> L.	<u>Nassa reticulata</u> L.
<u>Buccinum undatum</u> L.	<u>Littorina littorea</u> L.

The group soon sought shelter from the wind and collected land shells from the seaward edge of the golf links and also from the grassy areas we passed on our return walk to the town.

We found the following:-

<u>Hydrobia ulvae</u> (Pennant)	<u>Phytia myosotis</u> (Draparnaud)
<u>Cochlicopa lubrica</u> (Müller) (det. Dr. M. P. Kerney)	
<u>Pupilla muscorum</u> (L.)	<u>Lauria cylindracea</u> (da Costa)
<u>Vallonia</u> sp.	<u>Helix nemoralis</u> L.
<u>H. aspersa</u> Müller	<u>Hygromia hispida</u> (L.)
<u>Helicella caperata</u> (Montagu)	<u>Discus rotundatus</u> (Müller)
<u>Arion circumscriptus</u> s.s. Johnston (det. Mr. A. E. Ellis)	
<u>A. hortensis</u> Ferussac	<u>Vitrea crystallina</u> (Müller) (det. Dr. M. P. Kerney)
<u>Oxychilus draparnaldi</u> (Beck)	
<u>O. cellarius</u> (Müller)	<u>O. alliarius</u> (Miller)
<u>Retinella nitidula</u> (Draparnaud)	<u>Vittrina pellucida</u> (Müller)
<u>Agriolimax caruanae</u> Pollonera	(det. Mr. A. E. Ellis)

Jean Kline

GENERAL NOTES

A SINISTRAL SHELL FROM A SOUTH AFRICAN BEACH.

In April this year, a local member of the South African Conchological Society - Miss M. Scott - collected at Kwelega, a well-known camping locality about 20 miles north of East London.

Among the shells collected is a sinistral example of the normally dextral

Marginella ornata, Redfield, and is a conchological treasure.

The chances of finding a sinistral specimen of any normally dextral species is about a million to one.

This sinistral shell of about 25mm. is a beach specimen in good condition, and has been presented to the East London Museum, where it is held in the Reference collection.

D. H. Kennelly, East London, S. Africa

AN UNUSUAL HABITAT FOR SUCCINEA PFEIFFERI

During a holiday in Scotland last May we found a large colony of *Succinea pfeifferi* on a patch of wet sand on a beach 2 miles north of Largs (Ayrshire).

The colony was living within feet of the high tide line and judging by the general beach litter it is reasonable to assume that this spot was splashed by the sea from time to time.

The shells were quite typical and resembled in size, colour and thickness, those from more orthodox habitats.

Roger Fresco-Corbu

INCOME TAX RELIEF

It recently became obvious that there was a considerable element of doubt regarding the position of members of the Society who were engaged professionally in the study of the Mollusca, and who therefore felt that they should be able to claim an allowance against Income Tax in respect of their Annual Subscriptions. In these cases the decision was in the hands of local Inspectors of Inland Revenue; some Inspectors permitted this allowance while others did not.

In order to clarify the situation the matter was taken up at national level, and I am pleased to report that the Conchological Society of Great Britain and Ireland is now officially approved by the Commissioners of Inland Revenue for the purposes of Section 16, Finance Act 1958. The relevant paragraphs are as follows:-

"Commencing with the year to 5 April 1968, a member who is assessable to income tax under Schedule E in respect of the emoluments of an office or employment is entitled to a deduction from those emoluments of the whole of the annual subscription which is due and payable by him to the society in the income tax year provided that -

- (a) The subscription is defrayed out of the emoluments of the office or employment, and,
- (b) The activities of the society so far as they are directed to all or any of the following objects -
 - (i) the advancement or spreading of knowledge (whether generally or among persons belonging to the same or similar professions or occupying the same or similar positions);
 - (ii) the maintenance or improvement of standards of conduct and competence among the members of any profession;
 - (iii) the indemnification or protection of members of any profession against claims in respect of liabilities incurred by them in the exercise of their profession;

are relevant to the office or employment, that is to say, the performance of the duties of the office or employment is directly affected by the knowledge concerned or involves the exercise of the profession concerned.

A member of the society who is entitled to the relief should apply to his tax office as soon as possible for form P358 on which to make a claim for the relief due to him."

Marjorie Fogan (Hon. Treasurer)

SHELLS WANTED.

Mrs. A. Cameron, [REDACTED], Darlington, Durham, requires small tropical shells (marine or land shells) in fair quantities, on an exchange or purchase basis. Shells from all countries are required, and they need not be labelled. A few of the larger tropical shells are also desired.

FOR DISPOSAL.

Watkins and Doncaster, 110 Park View Road, Welling, Kent, announce a clearance offer of glass-top boxes ex Flatters and Garnett stock. Prices vary from 1/3d. each for $1\frac{1}{4}$ " x $1\frac{1}{4}$ " x $1\frac{1}{2}$ " to 3/- each for $3\frac{1}{2}$ " x $2\frac{1}{2}$ " x $1\frac{3}{4}$ ", with various sizes and depths in between.

SHELLS FOR SALE.

Browse in baskets full of shells from all parts of the world - at Eaton's Shell Shop, 16 Manette Street, off Charing Cross Road, London, W.1.
(Telephone: GER rard 9391).

FOR SALE.

Philippine Cypraea. Capt. Enrique V. Talens, V. Luna General Hospital (AFP), Quezon City, Philippines.

FOR SALE.

The Society has for sale three collections (not all identical) of Central European land shells, mostly from Bohemia. Each collection contains at least 22 different species from many different localities, and many specimens of each, all fully labelled and with locality data. The genera include a number of Clausilia, Acanthinula, etc.; each collection is offered at £1 plus 1/- postage, and requests should be made to the Hon. Secretary.

Produced by THE CONCHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

PRONUNCIATION

Though every schoolboy knows about Julius Caesar's Gallic wars and his British expeditions, the Pontic campaign of 47 B.C. is less familiar, yet it was at Caesar's triumph celebrating his defeat of Pharnaces the Second in this year that the flamboyant inscription, Veni, vidi, vici, was flaunted in procession (even in those days marchers carried placards). This renowned masterpiece of self-laudatory compression can be pronounced in several ways, though, pace the pundits, the Romans' own method must be conjectural. My father, being accustomed to the old or anglicized pronunciation of Latin, would have read it as "Veeny, veidy, veisy;" this is the fashion still favoured by the legal profession. According to the exponents of the new or reformed pronunciation, in which I was reluctantly schooled, the phrase becomes "Wainy, weedy, weeky." The historians Sellar & Yeatman (with some chronological latitude) allege that the Ancient Britons, misunderstanding Caesar to have called them "Weeny, weedy and weaky," were so disheartened that they forthwith capitulated. The Italians and the Roman Catholic Church have their own codes, and doubtless other variants exist. As for Conchologists, their pronunciation of Latin and latinized names tends to be haphazard and individualistic.

Scientific names being far more often written than spoken, their pronunciation may perhaps be of little consequence, so long as the meaning is clear. Some degree of uniformity is desirable, however, and one is under an obligation to the ancients to abide by their rules and conform to their customs when borrowing, or looting, words from their rich treasury. Most British zoologists (and botanists) still cling conservatively to the old anglicized style of pronunciation. It might provoke raised eyebrows or even, were the members not so polite, derisive titters if one were to speak of Weewiparus weewiparus, Walwahta piskinahlis, or Waynus owahta at a meeting of the Conchological Society. Readers who are not conversant with the reformed pronunciation but would like to be, are recommended to consult the "Glossary of the British Flora" by H. Gilbert-Carter (Cambridge, 1950). It is recommended that in the "old" pronunciation the letter c should be hard whenever it is a transliteration of Gk. kappa, as in Cepaea, Cephalopod, etc. Ch (=Gk. chi) should strictly be sounded as in loch, though most Englishmen will be content to settle for lock.

The commonest fault is confusion of long and short vowels. Amongst the most frequently mispronounced words are Helix with its derivatives and compounds: the first syllable is hell, not heel. The following are some other names in which all vowels are short: Acroloxus, Ancylus, Calliostoma, cinereoniger, Cochlicopa, Cochlostoma, Colus, crystallina, Glycymeris, Menetus, Modiolus, nitidulus, nitidus, Odostomia, Opeas, Patina, Phaseolus, Rhizorus, Stiliger, subvirescens, Trichia, Trochoidea (5 syllables).

In Vitrea and Vitrina the first syllable can be either long or short, though it is customarily pronounced to rhyme with "it" (the same latitude does not, however, extend to the universally mispronounced word vitamin, in which the first syllable is long, as in vital).

The following is a selection of some other names which are liable to be mispronounced.

First syllable long, the rest short: Calopodium, Conoidea (cf. cone), Cymatium, Liomesus, pomatia, Pomatias, Sepiola.

First and second syllables long: Cepaea, Loligo (Lolligo is also an ancient spelling), Solen.

Second syllable long, the rest short: Carinaria, Charonia, silvaticus, Trophon, Chiton (though conchologists will always pronounce Chiton, and its

compounds, to rhyme with Brighton: one might as well expect a gardener to pronounce Anemone, Clematis and Lilium, or a Londoner Eros and Trafalgar correctly).

Second and third syllables long, others short: Acteon, Acteonia, arenaria, carinatus, gagates, Arion (whether one derives the name from the poet Arion, son of Cycleus of Methymna in Lesbos, or from Areion, the winged talking horse by Poseidon out of Demeter).

All syllables except the third are short in Eledone (correctly Heledone), lapicida, striolata.

The long syllables in Cecilioides are the first, fifth and sixth; in cimicoides the first, fourth and fifth; in lusitanicus the first and third; in umbilicaris the third and fourth; in Zonitoides the first, second, fourth and fifth.

It may be mentioned that the first syllable of radula (= scraper), the toothed tongue of Mollusca, is long, although it is customarily mispronounced to rhyme with bad.

How should words based on proper names, whether personal or geographical, be pronounced? As they would have been by their owners or by the natives, or as the Romans might hypothetically have pronounced them? The former practice commends itself as being more reasonable and realistic. For fancy and make-up names there can be no guidance except analogy or individual preference. Mark Twain's observation that "Foreigners spell better than they pronounce" applies with equal force to conchologists, including

A. E. Ellis

"ABRAHAM'S BOSOM"

"Abraham's Bosom" is the name given to a very pleasant lake adjacent to the beach at Wells-next-the-sea in Norfolk. It is now used as a boating lake, but some hundred years ago it was part of a tidal creek draining the Holkham salt marshes. Because of its sheltered position and size, it was frequently used by coastal shipping as a refuge in stormy weather. It is still a sheltered spot and when it gets too chilly on the beach, holiday-makers often come here for a pleasant hour's boating. Thus, in at least two centuries, this piece of water has lived up to its biblical name.

It was more or less by chance that I recently found that the "Bosom" also provides shelter for some interesting marine molluscs. It happened when my daughter took me for a row on the "grown-up" part of the lake. As passengers are often wont to do, I was trailing my arms in the water idly picking up what I could reach from the bottom. Not expecting to find anything alive, I was surprised to find both live cockles and chitons. My interest now aroused, I collected as much material as I could before we were called in. Later in the year I made another quick visit, this time with my son at the oars, I was armed with more sophisticated equipment, i.e. a shrimping net!

Before going into more detail about the "catch", I would like to mention some of the interesting features and history of this area. This part of the Norfolk coast, because of along-shore drifting of cliff material, is gradually being extended seawards. This is an extremely slow process, beginning with the formation of off-shore bars, then shingle ridges, sand dunes, mud flats, salt marshes and then finally man steps in with attempts to reclaim it from the sea. To the east of Wells there is a mile-wide belt of salt marsh, to the west a once similar area was "inmed" in 1859 and is now good farmland. It is in this area that "Abraham's Bosom" lies, until 1953 beautifully surrounded by pine trees, now only sheltered on the seaward side by a few surviving trees.

As with most land reclaimed from the sea, there is always the threat that the sea will at some time attempt to return and reclaim its own. On the night of January 31st. 1953 the North Sea was in just such a mood, and the marshes at Wells again became tidal. It took several months to repair the many breaches in the retaining banks and several years more to nurse the marsh back to productive farmland. Surprisingly, the salinity of the lake is still fairly high, but this is probably due to lack of significant dilution by any streams or other freshwater sources.

My investigations of the mollusca of "Abraham's Bosom" have obviously not

been very scientific to date, a fact I hope to rectify in due course, but in spite of this shortcoming, the results have been quite educational. Thus I thought it might be of some value to put this description in print, even though further work may well put a different complexion on things.

The first and most interesting shells found were Cardium lamarcki (Reeve) which I must admit I first took to be Cardium edule (Linné). These were interesting in several ways, not least because they were new to my collection, but also because specimens were so keenly received by the Marine Recorder, Mrs. Turk. The reason for this interest is that the distribution of this species is not very well known and any new finds are obviously of value as data for the Marine Census. My record is the only one for area 12 (from Bridlington to Lowestoft). The nearest other record is for East Tilbury, Essex, in July 1963. It may be that, due to the similarity with edule, collectors are overlooking specimens of lamarcki. With this in mind, may I refer readers to Newsletter No. 10 page 61, which details the differences between the two shells.

Besides the differences in shape, there is a marked difference in habits and in habitats. C. lamarcki has a greater tolerance for reduced salinity and juveniles usually live in the vegetation of the lake before dropping to the bottom as they grow larger. The adult animals live on or just in the surface mud, whereas for purposes of protection and for the prevention of desiccation at low tide, edule buries itself in the sand or mud of the cockle bed.

Another bivalve found living in the lake rather surprised me, though often found well up estuaries, Mya arenaria (Linné) is, I believe, not often found in enclosed non-tidal water. Several small specimens came up first, all about 1½ inches long, presumably disturbed from the surface mud by the shrimping net. However, I was finally lucky enough to spot the syphon ends of two much larger animals near the bank in about a foot of water. It took about ten minutes or so, leaning over the side of the boat trying to dig them up. The mud was black and immediately clouded the water so that I dare not let go of the bottom for fear of losing my position. The smell was vile.....and as my nose was only about two inches above the surface, the operation was not at all pleasant! However, the resulting specimen was quite a good one and worth the trouble, it measured 3.4 ins. x 2.0 ins., its companion I left for another day.

The only other live mollusc found was Lepidochitona cinereus (Linné). There were plenty of these on stones and empty shells in a shallow part of the lake, an area completely free of weed. The largest measured 0.32 ins. in length.

The three species mentioned are the only molluscs that I know to be living in "Abraham's Bosom", there are of course many to be found in the tidal areas at Wells. Mya arenaria and Lepidochitona cinereus are to be found in places fairly adjacent to the tidal channels to Wells harbour and it is quite likely that some of these were carried into the lake during the 1953 flood. Since then they have survived and reproduced themselves, whereas other less adaptable species, washed in at the same time, have not found the "Bosom" to their liking. Empty shells of other species found were: Littorina littorea (Linné), Ostrea edulis (Linné), Cardium edule (Linné).

No similar explanation can be suggested for Cardium lamarcki. I have re-checked all my stocks of shells from other areas at Wells and all cockles are definitely edule, it would therefore appear that this species is probably confined only to the lake. How they were introduced into this lake in the first place I have no clue. I think it is unlikely that the 1953 flood was responsible for its introduction. It is more likely that this occurred at the time, or soon after, the marsh was originally enclosed in 1859. At that time the strong scouring currents at each tide would give way to the more stagnant conditions as now existing and which provide an apparently ideal habitat. Another alternative is if lamarcki is an evolved form of edule, then perhaps the hundred odd years may have been time enough for this change to take place.

These notes are not intended as a scientifically complete account or check list of the molluscs of "Abraham's Bosom"; it is obviously too early for this. They are intended more as an account of an entertaining and rewarding row on two pleasant summer afternoons. It also indicates that, even in a very familiar area, the Conchologist can still find new and interesting material.

My chief regret since taking up conchology is that I did not start sooner,

what fascinating comparisons I might have been able to draw between now and forty years ago when I first knew Wells! At least this has taught me not to ignore those areas of still water at the back of many of our holiday resorts. Also, in future I shall look more carefully at the "Common Cockle" just in case it may in fact be the "not-so-Common Cockle". Perhaps others too will do likewise and report any findings (or doubtfuls) to the Marine Recorder, so that a more complete picture can be drawn to show the distribution of the "Elusive *lamarcki*".

References:-

J. A. Steers, "The Coastline of England & Wales"

S. M. Turk, 1964, "The Conchologists' Newsletter", No. 10, page 61.

D. Heppell, 1964, "The Journal of Conchology", Vol. 25, No. 7, page 311.

Alan Featherstone

HELICELLA ELEGANS (GMELIN) IN SUSSEX

On the chalk hills near the sea at Newhaven and district, Sussex, "sheep snails" (*Helicella* spp. and *Cochlicella acuta*) are frequent and I started a survey of these. On the first excursion on 17th. September 1967 my wife, Mrs. Rosamond Jones, picked up a specimen of *Helicella elegans* just east of Denton village, a new record for the county.

Further investigation showed that this was not a small colony and was indeed by far the largest in Britain. A lot of the records made were found to be associated with an ancient track that runs from Denton village centre (Grid Ref. TQ 457027) to Heighton Hill (Grid Ref. 470036), the snail being found at intervals over more than a mile of its length. It was chiefly found by the rough chalk grassland at the sides of the track not reached by the plough. Practically the whole of the old chalk grassland formerly grazed by sheep has long since been ploughed up in this district. The south-west end of the track is in a combe and here *H. elegans* is found at a number of spots on the mid-levels of the hill-sides close to building development. At the north-west end there is a wide strip of chalk grassland up Gardener's Hill representing old courses of the track and the snail is locally frequent here. It also occurs on strips of old chalk grassland (too steep to plough) left on both sides of a chalk valley to the east of Snap Hill (Grid Refs. 463035 and 464033) close to Gardener's Hill. The south side of the combe at Denton rises to a small hill jutting out and facing south-west and the snail is found at a number of points on all sides of the hill just below the top (Grid Ref. 458024). Again building development comes right up to this locality.

About 20 colonies were examined in most of which *Helicella virgata* was equally frequent. *Helicella elegans* was also often associated with *Cochlicella acuta* and rather less frequently with *Helicella itala*, *H. caperata*, *Helix aspersa* and *Monacha cantiana*. *Helicella gigaxi* (including some fine distinct specimens) occurred rather locally with it and *Hygromia hispida* and *Helix nemoralis* rarely.

In some places *Rhinanthus minor* (Yellow Rattle) was frequent and the dry seed capsules looked deceptively like *H. elegans* at a distance as they are the same size as the base of the shell which is usually visible when the animal characteristically hangs upside down in the vegetation.

It is interesting to compare the locality with that of Chaldon, Surrey. The Newhaven locality is near the sea, the Denton combe and hill receiving the full blast of the south-westerly gales which are frequent except in the summer months. In Chaldon *Helicella elegans* occurs in a combe in the North Downs facing south-south-west. There it does not even extend over 100 yards and occurs mostly towards the lower levels in the north ridged by cattle and sheep. In the Chaldon locality *Monacha cantiana* and *Helicella virgata* are frequent, with *H. itala*, *H. caperata*, *H. cf. gigaxi* and *Agriolimax reticulatus* also present.

A. W. Jones

THE WATER TOLERANCE OF THE EGGS OF LAND SNAILS

For years I have studied the land snail fauna of the inundation area of the Danube, after the abating of small to widespread floods. I was able to establish significant losses in the fauna, especially in the wake of great and prolonged floods. However, considerable numbers of adult and young specimens have invariably survived their submersion in water. And strikingly, I also found very young specimens, originating from the year in question. This was to be explained only by the eggs having somehow survived the flood, or at least having been able to tolerate one of a shorter duration. As far as I know, the phenomenon has not yet been studied, and the water tolerance of the eggs of land snails has not hitherto been investigated.

Inundation areas have been limited, owing to river control, to comparatively small regions. These areas are sufficient, as a result of good engineering measures, to take up considerable amounts of water during flood time, and it rarely happens that the neighbouring territory beyond the dykes becomes endangered at times of very high water levels. Floods appear twice yearly along the Danube. The first occurs generally at the end of winter, mainly in February; the other, the so-called spring flood, in June and July. Both exert an unfavourable influence on the fauna of the inundation area. Undoubtedly primarily hydrophilous species live in the flooded woods, but they are not equipped to survive such unrelenting water effects. Animals quick on the feet always have the opportunity to escape the slowly increasing water levels, not always granted to the more sluggishly moving snails! Despite this fact, I found that *Arianta* and *Cepaea* species 'fled' onto bushes and trees in the face of the threatening flood, indeed, several specimens advanced to heights of 10-15m. on the trunks of larger trees. After the flood had passed, however, masses of dead animals covered the floor of the inundated woods. Even shells of explicitly montane species are not rare occurrences at such times; they have been carried away by the waters and then deposited at enormous distances from their original habitats.

It is not only the fauna that suffers, losses are considerable also in the plant kingdom in the wake of a prolonged flood.

My studies became centred on the eggs of land snails, and I have attempted to investigate their means of surviving floods and the effects of high waters on them.

I have collected many hundreds of eggs of *Helix pomatia* L. in May and June, from various points of the inundation area. I chose this method of obtaining eggs as I would have been unable to acquire a suitable amount from animals bred in terraria. *Helix pomatia* L. is one of the commonest and also the biggest land snail of the inundation area. It reaches maturity only after several years of development; to keep it in terraria is rather difficult, requiring great care. The eggs are relatively large, and thus easy to handle.

Several authors have discussed the oviposition and the eggs of *Helix pomatia* L.. C. Pfeiffer and Hazay have mentioned that the animal lays a great number of eggs, even ninety on occasion, and they are generally of considerable size. My own observations rather seem to support those of Vásárhelyi, who reported on generally 40-50 eggs being laid by a specimen.

My experiments were twofold. One line of investigation aimed at gaining information on the means by which the eggs may escape destruction by floods, the other concerned the period of submersion in water still allowing survival.

Snail-eggs are light, covered externally by a glutinous material, and they stick loosely to one another. Affected by water, they may float on its surface and stick to the bark of tree trunks or the twigs of bushes. In my opinion, only a fraction of the eggs may escape by this method, since after a certain period of exposure to water they sink to the bottom.

Next I studied the period of time the eggs are able to tolerate submersion in water before suffering grave damage. Accordingly, I set up two parallel experiments and also two series of controls, namely:

I. In the first series of experiments, I left the eggs submerged in water for a different number of days. At first, I lifted eggs out of the water daily, but after a week only once every week. I placed the liberated eggs singly on wet sand

in order to save them from complete desiccation. The sand was kept moist at all times. The experiment lasted for two months, since as commonly experienced, even prolonged floods pass away in about two months.

It was found that eggs kept under water for some days were damaged to a certain extent, but half of them had still hatched. However, subsequent to two weeks, the percentage of hatching decreased, and none hatched after three weeks of immersion in water (see graph). Strikingly, most animals hatched from eggs which had been covered by water for five days. The eggs of the control, kept in a natural habitat, had all hatched.

II. In the course of the second kind of experiment, I left the eggs in a natural environment - one formed in a vessel - and covered them with water. I then removed the water but left the eggs in their place. Humidity was secured by replacing the cover of the vessels, and not as in the first experiment. Thus the eggs remained in their places, immediately near one another during the entire investigation. The results were much better than in the preceding experiment. Eighty per cent of the eggs, kept only for some days under water, had hatched, but those submerged for longer periods - say for two weeks or more - had all perished. All control animals had again hatched. And again, the hatching percentage was best for those animals which had been covered by water for five days (see graph).

There was a shift of about 10-12 days in the hatching of the eggs as related to the control animals.

The individuals hatched per days also showed a strong correlation with the passing of time (I. $r: -0.672$, II. $r: -0.738$). The significance of the correlation, calculated by Student's test, was within the 5 per cent level ($0.05 > P > 0.02$).

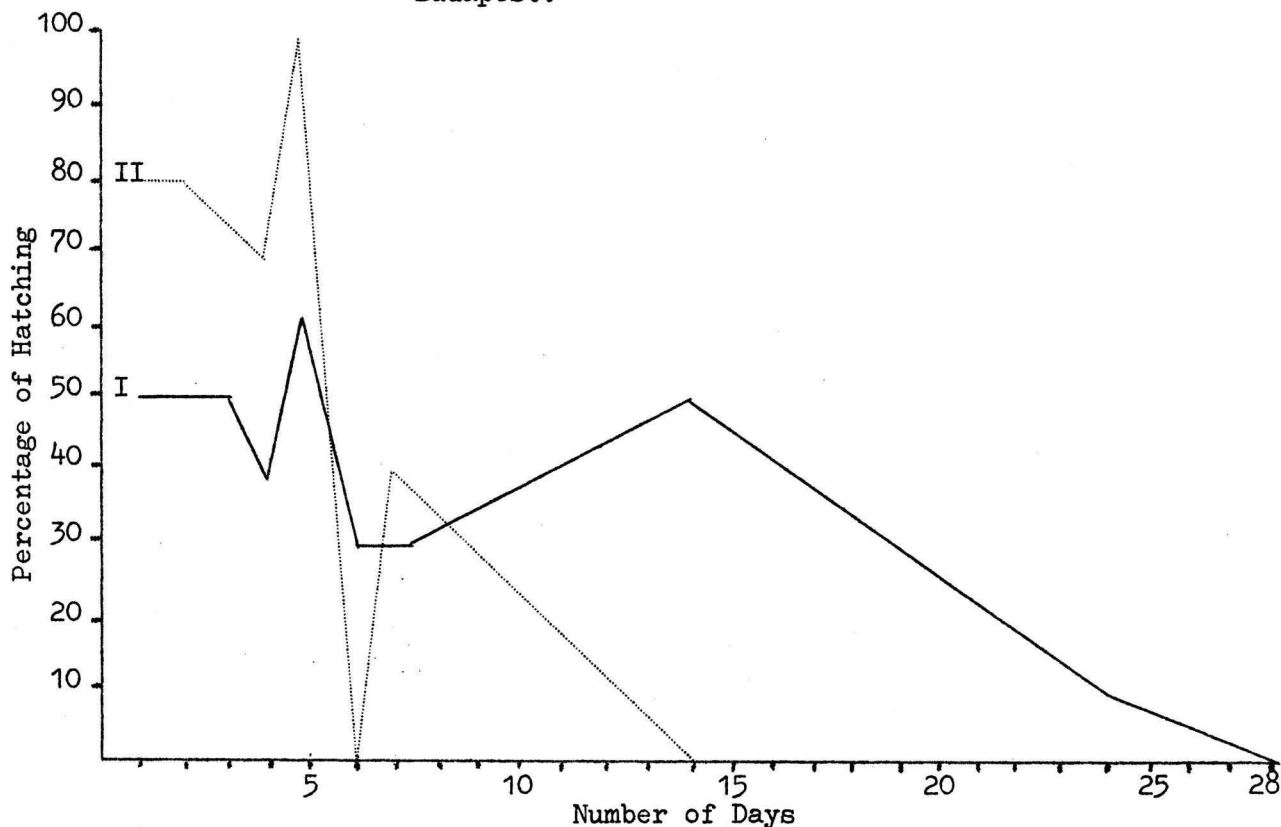
The following inferences may therefore be drawn:

1. the eggs of land snails are unable to survive prolonged floods;
2. submersion in water for 5-6 days, though rather detrimental, can still be tolerated and about 50 per cent of the eggs remain alive;
3. two weeks is the extreme period after which no 'liveable' eggs remain. Thus, prolonged great floods, lasting for a number of weeks, entirely annihilate all eggs laid by land snails.

Dr. A. Richnovszky (Hungary)

Literature:

1. Frömming, E. (1954): *Biologie der mitteleuropäischen Landgastropoden*. Berlin.
2. Vászárhelyi, I. (1965): *Az éticsiga gyűjtéséről*. *Állattani Közl.* LII. 1-4. Budapest.



PLANORBIS VORTICULUS TROSCHEL IN SUFFOLK EAST

Until 1967 the presence of Planorbis vorticulus Troschel has not been confirmed in Suffolk East (v.c. 25). Since then it has been found in two marsh drains on the south side of the Waveney valley, 10 km. Square 62/49, between Oulton Broad and Beccles. Each station is in still or nearly still water.

The first find, on 5th. September 1967, was of a single living specimen on a leaf of Curly Pondweed, Potamogeton crispus L., close to the edge of a drain about 12 ft. wide, at Grid Reference 62/495927 near the river. Associated mollusca were: Viviparus contectus Millet, Bithynia tentaculata (L.), Lymnaea stagnalis (L.), L. peregra (Müller), Planorbis carinatus Müller, P. planorbis (L.), P. vortex (L.), and Sphaerium corneum (L.). As the rest of that afternoon expedition was spent profitably rummaging in a reed bed, no further specimens of P. vorticulus were found.

The second find, by my father (R. A. Long) and myself, on 16th. June 1968, was in a drain running through neglected peaty marshland near the border of the marsh and the valley side at Barnby, Grid Reference 62/475904. The drain is some 6 ft. wide; its edges are being encroached on by Small Bur-reed, Sparganium simplex Withering, which is slowly filling up the drain so that there is only some three feet of clear water in the middle. Water plants noted were Frogbit, Hydrocharis morsus-ranae L., and a pondweed, Potamogeton sp. P. vorticulus was found with Valvata cristata Müller, Bithynia tentaculata (L.), B. leachi (Sheppard), Segmentina nitida (Müller), Sphaerium corneum (L.), and Pisidium milium Held. The gastropod species were all present in numbers among the Sparganium plants and their decaying leaves, about a foot from the edge; on a second visit on 19th. June, one dip with a 5½" diameter scoop here produced 3 V. cristata, 4 B. tentaculata, 8 B. leachi, 2 P. vorticulus, 6 S. nitida, and one Sphaerium corneum. During the first visit four P. vorticulus were found in three uncounted scoopfuls. Their measurements are:

<u>No. of whorls</u>	<u>Height (mm.)</u>	<u>Width (mm.)</u>
4¾	0.7	4.5
4½	0.7	4.5
4¼	0.5	4.0
3¾	0.4	3.0

The two Planorbiid species seemed to be avoiding the very shallow water at the edge, as well as the middle of the drain.

It is interesting that P. vorticulus should occur in at least two different habitats and assemblages in these Suffolk marshes. In both cases its occurrence near the edges of the drains agrees with A. W. Stelfox's findings in Sussex (A. E. Ellis, British Snails, 1926, p.123).

S. nitida has been previously recorded in v.c. 25, but the details are lost (Newsletter No. 20, March 1967, p.138). On 16th. June one specimen was found in a large drain some 800 yds. north of the first find.

The first specimen found of P. vorticulus, the four measured specimens, and three specimens of S. nitida have been placed in the Conchological Society's Voucher Collection.

Thanks are due to Dr. M. P. Kerney for confirming the identification of P. vorticulus, S. nitida and P. milium.

D. C. Long

FIELD MEETING - TO SPEKE AND HALE, S. LANCASHIRE, 6th. APRIL 1968

On a cold sunny April day three members and two friends met to do some recording of non-marine Mollusca on a hitherto unworked "square" (3348) on the fringe of the Merseyside conurbation. Both Speke and Hale lie on the northern shore of the Mersey Estuary and have been greatly built-up in post-war years. Conditions were not favourable for Mollusca (acid soil, suburban conditions and

cold dry weather) but a total of 23 species was obtained from the localities examined (Hunt's Cross railway station, woodland-cum-rubbishdump at Speke Hall, and ponds and a ditch in Green's Bridge Plantation near the Ditton Brook).

The following species were obtained:

<u>Lymnaea truncatula</u> (Müller)	<u>L. peregra</u> (Müller)
<u>Planorbis leucostoma</u> Millet	<u>Segmentina complanata</u> (L.). Shells only.
<u>Aplexa hypnorum</u> (L.)	<u>Cochlicopa lubrica</u> (Müller), s.s.
<u>Helix nemoralis</u> L.	<u>Punctum pygmaeum</u> (Drap.)
<u>Discus rotundatus</u> (Müller)	<u>Hygromia hispida</u> (L.)
<u>Arion intermedius</u> Normand	<u>A. hortensis</u> Férussac
<u>A. circumscriptus</u> Johnston, the form <u>silvaticus</u> , det. A. E. Ellis	
<u>Vitrea contracta</u> (Westerlund), det. M. P. Kerney	<u>Retinella radiatula</u> (Alder)
<u>Oxychilus alliarius</u> (Miller)	<u>R. nitidula</u> (Drap.)
<u>R. pura</u> (Alder)	<u>Agriolimax reticulatus</u> (Müller)
<u>Vitrina pellucida</u> (Müller)	<u>A. laevis</u> (Müller)
<u>Agriolimax caruanae</u> Pollonera	
(the <u>Agriolimax</u> spp. all det. A. E. Ellis).	
<u>Pisidium</u> sp. To be determined.	

Both the Ramsbrook and the Ditton Brook were sampled, but both were foul and yielded no Mollusca.

Nora F. McMillan

FIELD MEETING - TO LEICESTERSHIRE, 27th. APRIL 1968

Twelve members attended this meeting, and were taken to suitable collecting sites in the eastern part of the county by Mr. I. M. Evans of the Leicester Museum. Three 10-kilometre squares were visited (42/79, 42/89, 43/70) and in spite of a general scarcity of freshwater habitats in this corner of Leicestershire about a hundred records new to the mapping scheme were accumulated. The Mollusca of this region have never attracted very much attention. In the following account an asterisk (*) indicates a species new to v.c. 55 (Leicester and Rutland).

We first visited Loddington Reddish (43/770025), an old mixed-oak wood on calcareous Lower Lias Clay, one of the few surviving pieces of ancient woodland in the county. This produced Carychium tridentatum, Cochlicopa lubrica, Marpessa laminata*, Clausilia bidentata, Arianta arbustorum, Helix hortensis, Hygromia liberta, Discus rotundatus, Arion intermedius, A. circumscriptus (agg.) (forms circumscriptus (seg.), silvaticus and fasciatus (seg.)), A. subfuscus, Arion ater (agg.) (probably rufus), Euconulus fulvus, Vitrea crystallina, Oxychilus alliarius, O. helveticus, Retinella pura*, R. nitidula, Vitrina pellucida, Limax cinereoniger*, L. marginatus*, Agriolimax reticulatus, A. laevis and Pisidium personum. Milax budapestensis* occurred on a roadside verge nearby.

Next a pond at Launde Abbey was visited (43/7905). Although the bottom mud was stagnant and anaerobic, a few freshwater species were collected, most notably Bithynia tentaculata, Planorbis carinatus and Acroloxus lacustris. Monacha cantiana was found living by the roadside about 100 yards further east, just in 43/80.

A disused railway cutting (42/7999) $\frac{1}{4}$ mile south of the derelict station at East Norton yielded a land fauna of xerophile character, including Cochlicopa lubricella* (on old brickwork), Vallonia costata, V. excentrica, Cecilioides acicula, Helicella caperata and Vitrea contracta. Shells of Helicella itala were common in grassland in the shallow cutting at the north end of the railway tunnel, but all were well-weathered and probably some years old. H. itala seems to be becoming increasingly local in most inland parts of England, perhaps as a result of the disappearance of suitable short-turfed grassland caused by the scarcity of rabbits and possibly also by the decline of sheep-grazing.

Finally, we visited an old flooded quarry in the Lincolnshire Limestone by Neville Holt Park (42/8192), where some thirty species were found. The ponds contained Potamopyrgus jenkinsi, Lymnaea truncatula, L. peregra, Planorbis crista and Sphaerium lacustre. As elsewhere during the day, Hygromia liberta was common, and H. hispida not found. Helix aspersa, Hygromia striolata, Monacha cantiana and

Discus rotundatus occurred freely, and it is evident that these species, apparently scarce or absent in parts of western Leicestershire (Newsletter No. 22, September 1967, p.18), become frequent in the Jurassic country to the east.

M. P. Kerney

FIELD MEETING - TO FAIRHAVEN AND MARTON MERE, LANCASHIRE, 11th. MAY 1968

The party consisted of seven members and one visitor and was led by Rev. Bain of St. Annes-on-Sea and Mr. Dennison of Blackpool. Fairhaven is a small area of the Fylde Coast and lies between Lytham and St. Annes-on-Sea. A wide variety of mollusca from a wide area is swept by the current of the water on to this particular beach. After a storm the tide has been known to leave living and dead specimens several inches deep at the high tide water mark.

In just over an hour the following goodly list of specimens were collected:-

Gastropods

<u>Calliostoma zizyphinum</u> (L.)	<u>Gibbula cineraria</u> (L.)
<u>Littorina littorea</u> (L.)	<u>L. littoralis</u> (L.)
<u>Hydrobia ulvae</u> (Pennant)	<u>Turritella communis</u> Risso
<u>Chrysallida indistincta</u> (Montagu)	<u>Clathrus clathrus</u> (L.)
<u>C. turtonis</u> (Turton)	<u>Aporrhais pes-pelecani</u> (L.)
<u>Natica catena</u> (da Costa)	<u>N. poliana</u> Chiaje
<u>Nucella lapillus</u> (L.)	<u>Ocenebra erinacea</u> (L.)
<u>Colus gracilis</u> (da Costa)	<u>Neptunea antiqua</u> (L.)
<u>Nassarius incrassatus</u> (Strom)	<u>Acteon tormatilis</u> (L.)
<u>Philine aperta</u> (L.)	

Bivalves

<u>Mytilus edulis</u> L.	<u>Ostrea edulis</u> L.
<u>Mysella bidentata</u> (Montagu)	<u>Cyprina islandica</u> (L.)
<u>Cardium echinatum</u> L.	<u>C. edule</u> L.
<u>Venus striatula</u> (da Costa)	<u>Donax vittatus</u> (da Costa)
<u>Tellina tenuis</u> da Costa	<u>T. fabula</u> Gmelin
<u>Macoma balthica</u> (L.)	<u>Scrobicularia plana</u> (da Costa)
<u>Abra alba</u> (W. Wood)	<u>Pharus legumen</u> (L.)
<u>Ensis ensis</u> (L.)	<u>E. phaxoides</u> van Urk
<u>E. arcuatus</u> (Jeffreys)	<u>E. siliqua</u> (L.)
<u>Mactra corallina</u> (L.)	<u>Spisula subtruncata</u> (da Costa)
<u>Mya truncata</u> L.	<u>M. arenaria</u> L.
<u>Corbula gibba</u> (Olivi)	<u>Barnea candida</u> (L.)

All shells only, except Cardium edule and Mya arenaria of which live specimens were taken.

Leaving Fairhaven, the party then proceeded to Marton Mere (Blackpool), an area renowned to the botanist and ornithologist. But the mere proved rather disappointingly barren of mollusca although a few interesting specimens were found in the surrounding neighbourhood.

A. A. Bain

FIELD MEETING - TO FAVERSHAM, KENT, 8th. AUGUST 1968

Some fifteen people attended this meeting which was held jointly with the Kent Field Club. The weather conditions were ideal and an enjoyable and most profitable day was had by all. The morning was spent along Faversham Creek in square 61/06 which apart from the tidal saltings provided other habitats such as waste ground, brackish fleets and a slow-running fresh water stream. The following species were recorded:-

<u>Valvata cristata</u> Müller	<u>V. piscinalis</u> (Müller)
<u>Hydrobia ulvae</u> (Pennant)	<u>Potamopyrgus jenkinsi</u> (Smith)
<u>Bithynia tentaculata</u> (Linn.)	<u>Assiminea grayana</u> Fleming
<u>Phytia myosotis</u> (Draparnaud)	<u>Lymnaea palustris</u> (Müller)

L. peregra (Müller)
Planorbis carinatus Müller
P. vortex (Linn.)
P. contortus (Linn.)
Cochlicopa lubrica (Müller)
Vertigo pygmaea (Draparnaud)
V. excentrica Sterki
Helix hortensis Müller
Hygromia striolata (Pfeiffer)
Monacha cantiana (Montagu)
H. virgata (da Costa)
Arion intermedius Normand
A. hortensis Férussac
Oxychilus cellarius (Müller)
Retinella nitidula (Draparnaud)
Milax sowerbyi (Férussac)
Sphaerium corneum (Linn.)
Pisidium casertanum (Poli)
P. nitidum Jenyns

Physa fontinalis (Linn.)
P. planorbis (Linn.)
P. albus Müller
Succinea pfeifferi Rossmassler
C. lubricella (Porro)
Vallonia costata (Müller)
Clausilia bidentata (Strom)
H. aspersa Müller
H. hispida (Linn.)
Helicella caperata (Montagu)
Discus rotundatus (Müller)
A. circumscriptus agg.
A. ater agg.
O. helveticus (Blum)
Vitrina pellucida (Müller)
Agriolimax reticulatus (Müller)
S. lacustre (Müller)
P. subtruncatum Malm

After lunch it was decided to try a different habitat in another square, so the party packed into the three available cars and drove to Godmersham in square 61/05. Here a small wood, roadsides and the river were explored and the following species recorded:-

Valvata cristata Müller
Pomatias elegans (Müller)
Bithynia tentaculata (Linn.)
Carychium tridentatum (Risso)
L. peregra (Müller)
Planorbis carinatus Müller
P. vortex (Linn.)
Segmentina complanata (Linn.)
Succinea pfeifferi Rossmassler
C. lubricella (Porro)
Vallonia costata (Müller)
Ena obscura (Müller)
Helix nemoralis Linn.
Hygromia striolata (Pfeiffer)
Monacha cantiana (Montagu)
Punctum pygmaeum (Draparnaud)
Arion intermedius Normand
A. hortensis Férussac
Vitrea crystallina (Müller)
Oxychilus draparnaldi (Beck)
O. helveticus (Blum)
R. nitidula (Draparnaud)
Agriolimax reticulatus (Müller)
Anodonta anatina (Linn.)
Pisidium casertanum (Poli)
P. subtruncatum Malm
P. nitidum Jenyns

V. piscinalis (Müller)
Potamopyrgus jenkinsi (Smith)
B. leachi (Sheppard)
Lymnaea stagnalis (Linn.)
Physa fontinalis (Linn.)
P. planorbis (Linn.)
P. albus Müller
Ancylus fluviatilis Müller
Cochlicopa lubrica (Müller)
Acanthinula aculeata (Müller)
V. excentrica Sterki
Clausilia bidentata (Strom)
H. aspersa Müller
H. hispida (Linn.)
Helicella virgata (da Costa)
Discus rotundatus (Müller)
A. circumscriptus agg.
A. ater agg.
V. contracta (Westerlund)
O. cellarius (Müller)
Retinella pura (Alder)
Vitrina pellucida (Müller)
A. laevis (Müller)
Sphaerium corneum (Linn.)
P. milium Held
P. henslowanum (Sheppard)
P. pulchellum Jenyns

We are grateful to Dr. M. P. Kerney for the determination of the species of Pisidium and for the checking of the other species in the field.

The day finished with a quick look at the mud flats at Seasalter and a rather unsuccessful search through Whitstable for a restaurant to provide some tea.

Eric Philp

PUBLICATIONS RECEIVED

Poirieria, Vol. 4, Part 3 (March 1968).

Although a duplicated publication, the illustrations maintain an unusually high standard and contribute notably to the usefulness of the articles. J. Marston records the New Zealand Paryphantidae, including types, personally

examined in the Naturhistorisches Museum, Vienna. Norman Douglas contributes notes on Cominella, Risellopsis and Cabestana and F. Climo describes the observation of egg capsules with well-developed embryos in the spire of dead Fectola spp. As these capsules were too large to pass the aperture, this poses the query whether the snails died through being egg-bound.

B. Elliott writes on the egg-laying habits of Alcithoe and Norman Gardner reviews the genus Cuspidaria in New Zealand. Also included are locality lists for various small snails, a note on Sabia wattae Powell 1958, and one on Marinula in New Zealand.

Editors: N. and N. Gardner, Conchology Section, Auckland Institute and Museum.

Circular No. 96 (May 1968), Conchological Society of Southern Africa.

The Society covers an enormous area and is therefore loosely organised into a number of local groups, all of which contribute notes to the Circular.

General comments include a record of the known specimens of Cypraeovula algoensis Gray by Prof. F. A. Schilder, the find of a Cassis rufa on the Ciskei Coast, and a note on Bursa both by D. H. Kennelly; quoted examples of Cypraea with Crepidula attached, by P. Elston, and a sinistral Marginella ornata, probably the only specimen known, recorded from Kwelega, twenty miles from East London.

Secretary/Treasurer: Mrs. L. Kerr, [REDACTED], Kenilworth, Cape.

T.E.C.

GENERAL NOTES

A Preliminary Survey of the Magilligan Area, compiled by the Route Naturalists' Field Club, 1966.

This is a duplicated 32 page production dealing with a most interesting area of Northern Ireland. Pages 10-32 deal with biological matters, and on pp. 18-20 is a list of 79 species of marine Mollusca, mostly quite well-known species. Three of the species seem doubtful, Cirsotrema commutatum (no doubt a slip for Clathrus clathrus), Amauropsis islandica, and Venerupis decussata. The last-named is very rare as a Recent species in N. E. Ireland. No reference is made to earlier records for the area.

Price 5/- post free, obtainable from J. Donaldson, [REDACTED], Bushmills, Co. Antrim, Northern Ireland.

(from Nora F. McMillan)

Maurus Jokai, 1825-1904, Hungarian novelist. "Had a fine collection of shells, which....inspired him to write a short novel, little known to the public, The Story of the Snails." L. Soós, 1940, Hungarian Quarterly, Vol. 6, p. 370.

"The Elegant Cyclostome. Almost unknown in many counties in England, the chalk region of Sussex has abundance of a land shell called quite rightly 'The Elegant Cyclostome'. A pretty shell it certainly is, like a tiny whelk in shape, and when fresh the tip is of a mauve or pinkish hue. It is more often seen dead than alive, for shells are of a strangely imperishable nature, and the food supplies of our extremely remote ancestors are known by the shells left in prehistoric kitchen middens. When the little soft mollusc like the cyclostome dies, its house may remain for many years unless crushed by a passing foot. If on a dewy evening you see snails out for a walk you will find this species has a distinct advantage over "other snails". These can only retreat into the houses, leaving a soft surface exposed, but the cyclostome has a trap door which it can close with a snap, and be perfectly safe from intruders. This is a round disc of horn-like substance, called an operculon, which is turned back out of the way when the snail crawls over the herbage. A gentleman riding over the Downs noticed that his horse started as a humble bee of the largest species blundered against it and fell to the ground. There was something unusual in its action, and the rider, being a naturalist, alighted and found that the bee was encumbered with the weight of an 'Elegant Cyclostome.' Crawling on the bank it had rudely put its foot into the snail's front door, which had slammed and kept the leg prisoner! It was not till the

quiet and damp of evening that the pressure relaxed and the humble bee was released. The snail had been carried far from its native bank by its captive."

Sussex Daily News, 12 July 1929.

(from A. E. Ellis)

TAIWAN - NEW FRONTIER OF RARE SHELLS

Most collectors hear so much about dredging and collecting in Tosa Bay, Japan and the Philippine Islands for shells, that Taiwan is a small forgotten island in between. I know it never occurred to me that any worthwhile specimens came from Taiwan until I visited Mr. Teramachi in 1960. He had several beautiful species dredged off the southern tip of Taiwan and Formosa Strait, including Cypraea pulchella Swainson, Voluta runestis Gmelin, Conus urashimanus Kuroda and Ito, Latiaxas gyratus Wood, and a beautiful 4" unnamed species of Voluta (later named Kurodai Kawamura 1964; see H.S.N. #59).

I learned that all these shells came from a Mr. Kawamura in Tokyo, Japan. When I visited him the following year I saw these and many more beautiful shells and found out they came from a Mr. Lin in Taiwan, who had become a good friend of Mr. Kawamura during and after World War II. At this time there were few fishing boats saving the dredged shells from their nets. But in 1964 several merchants in Taiwan became interested in selling specimen shells and started sending out price lists. When I wrote them I found that Mr. Lin was their founder and instructor on what shells to save and how to clean them.

As I was interested in obtaining some of Taiwan's rare and beautiful specimens, I sent coloured photos of the most interesting ones to these dealers. At first only common items were available, like: Conus pseudosulatus Nomura, and Baryspira mammella Sowerby. But soon scarce types like the Cypraea pulchella, Conus urashimanus, Callistoma formosense, and Tibia martini were coming in. Finally in late 1966 I heard about a Voluta kurodai being available. This was the third known specimen and I believe it is in Cate's or Weaver's collection now. I recently received the fourth known specimen of this beautiful species. Shortly thereafter, I also obtained a Murex alabaster Reeve; (see H.S.N. #86 page 7) and now there must be 20-30 specimens found, so the dredging boats must be working overtime on shells these days!

There are about 10 dealers in Taiwan now and on one recent list I found Cypraea hirasei Roberts and langfordi Kuroda which are an interesting link for these species that have only been collected in Tosa Bay, Japan and Cape Morton, Australia areas to date. They were beautiful specimens to be sure with only slight differences in shape and patterns from the types. Possibly Murex lobeckii will be next from Taiwan's treasure house of shells.

Phillip W. Clover

EXCHANGE WANTED

Mr. E. D. Willis, [REDACTED], Auckland, C 1, New Zealand, would like to exchange shells with members of the Society.

SHELLS FOR SALE

Browse in baskets full of shells from all parts of the world - at Eaton's Shell Shop, 16 Manette Street, off Charing Cross Road, London, W.1. (Tel. GERrard 9391).

FOR EXCHANGE

A number of conchological books, including several on British molluscs. I am willing to exchange any of these for books by CHARLES DARWIN published in his lifetime (he died 1882). Please write stating condition, date and publisher of book(s) and nature of conchological books wanted. S. P. Dance, National Museum of Wales, Cardiff CF1 3NP.

ANY OFFERS?

Small cabinet, 14" x 13" x 9" deep. 4 drawers, top opens on hinge. Some veneer damaged. Originally the property of Dr. H. E. Quick. Small donation to the Society, recipient to collect. H. E. J. Biggs, [REDACTED], Bromley, Kent. Telephone [REDACTED].

PRELIMINARY NOTICE

It is proposed to hold a second joint meeting of The Conchological Society and The Malacological Society in the British Museum (Natural History), Cromwell Road, London, S.W.7., on Saturday 26th. April 1969. A detailed programme will be announced in due course and this should include many varied exhibits, interesting illustrated talks and time for general discussion and meetings between members of both Societies.

10-KILOMETRE SQUARE MAPPING SCHEME FOR NON-MARINE MOLLUSCA

Recording in Ireland: Important Notice.

When mapping in Ireland, it has been decided in future to use the Irish National Grid, not the British Grid extension as hitherto. The Irish Grid is marked on all modern Irish ordnance maps, perhaps most conveniently on the $\frac{1}{2}$ -inch to the mile series, 25 sheets of which cover Ireland. The 10-kilometre squares are specified by a letter and two figures: e.g., Cork lies in square W 6--7--. It is hoped that the adoption of this grid will stimulate interest in fieldwork in Ireland, as hitherto the need for specially gridded maps has undoubtedly been a discouraging factor.

M. P. Kerney

CHRISTMAS 1968

In sending the customary greetings and good wishes to all readers, the compiler would like to take this opportunity to thank all those who have provided contributions to the Newsletter during the past year; with a special word of appreciation for Messrs. T. E. Crowley and A. E. Ellis for their regular supply of items and their continued help.

It is hoped that many articles, notes, reports on field meetings and general news items will be forthcoming in 1969.

FIELD MEETINGS 1969

Members who wish to receive Field Meeting Circulars in 1969, are reminded that a fee of 5/- is payable in January to cover cost and postage.

Payment should be made to the Field Meetings Organiser, Mr. T. Pain, [REDACTED], Millbank, London, S.W.1., and NOT to the Honorary Treasurer.

Produced by THE CONCHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

COWRIES IN ADEN AND AFRICA

Both Cypraea tigris L. and C. pantherina Sol. are recorded by most authors from Aden. Indeed Joyce Allan spoke of seeing 'quantities of P. pantherina on sale at Aden'. Having been led to expect that they would occur commonly it was disappointing to find the reverse was the case. Careful collecting, over a period of a year, from the littoral zone down to 20 or 30 feet - assisted intermittently by half a dozen sub-Aqua Club divers - brought to light less than a dozen specimens of tigrina and no examples of pantherina. Similarly, though the Pleistocene sands and the Raised Beach deposits were carefully collected, only a few examples of tigris and no examples of fossil pantherina were found. The live examples of tigris were large, heavily marked, dark specimens.

The search for pantherina was carried into local shops and eventually a few examples were found, but the shopkeepers seemed not to know where they came from and were unable to get more. These seemed to be 'leftovers' from the days when tourists were less sophisticated. In 1966 tourists only wanted cameras and radio sets...

In a fairly recent paper by Schilder hybrids between tigris and pantherina were described from Aden. C. tigris and the supposed hybrids were recorded from Tarshyne, if my memory is correct, but pantherina was not properly localised, being said to come from the far outskirts of Aden. It has not been possible to contact the collector, Mr. Lander, to confirm the locality. It seems difficult to imagine how hybrids of the two species could occur unless both lived in the same locality.

All the specimens of pantherina in the British Museum (Natural History) were examined but though several were labelled 'Aden' no further details of locality were included. A word here on the use of the name "Aden" on labels. "Aden" is actually the Arab name for the town referred to by the British as Crater. "Aden Colony" comprised the two promontories of "Aden" and "Little Aden" with a narrow strip of sandy coast between, in all some 75 square miles. So far there seem to be no authentic records of pantherina from this area and tigris is quite rare. More loosely the name may also have been used for the Aden Protectorate and as this administered islands in the Red Sea, Perim Island, etc., the area is considerably enlarged. Finally the Gulf of Aden can include parts of the coast of Somalia and a much greater area.

In 1966 there were a few Arabs selling shells and corals on the beaches, etc., but many of the shells offered were never collected locally, i.e. the large haliotids. Some of these were said to come from Zinjibar but others undoubtedly came from the Somali coast or from the Red Sea, brought by fishermen and coastal dhows. Conchologists would do well to be very wary of the localities given by these pedlars. When asked where the shells came from they usually gestured vaguely and said "Min al b'har" (From the sea). Often the locality was adjusted to suit the customer; if the vendor suspected you wanted local shells then all his specimens came from the nearest bay; if he suspected more exotic shells were wanted then they were brought "long way by my friend from Somalia". Often, when the shells really were local, the seller would be loath to reveal the exact finding place in case his market was affected.

It is possible that many of the shells labelled "Aden", especially the large cowries, were brought by dhows from the Red Sea or elsewhere and

sold to tourists, especially in pre-War days. One wonders how many shells in old collections were bought from natives and traders in the same way, and have since been used as a basis for work on distribution, etc..

The account of cowry shells used as counters in Newsletter No. 25, p. 51, was interesting. I have before me strings of C. annulus made into necklaces and sold in 1966 in Mombasa for only one East African shilling each by street traders who toured the cafes. The shells have the back broken open, and through this passes a length of fibre. Three rows of shells are plaited so that the broken sides are hidden. The description of the Mogadishu shells seems to agree well with C. annulus and breaking of the shells would provide material exactly like that used in the necklaces.

The Somalis of Fuma certainly seem to have found annulus easier to clean than I ever did! A retracted cowry was almost impossible to eject through the opening. May I cast some doubt that these shells were intended for Ethiopia, especially by the route indicated? A glance at the map shows much more direct ways of reaching that country than by going so far south to Zanzibar. Could this possibly have been Zinjibar on the South Arabian coast? From there to Aden would be far more likely. In any case I would imagine the shells were traded up and down the coast wherever tourists would buy them, or wherever they are used as ornaments. Small cowries on strings are used both for personal ornamentation and also on the trappings of camels, etc., and it is hard to see how the broken shells could have been used as counters.

So little interest was shown by local people in Aden that we could not find an Arabic name for shells, and had to use a word used for all insects and small creatures in general! Incidentally I would be pleased to hear from any members who have any further information on C. pantherina in "Aden".

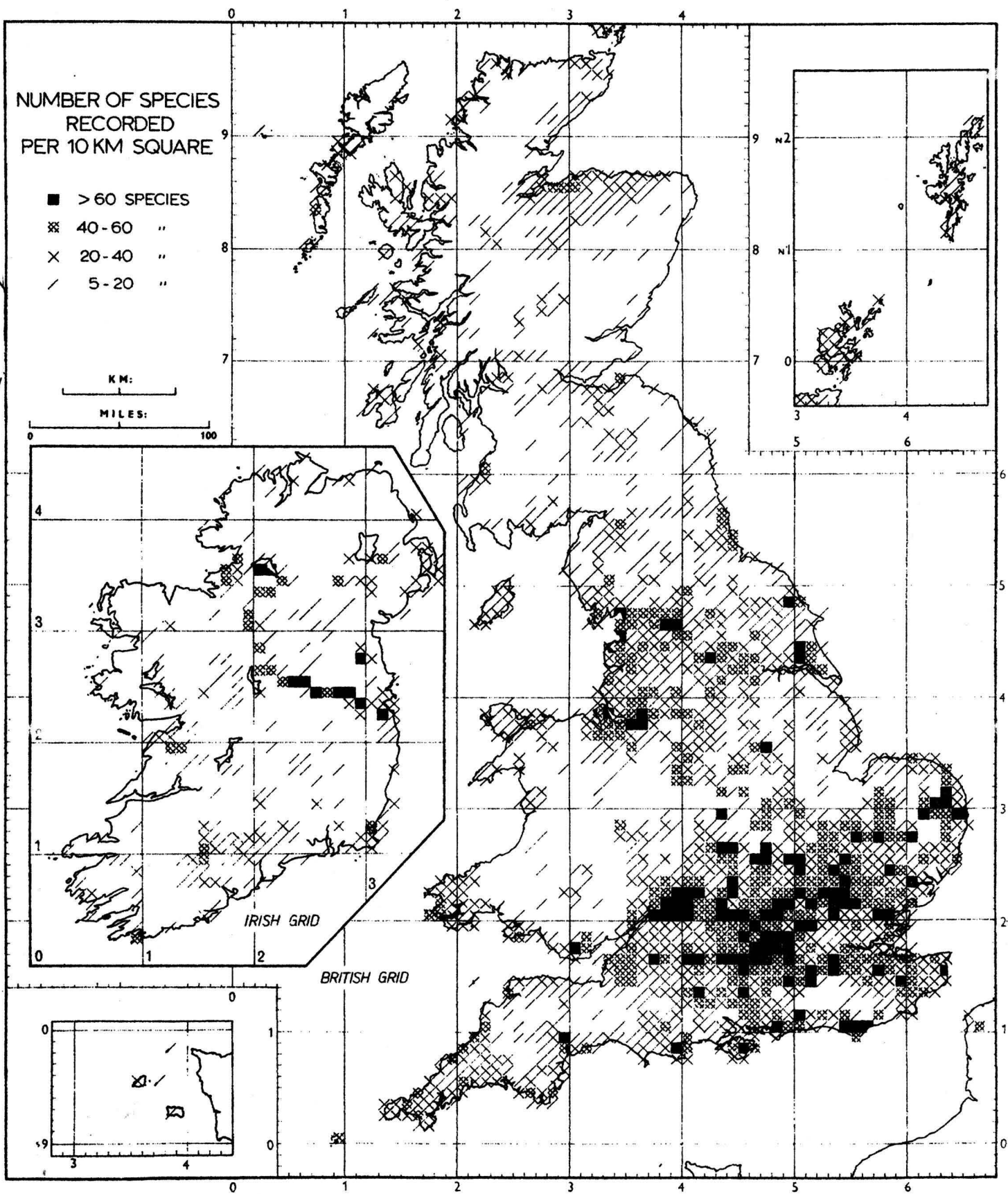
P. Cambridge

10-KILOMETRE SQUARE RECORDING SCHEME FOR NON-MARINE MOLLUSCA

About 13,000 new 10-kilometre square species records have been incorporated during 1968, bringing the total up to about 46,000. Progress therefore remains reasonably satisfactory, although once again it is lowland England that has received the most attention (see map). Wales and Scotland remain very poorly covered, and the progress in Ireland is attributable mainly to a Conchological Society expedition in April 1968, and to a visit by Mrs. Marjorie Fogan in July 1968.

Although a scheme of this kind can never be said to be 'complete', coverage may be regarded as adequate when about 60% of the species which may reasonably be expected to live in any particular 10-kilometre square have actually been recorded. In most lowland areas this means in practice between about 40 and 60 records, the number depending largely on the presence or absence of good freshwater habitats (the very richest squares seem to contain a little over 100 species). Before the preparation of meaningful maps for the commoner species can begin, all moderately calcareous lowland squares should have been recorded at least to the 40 mark. Naturally many areas in the highland zone of Britain and in regions of non-calcareous rock will be a good deal poorer, although it is becoming apparent that there are few squares which will not provide 20 species if one knows where to look.

It would be most desirable to accelerate recording in 1969, and again I appeal for help from anyone who may not yet be participating. A good knowledge of the non-marine Mollusca is not required; I should be glad to receive un-named, localized collections, particularly from the blanker parts of the map. A few hints may be helpful. Since the object of the scheme is to build up as large a species list as possible from a particular 10-kilometre square, a complete range of habitats should ideally be visited: e.g., a river, a wood, a stone wall, a garden, etc.. However, in practice, on a quick visit to an area to which one is unlikely to return, the most profitable strategy is to make for what seems likely to be the richest spot



Map showing the number of species of land and freshwater Mollusca recorded to January 1969 for each 10-kilometre square of the British and Irish National Grids (post-1950 records only)

in the square. Examination of a one-inch ordnance map will often suggest a place. In lowland Britain and Ireland it may be the bank of a canal or slow river, perhaps with adjacent marshes and woodland. In freshwater collecting the list can often be increased by examining flood debris, or heaps of dredged material (the larger mussels otherwise frequently escape notice). It is a good plan also to skim from the bottom and roughly sift in the collecting scoop a quantity of the shelly detritus often present in rivers and lakes. If such siftings are taken away and carefully examined later, many additional small species which might otherwise be missed may be picked out (e.g., Valvata cristata, Planorbis crista, Segmentina complanata, Pisidium, etc.) (I should be glad to be sent bags of such material, sorted or unsorted). Similarly, in woods, it is wasteful of time in the field to search for all the minute species. A bag of leaf litter should be gathered from what seems a 'snaily' spot, and taken away to be sorted or sieved at home. Snails such as Punctum and Acanthinula are much more readily recovered in this way than by special searching.

Remember that the law of diminishing returns quickly sets in once all the commoner species have been found. In a poorly recorded area it is usually more productive to spend a day visiting four squares and list 25 species from each (100 records), than to spend the same time working one square more intensively and find perhaps 50 species as a result. The blanks may be left to others, whose luck may be different (I will send copies of master cards for particular squares on request so that too much duplication may be avoided and obvious gaps in the lists can be filled).

If you are not already taking part in the scheme, please let me hear from you in 1969! Our society has about 330 members in the British Isles, but only 81 of these have contributed, and the great bulk of the work has been done by a quarter of that number. It has been suggested that it would be fitting if an atlas could be published to mark our centenary in 1974; if we are to do so we must increase our rate of progress.

Special Notes

Columella. Two possible species occur in Britain: C. edentula (Draparnaud) (seg.), and a form recently distinguished as C. aspera (H. W. Walden, Arch.Moll. 95 (1966): p.54, figs. 1 & 2). I should be glad to examine Columella sent to me.

Vallonia spp. V. costata and V. excentrica are the two common species. V. pulchella is strongly hygrophilous, and therefore much more local. It should be looked for in marshes, or in very wet grassland, as on the floodplains of rivers. Care should be taken not to confuse V. pulchella with worn or feebly costate examples of V. costata, a common mistake.

Helicella caperata and H. gigaxi (= H. heripensis). The latter species is probably being under-recorded through confusion with the commoner H. caperata. The best illustrations are those in Ellis's British Snails (plate VIII). H. gigaxi differs from H. caperata in its flatter shape, more rapidly expanding whorls, eccentric umbilicus, and closer and more regular striation (at first glance the shell may even appear smooth). Interrupted banding of a pale sandy-brown colour is characteristic.

Arion 'circumscripatus'. Forms with yellowish or reddish (not silver-grey or dark grey) pigment are probably a distinct species (= Arion fasciatus, sensu Walden). Possible examples should be sent for dissection to Mr. A. E. Ellis. This form is not very common in Britain, but has been verified from Kent East, Surrey, Warwick, Stafford, Leicester, York North-west, Shetland, and Louth. It is often synanthropic. Some of the specimens assigned by J. W. Taylor to 'var. neustriaca' of A. circumscripatus (Monograph, 2: p. 232) may be the same.

Pisidium. Please do not ignore Pisidium; I should be glad to name them.

M. P. Kerney, Hon. Recorder for non-marine Mollusca, Dept. of Geology, Imperial College, London, S.W.7.

SHELL LOCALITIES

Not long ago I was given some marine shells collected recently off Christmas Island in the Pacific. When writing the first label I was going to leave out the name of the ocean but fortunately I decided to consult my gazetteer. To my amazement, I discovered two other Christmas Isles: one in the Indian Ocean and the other in the Bras d'Or, Canada! Had I not used the gazetteer my specimens would, of course, have been of little scientific value due to insufficient locality data.

There was the classic error with the locality of Cypraea mus Linné which was perpetuated even up to 1953 by the late J. Allan in "Cowry Shells of World Seas". The confusion arose when Cartagena (Colombia) was mistaken for Cartagena (Spain). Now it is known that the distribution of C. mus is along the coasts of Colombia and Venezuela (two live specimens were collected off the coast of the latter last year) and as far east as Barbados. It is definitely not a Mediterranean species.

While studying a large private collection recently I discovered a shell labelled "off Terranova, Mediterranean". We shall never know whether it was collected off that town in Sardinia or its "namesake" in Sicily! Some more shells in the same collection were localised as "off Mahé". The owner will never be able to prove whether these specimens were collected off the island in the Seychelles or off the Indian west coast town of that name.

Another collector has marine specimens labelled "White Sands, S. Africa". A South African friend tells me that he knows seven localities of that name in his country and thinks there may be even more!

Here are some of the names which have caused trouble in some collections, including my own!

<u>Name</u>	<u>Locality I</u>	<u>Locality II</u>	<u>Locality III</u>
Amboina Island	South China Sea	Molucca Isles	
Cape of Good Hope	South Africa	Dampier Str. New Guinea	
Cape St. Vincent	Madagascar	Portugal	
Cape San Antonio	Argentina	Cuba	
Chatham Island	Pacific Ocean	Galapagos Archipelago	
Gambier Isles	S. Australia	Canada	S. Pacific near the Tuomotus
Lord Hood Island	Tuamotu Arch.	Galapagos Archipelago	
Mahé	Island in the Seychelles	Coastal town, Western India	
Port Albert	N. Zealand	Victoria, Australia	
Port Essington	British Columbia	North Australia	
Port Weld	Perak, Malaya	W. Australia	
St. Joseph Island	Texas, U.S.A.	Ontario, Canada	
St. Mary Island	Quebec	West Coast of India	
St. Paul Island	Nova Scotia	Indian Ocean	N. Atlantic Ocean
St. Thomas Island	G. of Guinea, W. Africa	Virgin Isles	
St. Vincent Island	Florida, U.S.A.	Windward Islands	
Santa Catalina Island	California	Mexico	
Santa Maria Island	Azores	Galapagos Archipelago	
Terranova	Coastal town, Sardinia	Coastal town, Sicily	

Space does not permit a lengthy list but even this short one shows some confusing localities, half of which are named after saints.

Incidentally, junior members may not realise that many public libraries contain a gazetteer in their reference department. These books are far more comprehensive and helpful than the index at the back of the school atlas. The largest gazetteer I know states that it contains 345,000 world place names. Unfortunately its price is ten pounds!

E. C. Badcock

The area of coast to which these notes refer, is a section from the Keiskamma River in the South, to the Umtata River in the North, and readers should - if possible - have access to a good map of South Africa for a better understanding of these notes.

Within the limits mentioned, the nature of the foreshore varies considerably. There are stretches of sandy beach, sandy beaches with more or less flat reefs exposed at low water, and places where the foreshore consists of water-worn rocks of all sizes.

Frequently where these water-worn rocks abound, the adjacent land is very precipitous, and the shore is inaccessible to even the most enthusiastic collector or naturalist.

Another feature of this part of the coast between the Keiskamma River and the Umtata River, is the number of rivers - about 14 or 15 in all. Of these rivers there are three only which are found open to the sea - other than the Buffalo River which is tidal, and where the Port and City of East London is situated. The remainder are all barred at the mouth by heavy sand banks, which are open only when heavy rains occur and the rivers come down in flood.

Such is an overall picture of about 140-150 miles of coast, with which these notes are concerned, and without considering East London, there are some thirty odd localities which the collector is able to visit by car on good gravel roads and where he can find shells. Of these collecting localities, about a dozen are either small villages, or have holiday huts available. The remainder are just camping grounds all of which are fully occupied during the summer with visitors living in tents or caravans.

The Families of Mollusca (Marine and Estuarine) recorded as known to be present in South Africa, number 203 (Day, 1962), and up to 1967 the East London Museum has recorded 66 Families represented as living within the area covered by these notes.

This investigation of the Mollusca on this particular part of the coast is continuing, and it may be added that the work received, and is still receiving much assistance from members of the Conchological Society of Southern Africa. The formation and subsequent expansion of this Society has done a great deal to boost shell collecting since 1958, and has greatly assisted the man in charge of the East London Museum's Conchological Department.

Apart from the ever-present possibility of finding a new species, there is much of interest - and importance - in tracing the range of Indo-Pacific species from the Natal coast to the South. For example, the well known Cypraea caputserpentis, Linné., was found living at Nahoon - barely five miles from the harbour at the mouth of the Buffalo River.

Recording of the range of our well known endemic species is now revealing that only a small number range as far North as Natal, and many seem to reach no further than the Great Kei River, or sometimes further North to the Umtata River.

In general it may be added that the months April to September are best for collecting, and a greater number of species may be found than when collecting from October to March. This has been proved by the persistent collecting of enthusiasts. However, just WHY this should be cannot be answered at present, and is just another of the many problems awaiting investigation.

D. H. Kennelly,
East London, South Africa.

CONFERENCE OF NATIONAL BIOLOGICAL SOCIETIES

Cambridge - 5-6 October 1968

This conference, attended by delegates from 25 national societies and organisations, was held to discuss common problems of mapping and recording plant and animal species.

An important topic was the problem of grid mapping in Ireland. Hitherto the Biological Record Centre has employed an extension of the British National Grid, and not the Irish Grid. However, the machinery for map production is shortly to be replaced, and a more sophisticated plotter is to be acquired which will be capable of utilizing information made on the basis of either grid. Because of the practical advantages of using the Irish Grid, which is now printed on all Irish ordnance maps, the Biological Record Centre recommends its adoption for recording purposes. Nearly all societies concerned with distribution mapping, including our own, have agreed to this proposal.

The future of the vice-county system was also discussed. If this system is to remain workable, it is important that the original Watsonian divisions are rigorously adhered to, not the present administrative divisions which are often markedly different. The Ray Society is to publish this winter maps prepared by Mr. J. E. Dandy accurately showing Watson's divisions. The vice-county system will remain important because of the great bulk of past information collected on this basis, but for the future Dr. J. G. Dony proposed that a system based on the 50-kilometre squares of the National Grid would be more workable and would perform an equivalent function where it is desired to show broad geographical ranges only.

As a general policy it was agreed that deliberate introductions of plants or animals were to be discouraged, unless under controlled experimental conditions and with full documentation.

The acquisition and storage of information about rare species was also discussed. The Biological Record Centre would appear to be the appropriate repository for information of this kind, so that action could be taken quickly when sites of special scientific interest were threatened.

The interesting idea was raised that joint recording meetings between societies might be held in under-recorded or poorly accessible areas. In this way the expense of, for example, hiring a boat in order to visit a remote island, might be minimised. Specialists in different subjects would also be brought together to their mutual benefit.

In view of the success of this conference it was agreed to hold a further similar two-day meeting in October 1969.

M. P. Kerney

FIELD MEETING - TO NORTHAMPTONSHIRE, 22nd. SEPTEMBER 1968

This meeting, held jointly with the Northamptonshire Natural History Society, was attended by six members from our own Society. The use of a coach made it possible to visit scattered localities south and south-west of Northampton in 10-kilometre squares 42/65, 42/74 and 42/75, and about 130 new records for these squares were accumulated.

The first stop was a quarry in the Great Oolite Series at Roade (42/755511). The *Helicellas* were here much in evidence on the grassy banks of limestone waste: *Helicella caperata* and *H. virgata* were common, with smaller numbers of *H. gigaxi*, and a few freshly-dead shells of *H. itala*. Other characteristic species of this habitat were *Cochlicopa lubricella* (new to Northants), *Lauria cylindracea*, *Vallonia costata*, *V. excentrica*, *Hygromia striolata* and *Monacha cantiana*. The anthrophiles *Oxychilus draparnaldi* and *Milax budapestensis* were also noted. The commonest zonitid was *Oxychilus helveticus*. Typical *Hygromia hispida* was not

found, but well-characterised examples of the rather nebulous Midland form Hygromia liberta were common.

Next we visited the Grand Union Canal at Stoke Bruerne, collecting from the canal and its banks mainly between the upper and lower sets of locks, near the road bridge (42/743497). It was about here that in 1917 Charles Oldham found the rare Pisidium tenuilineatum, associated with P. supinum and P. moitessierianum. However, of these only P. supinum was found on this occasion. Greatly thickened examples of P. casertanum (var. ponderosa Stelfox) and P. nitidum (var. crassa Stelfox) also occurred. Several characteristic 'canal' species were noted: e.g., Bithynia leachi, Lymnaea auricularia, Sphaerium rivicola and Dreissena polymorpha; and Theodoxus fluviatilis occurred a few hundred yards further north, near the entrance to the Blisworth Tunnel (42/740501). Curiously enough, Viviparus is apparently absent, since a careful search among bottom-dredgings on the canal bank failed to reveal it.

Among the land Mollusca the most interesting find was Pupilla muscorum living under dry grass and moss on the stonework of the upper lock. Altogether we were able to list 49 species for square 42/74.

The next stop was on the same canal one mile SW. of Bugbrooke (42/684563). Theodoxus fluviatilis and Dreissena polymorpha were here living abundantly on the stonework, but very few other freshwater species could be found, presumably owing to the depth of water and virtual absence of weed. On the grassy canal bank a typical example of Hygromia hispida was found in immediate association with typical H. liberta, an unusual occurrence suggesting that the latter is perhaps more than just a geographical subspecies of the former.

The River Nene at Kislingbury Bridge (42/699598) produced a good freshwater list, including a fine series of Pisidium. Living examples of P. amnicum, P. milium, P. subtruncatum, P. henslowanum and P. nitidum were recorded, and in addition dead shells of P. casertanum var. ponderosum, P. supinum and P. moitessierianum, presumably drifted from habitats further upstream. Three valves of P. tenuilineatum were also detected (this species was found by Oldham in 1917 in the Grand Union Canal near Rothersthorpe, about three miles to the south). A bag of flood debris from the river yielded a number of terrestrial species which we failed otherwise to discover on the banks, notably Vertigo pygmaea, Vallonia pulchella and Cecilioides acicula.

Throughout the day it was interesting to observe that Monacha cantiana is apparently frequent around Northampton, as this species becomes quite rare in the Midland plain further to the north-west.

The afternoon ended at the Humfrey Rooms, the headquarters of the Northamptonshire Natural History Society, where we were entertained to tea and shown the Society's collections and library. Thanks are due to Mr. G. Osborn and to Mrs. P. List for having organised this most enjoyable meeting in so efficient a manner.

M. P. Kerney

PUBLICATIONS RECEIVED

Circular No. 100 (September 1968). Conchological Society of Southern Africa. Ed. Leila Kerr.

As is fitting, the Circular reviews the progress of the Society since the issue of Circular No. 1 (two pages) announcing the foundation of the Society in May 1958. The Society, writes D. H. Kennelly, made a very shaky start and depended for its existence on the devoted labours of a few officers. Practically no members joined for a couple of years, and certainly there were no new contributors to the very irregular 'Circular', for some time, but the Society can now look back with pride on its own rapidly increasing momentum. In addition to its headquarters at Capetown it now possesses organised Natal Border and Transvaal Groups and a

comprehensive lending library.

Other articles in the Circular include a check-list of South African Cones and a useful illustrated note on the Pelecypod Hinge by P. H. Boshoff.

Poirieria. Vol. 4, Part 4 (June 1968).

This issue contains some extremely useful articles, all, as usual, excellently illustrated. The first is a survey of the New Zealand Columbariidae, of which there are four species, all of considerable rarity and all dredged from deep water; the most striking of them being Columbarium veridicum, occurring in 300 fathoms off the Poor Knights Islands and described by Dell as recently as 1962. This article was written by N. W. Gardner.

L. Price provides a detailed account of an expedition to New Caledonia to survey the land Mollusca, particularly the interesting and unusual endemic species; one gathers that Placostylus these days is not at all easily collected. J. Goulstone contributes a survey of the Laomidae of the Auckland district, in particular the species of Phrixgnathus, and his approach to the ever-controversial subject of synonymy is so direct and refreshing that one cannot help but retail the gist of it. Pointing out that the resting-place of anything marine and small is almost inevitably the Rissoidae, he tells us that in New Zealand the same thing tends to happen in the case of Laomidae in relation to all small land shells! The group may be classified as follows:

Laoma: anything with swellings or teeth within the aperture.

Paralaoma: anything really microscopic.

Laomereux: one species that doesn't look like anything else.

Phrixgnathus: all the rest.

The Land Snail Fauna of Mount Camel, at the north end of New Zealand, is reviewed by N. W. Gardner, with lists and references; and A. E. Brookes provides a useful set of notes on the Nautilus.

Many Notes of Interest are contributed; and from these we learn that a Malacologist may be defined as a mal-adjusted conchologist!

Editors: N. and N. Gardner.

Association Belge de Malacologie, Conchyliologie et Palaeontologie:
Bulletin Mensuel I-6 (November 1968). (Editor, M. Lucas).

The Bulletin contains a useful note on the synonymy of the Blue Patella of St. Helena: M. J. Christiaens concludes that the correct name is Patella canescens (Gmelin) Reeve, 1855. He adds a good list of references.

Two articles are continued from previous issues: one consists of a French glossary and the other a description, with synonyms, of the molluscs of the Belgian Coast, this particular section dealing with Fissurella. There is a palaeontological 'corner' and a serial article on European Chitons, by M. Lucas, dealing with the subject in considerable detail.

The December issue (I-7) includes a review by Y. Jourdain of methods of deep-sea exploration, and continuations of the very useful serial articles mentioned above, including a review and bibliography of Puncturella.

T.E.C.

Conchiglie da Collezione (1 Documentari 17 dell' Instituto Geografico De Agostini di Novara) by Professor Sergio Angeletti. 1968 (Price, 1000 Lira).

This edition is one of a series which, if they are all of comparable quality, must form a unique collection of books. It consists mainly of a series of photographs of well known tropical marine shells, but also contains a short but very lucid account of the mollusca in its various orders,

with diagrams to explain the build-up of the shell and the functions of the animal. Following this is a collection of 149 plates of shells which, for quality of photography and colour processing can rarely have been equalled and it is certain that the book will be the means of introducing many people to the pastime of shell collecting and, it is hoped, some to the study of malacology. The subjects chosen for the plates are mostly the commoner shells, but in almost every case a superb specimen has been dealt with by the photographer in a way which cannot fail to fascinate; in many plates a dark red background is used, which is curiously but undoubtedly effective. Every plate is accompanied by a short note concerning the species, and insofar as agreement can ever be reached on the subject, the taxonomy appears practically faultless.

It is to be hoped that the work will become readily available in this country.

T.E.C.

GENERAL NOTES

SPIDERS.

The Society takes this opportunity of extending a cordial welcome to the newly formed British Arachnological Society. Apart from a few devoted scientists, spiders have undeservedly been neglected through the years, probably because on the one hand they do not make varied and attractive collections in cabinets, and on the other they make little medical or commercial impact on humanity. Nevertheless, thinking over all the scientific societies which have existed for so very long, it seems strange that spiders and the like should not have been catered for before this year. This gap has now been very effectively filled, and the first issue of the Society's Bulletin has reached me by courtesy of Dr. John Cooke. This opens with a 'Short History' by G. H. Lockett which makes it clear that the Society has not sprung ready armed from the head of Jupiter, but had its origins in the Flatford Mill Spider Group ten years ago, which arose as a result of courses run by the Field Studies Council at the suggestion of the Warden of Flatford Mill. These courses were repeated with such success that those involved expressed a wish to remain in mutual touch, a study group was formed in 1958 and a regular bulletin initiated the following year. Contributions to this were such that the Group's reputation and importance, here and abroad, grew rapidly. An ad hoc committee was formed in 1964, the group became sufficiently well established thereafter to require the drafting of a constitution, and the Group now starts a new phase under a new name. Elementary and advanced courses are available at the field centres; the membership of the Society is predominantly amateur and one of the avowed intentions, with which we may fully concur, is "to keep in personal contact as far as possible and, as amateurs, enjoy each other's company and the great pleasure to be had from the discussion of common interests and activity."

The main articles of the bulletin, not being conchological, will not be reviewed, but there are some practical notes on the construction of a collapsible and easily carried sieve for dealing with leaf litter, a thing useful as much to the shell collector as the spider specialist.

The Society's Hon. Secretary is Mr. D. W. Mackie, [REDACTED], Stockport [REDACTED], Cheshire.

T. E. Crowley

CHRISTMAS.

Although Christmas 1968 may seem a long way back as you read this, it is written in early January to express the appreciation of the Hon. Sec. at receiving Christmas cards from many members. These are taken as conveying good wishes to the Society as well as to him personally.

T.E.C.

Requests for Correspondents and Exchanges.

D. W. Gibbs, 14, member of the Auckland Conchology Society, of [REDACTED], Onekawa, Napier, New Zealand, wishes to exchange New Zealand shells (with detailed locality data) for British species.

Mme. M. Marescot, S.P. [REDACTED] par B.C.M. Paris, France, wishes to exchange Tahitian shells for those of other countries.

Mr. and Mrs. H. Minzak, [REDACTED], San Pedro, California 90731, U.S.A. Collectors of marine shells.

Mrs. D. Doherty, [REDACTED], Quoiba, 7310 Tasmania, Australia. Collects all families (favourites being Voluta, Cypraea and Murex). Will answer all letters and send good specimens.

Mrs. Omar Schilling, [REDACTED], St. Louis, Missouri 63125, U.S.A. Interested in exchanging land and freshwater molluscs. Can offer mussels and univalves from the central portion of the U.S.A.

Mr. Albert Rutherford, [REDACTED], Rockhampton 4700, Queensland, Australia (a member of the Keppel Bay Shell Club) has for exchange Cypraea, cones, volutes, olives, etc., but only wishes to receive Cypraea.

Mrs. Jean Chesteen, [REDACTED], Wilmington, Delaware, U.S.A., wishes to exchange with members, list of bivalves and gastropods on request.

ANNOUNCEMENTS.

Miss J. T. Sawyer, [REDACTED], London, N.W.2., has been co-opted by the Council as Business Secretary. Members requiring back-numbers of the Journal, or wishing to enquire about non-delivery, should in future deal with her direct.

Hon. Sec.

JUNIPER HALL FIELD CENTRE - DORKING - SURREY.

A COURSE ON SLUGS AND SNAILS: 27 August - 3 September 1969
Tutor: June Chatfield, B.Sc. (University of Reading).

WANTED

Mrs. A. Cameron, [REDACTED], Darlington, Durham, requires a bagful of assorted small foreign shells for decorative work - any offers, please?

JUNIOR MEMBERS - ELECTED 16 November 1968.

DIBDEN, Janet, [REDACTED], Woolston, Southampton, [REDACTED].

KILLEEN, Ian J., [REDACTED], Newport, Isle of Wight.

ODDY, Alice Virtue, [REDACTED], Llandegai, Bangor, Caernarvonshire, N.Wales.

- ELECTED 14 December 1968.

HATCHER, Melvin R., [REDACTED], Newport, Isle of Wight.

HOW TO COOK SNAILS - AND OTHER MOLLUSCS.

Apropos of Mr. A. E. Ellis' excerpt from the Yorkshire Weekly Post, October 1892, in the September 1968 issue of the "Newsletter", readers may be interested to know of a compendious molluscan cookery book. This is M. S. Lovell's "The Edible Mollusca of Great Britain and Ireland, with Recipes for Cooking them", published by L. Reeve & Co., London, 1884, pp. 310 and 12 coloured plates showing mollusca. (This is the 2nd. edition).

There is, of course, other literature on this subject but Lovell's book, although limited to British species, is, I believe, among the largest

in this field. It covers: Pholadidae, Myadae, Solenidae, Tellinidae, Mactridae, Veneridae, Cyprinidae, Cardiidae, Mytilidae, Aviculidae, Pectinidae, Ostreidae, Patellidae, Haliotidae, Littorinidae, Muricidae, Helicidae, Sepiidae and even Cidaridae ('sea eggs'). For good measure thirteen pages of works consulted in the preparation of the book are included.

A word of warning should be given to anybody wishing to explore the possibilities of molluscan gastronomy: before eating any mollusc be quite sure that it is fresh. I remember being told by the late W. James Wintle* that during an experiment he made to ascertain how many of the British molluscs are edible he ate some fresh-water unios without knowing that they had been dead for some time with the consequence that he had a narrow escape from death by poisoning.

Historical tailpiece. In the 'deaths' column, May 8th. 1961, the "Daily Telegraph" included:- GEORGES GAUDIN. In Brighton, aged 91, Soho restaurateur since 1893; introduced snails to Britain as table delicacy.

Arthur Blok

*Secretary of the Mal. Soc. 1919. For obituary see P.M.S. XXI, Pt. III, p.149, 1934.

INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE. c/o British Museum, (Natural History), Cromwell Road, London, S.W.7. I.T.Z.N. 11.

ANNOUNCEMENT A.(n.s.)82 Required six-month's notice is given on the possible use of plenary powers by the International Commission on Zoological Nomenclature in connection with the following names listed by case number: (see, Bull.zool.Nomencl. 25, pt.2/3, 27 September 1968):

1842. Suppression of Buccinum pustulosum (Lightfoot, 1786) (Gastropoda)

1849. Validation of Tellina obliqua Sowerby, 1817 (Bivalvia)

1858. Type-species for Acteonella d'Orbigny, 1842 (Gastropoda)

A LETTER FROM THE TREASURER

[REDACTED],
Atherton, Manchester [REDACTED]

Dear Members,

The time has now come for me to call your attention to the fact that your Annual Subscriptions for 1969 were due on 1st. January, and to ask that any still outstanding be sent to me. More than 20 Members have not yet paid their Subscriptions for 1968, and they are reminded that if they are a year in arrears they are liable to be removed from the mailing list.

Please bear in mind that the minimum cost in postage for sending a reminder is now 4d. Some of you needed 3 reminders last year, and these added up to quite an expense for the Society. They also involved the expenditure of a good deal of the Treasurer's time; this of course cost the Society nothing - but the Treasurer does have other things to do!

I should also like to mention to the Overseas Members that all money due to the Society is in £ sterling. We do accept foreign cheques, but the cost of conversion is approximately 4s. on each cheque and this is to be borne by the Member; as we are fortunate in having a large number of Overseas Members the aggregate loss to the Society would otherwise be considerable. As an example, in U.S. currency the Annual Subscription of £2 works out at \$5.30.

Perhaps it may be worth repeating for the benefit of new Members that, as an economy measure, receipts are not sent in respect of Subscriptions paid by Cheque or bankers' order.

A form for payment of Annual Subscription by Seven Year Covenant, with a letter of explanation, was circulated with the September issue of the Newsletter. Twenty-two Covenants have been signed, and the Society is grateful to the Members who are helping in this way. As the tax year does not end until the beginning of April there is still time to sign a Covenant which will include your 1969 Subscription (even if you have already paid it) and I shall be happy to send a form to anyone requiring it.

MARJORIE FOGAN
Hon. Treasurer

Produced by THE CONCHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

SOME NOTES CONCERNING CERASTODERMA LAMARCKI (REEVE)

There is considerable interest in Conchological circles in the cockle Cerastoderma (Cardium) lamarcki. In the December 1968 Newsletter, A. Featherstone described a 'lamarcki' site at Wells-next-the-Sea, Norfolk, and suggested ideas for the origin of the habitat. I have been engaged in conducting research into this cockle and have some further ideas concerning the relationship of the common edible cockle Cerastoderma (Cardium) edule Linné to Cerastoderma lamarcki.

The 'C.-edule-lamarcki' genetic complex of cockle exhibits many different shell shapes and some 35 varieties have been described by Mars 1951, and Grossu 1961, especially from the Mediterranean area. Even around our shores, C. edule collected from different sites can often be recognised by their local shell characteristics. Thus Southend cockles can be separated from the River Crouch estuarine C. edule. Weymouth, South Wales and Anglesey cockles are also identifiable by their shell shape. In sites where the environment is particularly 'stressed', e.g. sedimentation tanks of Power Stations, the C. edule respond to the conditions by exhibiting globular 'odd' shaped shells. Therefore C. edule is a very variable species as regards shell shape and is able to produce many 'ecotypic varieties', (environmental types), which should not be confused with specific differences.

However, the two closely related species of cockle C. edule L. and C. lamarcki REEVE can be recognised in British waters. To the inexperienced eye, these two cockles can be very difficult to separate, but if a live specimen is available the problem is eased. When the valves are separated a very obvious internal difference becomes apparent. The digestive gland or liver of C. lamarcki appears as a large, black, globular mass of tissue beneath the anterior region of the hinge. In C. edule the gland is smaller and is coloured a shade of green or brown. In the winter the tissue appears dark green, whilst during the summer months this colour is often changed to a pale brown. The organ is not as discreet or globular in appearance as it is in C. lamarcki. This internal character has proved most useful in the separation of the two cockles from around our coasts. With additional knowledge, of the habitat and shell shape, positive identification is possible by the amateur.

Eisma 1965 regards C. lamarcki simply as a variety of C. edule, while Mars 1951 and Petersen 1958 consider the two cockles as separate species. These conclusions have been drawn from consideration of shell characteristics, which have been fully elucidated by Petersen 1958, Turk 1964 and Tebble 1966. C. lamarcki is elongated posteriorly, has sharp triangular ribs which are visible internally to the umbo and bears a short ligament. C. edule is more or less oval, has flattened ribs and the ligament is long. Viewed internally, the ribs fade out a short distance from the shell periphery.

The lake at Wells, Norfolk, described by Featherstone 1968 is a typical example of what can be regarded as a 'lamarcki' habitat. The qualities of such a site are simply as follows: a stagnant saline lagoon isolated from marine influences. Such sites occur quite frequently around the south-east coast of England, e.g. Brightlingsea boating lake; New England Creek, Foulness; Sheerness boating lake, Sheppey; Widewater, Brighton; Hermitage near Portsmouth; The Fleet at Weymouth, Dorset, to name but a few of the better examples. The lagoon feature of the vast majority

of 'lamarcki' sites must not be regarded as a retrograde step from living on the shore. Within this specialised habitat C. lamarcki is very successful and often grows to a quite large size. However, what is the relationship between C. edule and C. lamarcki?

C. edule occurs all around our shores, typically in truly marine tidal conditions. Occasionally, the species extends sub-littorally and into estuaries, but even in this latter case the overall salinity of the water must be high. This cockle extends southwards along the Atlantic coasts of France and Spain, and northwards to Holland and Denmark. It is also found in the approaches to the Baltic where oceanic effects are still evident, e.g. the Kattegat shores of Sweden and Denmark, Petersen 1968.

C. lamarcki is found in the inner Baltic and the Mediterranean. Both seas have a very small tidal rise and fall, thus the cockles remain permanently submerged in basically still water. The lagoon 'lamarcki' sites found throughout Southern England are miniature versions of these non-tidal seas. The habitat of this 'not-so-common' cockle is not so strange or unusual as first appears.

How can the distribution of C. lamarcki in isolated pools be explained? Featherstone 1968 suggests that C. lamarcki could be a recently evolved form of C. edule. Although C. edule is a very variable species there is not a range from 'edule' type to 'lamarcki' type on the shore, so this explanation is unlikely to be valid. Very occasionally, true C. lamarcki are picked up on the open shore. I have found three such individuals at Whitstable, Kent; Tollesbury, Essex; and at Hermitage near Portsmouth. G. Pickett of Burnham Shellfish Laboratories also found such a specimen at Poole, Dorset. Could the larvae from these isolated individuals spread the species into newly formed pools? The apparent rarity of these individuals would probably discount such a hypothesis. Considering C. lamarcki's Northern European distribution, Petersen, 1958, regards this cockle as a brackish water species. In the very recent geological history of England, brackish water lagoons were probably much more common than they are at the present day. With the advent of sea walls in about the thirteenth century (Grieve, 1959), the number of potential C. lamarcki sites would gradually have become reduced. Greensmith, J.T., and Tucker, E.V., 1969, have located a bed of C. lamarcki shells some two miles inland north of Burnham-on-Sea, Essex. These shells are regarded as a life assemblage and are found in the bank of a modern drainage ditch. The creation of sea defences effectively reduced the number of, and isolated, separate lagoon populations of C. lamarcki.

I suggest that the most rational approach to the question of the occurrence of C. lamarcki round our shore would be to consider the sites we know at present as remnants of a much wider distribution. With the further reduction of suitable 'lamarcki' sites owing to reclamation and fresh water canalisation the 'not-so-common' cockle will I feel in the future become even rarer than it is at present.

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- C. R. Boyden, B.Sc. (Queen Mary College)

FLEET: A BRACKISH WATER HABITAT

In arranging to go to Fleet, Dorset, for a week's holiday, I must confess that I quite forgot the remarks in the Marine Recorder's annual report in February 1968, in which Mrs. Turk appealed for more information about this locality; so conchologically speaking, it was pure coincidence which took us there rather than a spirit of helpfulness. In the upshot, the area proved to have quite a lot of interest.

The Chesil Bank is a magnificent storm beach which stretches seventeen miles from Burton Bradstock to Portland; for most of its length it is about a hundred yards wide and fifty or sixty feet high, composed entirely of pebbles varying in size from that of a pea at the west end to flattened boulders about nine inches across near Portland. The source of the pebbles was a series of ancient drowned river terraces on the Devon and Cornwall coasts.

The Bank leaves the coastline over about half its length, thus enclosing a lagoon which stretches from Abbotsbury to Portland, and varying in width up to about a mile across. It forms a quite unusually stable brackish water environment, not much subject to the introduction of any outside species. The streams entering the lake are few and small, and on the seaward side, the Bank is quite without littoral life. Occasional stray shells undoubtedly get blown or thrown over the Bank from time to time, and we found Littorina littorea, L. littoralis, Crepidula fornicata and cuttlefish pens: all were knocked about however, and there is no evidence that any of them live in the lagoon, the waters of which are scarcely brackish - that is, they may be described as fresh but with a distinctly salty taste. The tide rises and falls between one and two feet, presumably by seepage through the pebble bank, and the lagoon is very shallow, of the order of four to six feet in most places, with a bottom of soft mud. Some sewage effluent enters, but the area is lightly populated.

Apart from blanket-weed, practically the only vegetation seen anywhere was eel grass, Zostera marina and Z. nana, these being the main reason for the existence of the swannery at Abbotsbury, established by the swans themselves prior to the fourteenth century. It was noticeable that on the Bank at points opposite the entry of small streams low bushes had established themselves among the pebbles near the water's edge, and scattered plants such as samphire, sea pink and campion were growing.

As with most brackish localities, molluscan species were few but the numbers of the individuals enormous. The smooth variety tenebrosa of Littorina saxatilis in a confusion of shades and sizes swarmed at the water's edge in hordes, freely mixed with the shells, mostly dead, of Rissoa membranacea* and Abra tenuis, and a few dead or dying specimens of Cardium lamarcki. Of Hydrobia ventrosa, previously reported from the lake, we saw nothing in spite of several days' searching in various spots, although we did not get to the mouths of any of the little streams, at some of which they no doubt occur. The only other mollusc seen was the rather unexpected Akera bullata, living in profusion, but only on the western or seaward side, where it was no doubt better sustained by the saltier water seeping through the Bank. The species was dwelling happily in a few inches

of water, and evidently flourishing, since live examples over an inch long were observed.

*a smooth brackish water form considered a sub-species by Winckworth.

T. E. Crowley

THIRD PROGRESS REPORT ON MARINE CENSUS WORK

In the past three years 43 different individuals (40 of them members of the Conchological Society) have contributed records of marine species although, as with the non-marine recording (see The Conchologists' Newsletter No. 28, p.81), only a small proportion of these are regular supporters: it follows that anyone hesitant about offering help should not feel that their own efforts might pass unheeded or un-needed. However it must be added that these numbers do not include those who have helped with Group work, as in Census Area 24, Liverpool Bay, results of which follow this Report. The adoption of an Area by a group, by a family (in one instance the father acts as secretary to the son!) or by an individual, is a promising development of Census work, enabling much more to be achieved than would otherwise be possible.

Considerable use is being made of the Area lists duplicated last year, not only for checking which species are already recorded against those on submitted lists, but also for advising collectors on the species and the status of species known from any particular Area. Members are invited to ask for such lists if they would find them helpful - but please give as much notice as possible!

Following on the difficulties experienced by Mr. T. Pain, Field Meetings Organiser, in arranging shore meetings to include off-shore work, the Recorder is loaning a dredge to the Society. Plans have also been made for liaison with the Croydon Sub Aqua Club and by the time these notes appear the first joint meeting of divers and conchologists should have been held on the Dorset coast. Although trial and error will be needed to establish a profitable working arrangement, this could be the first of many valuable meetings. Divers have the same world of exploration open to them as lay before amateurs on land at the beginning of the last century and more individuals with diving experience are anxious to receive guidance on what to observe. Such joint expeditions could allow, amongst other things, a fruitful comparison of strand line shells with species living off-shore.

Mr. C. W. Pettitt writes that he is now ready to receive examples of Littorina saxatilis (Olivi) for his special study connected with that variable species. By November of last year he had established an aquarium which simulated the tidal rhythms and was experimenting with methods to rear the young. He would be glad to have random samples (preferably living) of the species from limited and exactly located populations and these should be sent to him at The Manchester Museum, Zoology Department, The University, Manchester 13. Dr. B. L. James of University College, Swansea has pioneered work on L. saxatilis and last year he published keys to its subspecies and varieties. ('The distribution and keys of species in the family Littorinidae and of their digenean parasites, in the region of Dale, Pembrokeshire'. Field Studies 2 (5):613-650). This paper gives references to his previous work on Littorina saxatilis.

Mr. Charles Boyden is doing special research on Cardium lamarcki Reeve (now Cerastoderma glaucum (Poiret)) and Cardium edule L. (now Cerastoderma edule (L.)) and is eager to have more information on their ecological and geographical distribution. He has submitted a fine series of records of C. glaucum for the Census records, which show it to occur in the following Areas: 5, Moray Firth (last century): 12, Wash: 13, Thames: 15, Wight: 16, Portland: 18, West Channel (last century, in the Kingsbridge Estuary which was the type locality for Britain, but from where it has not been taken since): 36, Galway Bay (last century, on Great South Aran in brackish water at the north end of the island; this locality would be worth modern investigation with regard to this species and for the special forms of Littorina saxatilis which also characterise such habitats). Anyone with

access to a likely site is asked to explore it: examples have been found living in quiet brackish water, in boating lakes, swimming pools, oxbow lakes, ditches and lagoons. Mr. Boyden can be contacted at The Zoology Department, Queen Mary College, University of London, Mile End Road, London, E.1.

Most members will already know that Mrs. N. F. McMillan's book 'British Shells' is now available, replacing Step's 'Shell Life' in Warne's Wayside and Woodland series. Short descriptions of 'practically all the shell-bearing species' are included, 355 being illustrated. Attention should also be drawn to a new German work by F. Nordsieck published in 1968 (Die europäischen Meeres-Gehäuseschnecken (Prosobranchia) vom Eismeer bis Kapverden und Mittelmeer). All European prosobranchs are briefly described with an accompanying sketch, there being 1200 such drawings. Species to be found in the British Marine Area are, of course, included, and it will be noted that some of the forms treated by Winckworth as subspecies are not only raised to the status of species, but placed in separate subgenera!

Two marine molluscs new to Britain but not included in Appendix 1 of Papers for Students No. 11 are as follows:-

G.308a Trapania pallida Kress 1968. Kress, A., 1968. Trapania pallida sp.nov. (Opisthobranchia, Gastropoda) a genus new to Britain. Proc. Malac. Soc. Lond. 38 (2): 161-165.

L.181a Cuspidaria obesa (Loven). McIntyre, A.D., 1961. Quantitative differences in the fauna of boreal mud associations. J. mar. biol. Ass. U.K. 41: 599-616.

The first species was found at Wembury in the Plymouth area (Census Area 18) and the second on the Fladen Grounds in the North Sea (Census Area 8). In the same Appendix a typing error gives Friele's date for Skenea milli-punctata as 1866: this should read 1886.

Specimens of the following species have been submitted as new additions or upgradings to the list for C.A. 13, published in The Conchologists' Newsletter No. 25, June 1968.

G.78 Torn.sub. BR Mr. R. Fresco-Corbu. Sandwich, Kent. Oct. 1968

G.140 Odos.plic. BR Mr. R. Fresco-Corbu. Sandwich, Oct. 1967.
Det. Dr. V. Fretter

G.142 Odos.uni. BR Mr. R. Fresco-Corbu. Sandwich, Oct. 1967.
Det. Dr. V. Fretter. New dated record.

L.126 Abra alba AR Dr. J. Llewellyn Jones. Blackwater Estuary, July 1968. Upgraded to A.

L.128 Abra pris. AR Dr. J. Llewellyn Jones. Blackwater Estuary, July 1968.

The two bivalves were discovered during a dredging expedition in the Blackwater Estuary, organised by Dr. J. Llewellyn Jones.

The Recorder is grateful for the help and encouragement received during the past year.

Stella M. Turk

CENSUS AREA 24, A PRELIMINARY REPORT

The following records list the most recent and/or the highest status of finds. They are a summary of the work of more than a dozen people, who have worked either individually or in small groups.

The coastline of this Census Area presents a wide variety of habitats. Westwards from the Mersey Estuary boulder-clay and rock cliffs form the coastline, whereas to the north of Liverpool, extensive sand beaches are developed. The Dee and Ribble Estuaries contain a microcosm of local

environments, including salt marsh and brackish-water conditions.

Over 200 shallow-water dredge samples have been examined, but only *M. balthica* consistently occurs live. Far more 'live' material is obtained from storm strandlines. This appears to indicate that few benthonic species live within 2 miles, or so of the M.H.W.M.. The great tidal-range, which reaches a 32 foot maximum in the Mersey Estuary, may explain this expansion of the shore zones. A strip of sand, more than a mile wide, is exposed at low water north of the Estuary, for example.

Local Faunal Committee Reports, local Natural History Society Journals, a wide variety of other journals, standard texts, as well as local newspapers formed the source of the historical data.

L. D. Harfield

<u>Record status:-</u>	<u>This century</u>	<u>Last century</u>
live	A	a
dead shell	B	b
beach worn	C	c

Census Area 24.

Lo	7	Lepid. cin.	AR	G	162	Turb. fulv.	BR
Lo	9	Acanth. crin.	aR	G	167	Cap. ung.	bR CR
				G	169	Crep. forn.	BR
G	2	Emarg. ret.	bR CR	G	170	Aporr. pespel.	BR
G	3	Emarg. con.	b	G	176	Nat. cat.	AR
G	6	Diod. apt.	bR	G	177	Nat. pol.	AR
G	7	Pat. vulg.	AR	G	178	Nat. mont.	bR
G	9	Pat. ath.	bR	G	179	Vel. vel.	bR
G	10	Pat. pell.	CR	G	184b	Triv. arct.	CR
G	12	Pat. tess.	aR	G	187	Troph. trunc.	CR
G	20	Call. ziz.	BR	G	188	Troph. barv.	bR
G	21	Call. pap.	CR	G	189	Troph. mur.	bR
G	23	Gibb. mag.	bR	G	190	Nuc. lap.	AR
G	24	Gibb. tum.	CR	G	192	Ocen. erin.	AR
G	25	Gibb. cin.	BR	G	198	Col. isl.	bR
G	26	Gibb. umb.	BR	G	199	Clo. grac.	BR
G	28	Canth. mont.	bR CR	G	200	Col. how.	b
G	36	Tric. pull.	bR CR	G	203	Nept. ant.	BR
G	37	Lac. vinc.	BR	G	204	Bucc. und.	AR
G	38	Lac. crass.	AR	G	207	Nass. ret.	AR
G	41	Litt. litt.	AR	G	208	Nass. incrass.	CR
G	42	Litt. sax.	AR	G	212	Lora turr.	CR
G	45	Litt. littoral.	AR	G	214	Lora rufa	BR
G	47	Hydrob. jenk.	A	G	221	Mang. brach.	BR
G	48	Hydrob. ulv.	AR	G	222	Mang. neb.	bR
G	50	Acm. subcyl.	B	G	224	Phil. grac.	bR
G	52	Cing. ald.	bR	G	230	Act. torn.	BR
G	53	Cing. vit.	BR	G	231	Diaph. min.	BR
G	54	Cing. prox.	BR	G	238	Ret. ret.	bR
G	55	Cing. semic.	BR	G	239	Ret. alb.	AR
G	56	Cing. semist.	bR	G	240	Ret. sub.	bR
G	57	Cing. cing.	bR	G	241	Ret. nit.	BR
G	70	Riss. incon.	bR	G	243	Cyl. cyl.	bR
G	71	Riss. parv.	bR	G	245	Tric. lig.	B
G	76	Ass. gray.	AR	G	247	Phil. ap.	BR
G	78	Torn. sub.	bR	G	252	Oss. ang.	cR
G	79	Torn. imp.	BR	G	253	Oss. nit.	b
G	87	Turrit. comm.	AR	G	268	Herm. dend.	AR
G	89	Caec. glab.	bR	G	270	Ald. mod.	AR
G	90	Bitt. ret.	bR	G	273	Lim. cap.	AR
G	100	Clatl. clath.	BR	G	274	Lim. dep.	AR
G	101	Clath. turt.	BR	G	277	Trit. homb.	aR
G	103	Clath. clathrat.	bR	G	279	Trit. pleb.	AR
G	105	Graph. alb.	bR	G	287	Pal. dub.	AR
G	106	Acl. asc.	bR	G	288	Pal. noth.	aR

G	107	Acl. min.	bR	G	289	Poly. quad.	AR
G	111	Eul. glab.	CR	G	290	Acanth. pil.	aR
G	114	Balc. alb.	bR	G	291	Acanth. subquad.	AR
G	122	Balc. dev.	bR	G	292	Adal. prox.	AR
G	125	Chrys. obt.	bR	G	294	Onch. fusca.	AR
G	126	Chrys. ind.	CR	G	297	Onch. dep.	AR
G	131	Chrys. spir.	BR	G	308	Anc. crist.	AR
G	132	Men. dol.	bR	G	312	Arch. brit.	aR
G	133	Men. div.	bR	G	317	Jor. tom.	aR
G	137	Men. clav.	bR	G	320	Dend. frond.	aR
G	138	Od. niv.	bR	G	323	Jan. crist.	aR
G	141	Od. turr.	bR	G	324	Jan. hyal.	AR
G	142	Od. uni.	bR	G	330	Idul. cor.	AR
G	145	Od. umb.	bR	G	331	Idul. frag.	AR
G	149	Od. scal.	bR	G	335a	Coryph. verr.	AR
G	152	Eu. mac.	aR	G	336	Coryph. ped.	AR
G	154	Eu. laev.	BR	G	339	Eubr. tric.	aR
G	157	Turb. eleg.	CR	G	339b	Eubr. pall.	aR
G	158	Turb. acut.	bR	G	340	Eubr. exig.	AR
G	161	Turb. cren.	bR	G	346	Emblet. pulch.	AR
G	347	Emblet. pall.	AR	L	105	Vener. rhomb.	aR CR
G	348	Terg. desp.	AR	L	106	Vener. pull.	BR
G	349	Cuth. nana	aR	L	107	Vener. sax.	bR
G	351	Cuth. con.	aR	L	108	Vener. dec.	cR
G	357	Crat. aur.	AR	L	111	Mys. und.	CR
G	358	Crat. fol.	AR	L	112	Don. vitt.	AR
G	362	Fi. pin.	aR	L	115	Tell. squal.	cR
G	366	Fac. drumm.	AR	L	116	Tell. ten.	AR
G	367	Fac. long.	AR	L	117	Tell. fab.	AR
G	370	Aeol. pap.	AR	L	118	Tell. don.	cR
G	371	Eol. glauc.	AR	L	123	Mac. balth.	AR
G	374	Phyt. myos.	AR	L	124	Scrob. plan.	AR
				L	126	Abra alba	AR
Sc	1	Dent. ent.	CR	L	127	Abra nit.	bR
Sc	2	Dent. vulg.	bR	L	128	Abra pris.	cR
				L	129	Gari ferv.	bR C
L	2	Nuc. nuc.	AR	L	133	Sol. scop.	CR
L	3	Nuc. han.	aR	L	134	Sol. cham.	cR
L	4	Nuc. turg.	C	L	135	Phar. leg.	BR
L	7	Nuc. min.	cR	L	136	Cult. pell.	BR
L	12	Glyc. glyc.	cR CR	L	137	Ens. ens.	bR B
L	16	Anom. eph.	AR	L	138	Ens. arc.	B
L	17	Mon. pat.	bR	L	139	Ens. sil.	AR
L	19	Het. squam.	bR	L	140	Sol. marg.	CR
L	20	Myt. ed.	AR	L	141	Mact. cor.	AR
L	22	Mod. mod.	AR	L	142	Spis. ellipt.	C
L	25a	Mod. adr. rad.	aR	L	143	Spis. sol.	AR
L	26	Mod. phas.	BR	L	144	Spis. subtr.	AR
L	28	Musc. disc.	aR	L	145	Lut. lut.	AR
L	29	Musc. marm.	bR	L	147	Mya trunc.	AR
L	35	Ost. ed.	CR	L	148	Mya aren.	AR
L	36	Ost. virg.	aR	L	150	Corb. gibb.	CR
L	38	Pinn. frag.	AR	L	151	Hiat. arct.	BR
L	39	Pect. max.	bR	L	152	Hiat. gall.	aR
L	42	Chlam. var.	BR	L	154	Sax. jeff.	cR
L	43	Chlam. dist.	cR CR	L	156	Phol. dact.	cR
L	44	Chlam. operc.	CR	L	157	Barn. cand.	BR
L	47	Chlam. tig.	cR	L	159	Zirf. crisp.	AR
L	49	Chlam. furt.	CR	L	160	Phol. losc.	bR
L	50	Chlam. sim.	bR	L	161	Xyl. dors.	AR
L	52	Lima losc.	cR CR	L	163	Ter. norv.	C
L	56	Ast. sulc.	aR	L	164	Ter. meg.	b B
L	60	Thy. flex.	bR	L	165	Ter. sub.	b
L	64	Lor. luc.	cR			Bank. fimb.	b
L	72	Lept. squam.	bR	L	169	Coch. prae.	bR
L	73	Lept. nit.	bR	L	170	Thrac. phas.	AR
L	76	Lept. clark.	cR	L	171	Thrac. vill.	BR
L	79	Mont. ferr.	CR	L	173	Thrac. conv.	CR
L	80	Myse. bid.	BR	L	175	Lyon. nor.	bR
				L	176	Pand. marg.	bR

L 84	Cypr. isl.	CR	L 181	Cusp. abb.	CR
L 85	Gloss. hum.	bR			
L 87	Card. echin.	AR	C 6	All. med.	AR
L 90	Card. ov.	bR	C 7	Lol. forb.	bR
L 91	Card. scab.	cR	C 9	Sep. off.	AR
L 93	Card. ed.	AR	C11	Sep. el.	bR
L 94	Card. crass.	bR CR	C12	Sepiol. at.	AR
L 95	Dos. ex.	aR	C15	Ross. macros.	BR A
L 96	Dos. lup.	CR	C17	Oct. vulg.	aR
L 97	Gaf. min.	BR	C18	El. cirr.	AR
L 98	Call. chione	cR			
L 100	Ven. cass.	CR			
L 101	Ven. ov.	BR			
L 102	Ven. fasc.	AR			
L 103	Ven. striat.	AR			
	Merc. merc.	bR			

Totals:- AR 73 aR 25 Unauthenticated at present: 17

BR 35	bR 65
CR 35	cR 16

143	106
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Lo 2
G 139
Sc 2
L 100
C 8

251 spp. recorded.

THE SNAILS THAT THE SWINE DID EAT

Kalm (1) discussed with Ellis (2) the problem of snails, which, he says, 'cause great damage on arable fields and meadows. Mr. Ellis showed me yesterday a letter which he had received from a learned and experienced gentleman, who had a great taste for Rural Economy, in which letter this gentleman relates that when he succeeded to his estate after his father's death, there was found on a brick wall, a dreadful lot of snails.

'In the morning before sunrise they were out on the grass and ploughed fields, where they did great damage. On one occasion he remarked that when the swine were turned out in the morning, and came to pass close to this wall, they left all other food and began only to seek for and eat these snails. From this, he concluded to send out boys in the morning, while the dew still lay, and collect them in baskets, and attempt to give them to the swine at home, when he had the pleasure of seeing how greedily the pigs ate them as if they had been their choicest food.' The swine 'not only became astonishingly fat, so that their hair fell off them, but....when killed, the flesh was found to be of the best possible flavour.'

From Peter Kalm, Visit to England, 1748, trans. Lucas (Macmillan 1892), quoted by Vicars Bell in To Meet Mr. Ellis, p.60 (Faber & Faber 1956).

(1) Peter Kalm (1715-1779), Swedish botanist and friend of Linnaeus.

(2) William Ellis (d.1758) of Little Gaddesden, Herts.

(from A. E. Ellis)

EINE KLEINE SNAILMUSIK

May Sarton

"The snail watchers are interested in snails from all angles....At the moment they are investigating the snail's reaction to music. 'We have

played to them on the harp in the garden and in the country on the pipe,' said Mr. Heaton, 'and we have taken them into the house and played to them on the piano.'" - The London Star.

What soothes the angry snail?
What's music to his horn?
For the "Sonata Appassionata,"
He shows scorn,
And Handel
Makes the frail snail
Quail,
While Prokofieff
Gets no laugh
And Tschaikowsky, I fear,
No tear.
Piano, pipe, and harp,
Dulcet or shrill,
Flat or sharp,
Indoors or in the garden,
Are willy-nilly
Silly
To the reserved, slow,
Sensitive
Snail,
Who prefers to live
Glissandissimo,
Pianissimo.

The New Yorker, 25 January 1947; copyright 1947 by The New Yorker Magazine, Inc., 25 West 43rd. Street, New York, N.Y., 10036. We are indebted to Miss Sarton, and to Miss D. E. Terry of the Editorial Offices, The New Yorker, for kindly granting permission to reprint the above poem.

FIELD MEETINGS AT HUYTON AND KNOWSLEY PARK, S. LANCASHIRE,

OCTOBER AND NOVEMBER 1968

Two members met on October 5th. 1968 to fill in a hitherto unworked "square" about Huyton, on the outskirts of Liverpool. A long afternoon's work yielded a total of 15 species, distributed as follows:

Waste ground close to Huyton Railway Station -

<u>Cochlicopa</u> sp. (lost before det.).	<u>Discus rotundatus</u> (Müller).
<u>Oxychilus alliarius</u> (Miller).	<u>Milax budapestensis</u> (Hazay).
<u>Agriolimax agrestis</u> (L.) s.l.	<u>A. caruanae</u> Pollonera.

Rushy old pasture with small stream -

<u>Lymnaea truncatula</u> (Müller).	<u>Cochlicopa lubrica</u> (Müller).
<u>Discus rotundatus</u> (Müller).	<u>Oxychilus alliarius</u> (Miller).
<u>Arion hortensis</u> Fér.	<u>A. subfuscus</u> (Drap.).
<u>Agriolimax laevis</u> (Müller).	

Derelict gardens and outbuildings beside Huyton - Prescott railway line -

<u>Cochlicopa minima</u> Siemaschko.	<u>Discus rotundatus</u> (Müller).
<u>Oxychilus alliarius</u> (Miller).	<u>Retinella nitidula</u> (Drap.).
<u>Cepaea hortensis</u> (Müller). A shell, fairly fresh.	
<u>Arion "circumscriptus"</u> s.l. 2, very small.	
<u>A. subfuscus</u> (Drap.), with eggs.	<u>Milax budapestensis</u> (Hazay).
<u>Agriolimax reticulatus</u> Müller. Both the blotched garden form, and the plain cream-coloured form were present.	
<u>A. caruanae</u> Pollonera. (det. Mr. Ellis).	

Pond beside rubbish-tip. Full of old cars, etc., but also plenty of plants and looked healthy -

Lymnaea peregra (Müller).

We were pleased to find Cepaea hortensis (even though only represented by a shell) for it was recorded from Huyton by James Wright Whitehead so long ago as 1856 and is a scarce species on Merseyside.

On November 24th. 1968 four members and a visitor joined the Liverpool Naturalists' Field Club in a visit to Lord Derby's Knowsley estate (which is in the same square as Huyton).

The land Mollusca proved to be extremely sparse, and this was probably attributable to the lateness of the season and also to the acid nature of the terrain. No snails were found, but the following slugs were collected -

<u>Arion circumscriptus</u> s.s. Johnston	<u>Arion ater</u> agg. (juvenile)
<u>Agriolimax reticulatus</u> (Müller)	<u>Agriolimax laevis</u> (Müller)

Fresh-water species were more in evidence, and 13 species were taken. The Pisidia proved to be interesting; a total of 6 species was collected, including the rather local Pisidium henslowanum, and both the appendiculate and inappendiculate forms of this species were present. The fresh-water species were found as follows -

Mizzy Dam

<u>Physa fontinalis</u> (L.)	<u>Pisidium milium</u> Held
<u>Planorbis albus</u> Müller	<u>P. subtruncatum</u> Malm

Small pond

Lymnaea truncatula (Müller)

White Man's Dam

<u>Potamopyrgus jenkinsi</u> (Smith)	<u>Pisidium casertanum</u> (Poli)
<u>Planorbis carinatus</u> Müller	<u>P. milium</u>
<u>P. albus</u>	<u>P. henslowanum</u> (Sheppard)
<u>P. crista</u> (L.)	<u>P. nitidum</u> Jenyns

Twin ponds

<u>Lymnaea auricularia</u> (L.)	<u>Pisidium casertanum</u>
<u>Physa fontinalis</u>	<u>P. personatum</u> Malm
<u>Planorbis carinatus</u>	<u>P. subtruncatum</u>
<u>P. albus</u>	

(All species of Pisidium determined by Dr. M. P. Kerney)

Marjorie Fogan, Nora F. McMillan

PUBLICATIONS RECEIVED

Conchological Society of Southern Africa. Circular 104 (February 1969).

An illustrated note by D. W. Aiken redescribes the radula of Voluta africana. The shell was ex pisce and provided the first radula for examination since Cooke noted it in 1922.

D. H. Kennelly reports that Cypraecassis rufa seems now occasionally to be found on the Ciskei coast, a specimen from Bulugha representing the third on record. E. Dee contributes a note on two cones living off the Natal Coast: C. pastinaca, often mistaken for C. quercinus, and C. torquatus which according to Philip Clover is a synonym for C. marmoreus and hence must be called C. teramachii Kuroda. Controversy however, continues.

The Circular also provides for the use of members an extract from the regulations concerning the collection of marine animals in South Africa. It gives the impression that, as with many other countries, one needs a substantial legal training to become a shell hunter. I suppose we in Great Britain are lucky in being left alone to our eccentricities providing we keep off oyster beds!

Fifty Sea Shells from Herm Island, by Jill S. Kendrick (Published by the Author)

Most of those who have visited Herm Island must have wished for a booklet of this kind to have with them in searching for the multitudinous shells which grace its shores: a place so well known for the excellence and variety of its shell life certainly deserves more serious attention than it has had in the past. Miss Kendrick fills the gap, efficiently if not completely.

The little book consists basically of short and lucid accounts of the commoner species to be found, written suitably for the non-specialist and illustrated with drawings showing each shell in several aspects and mostly to natural size. The illustrations are above average and adequate for the identification of the shells: in fact it may be said that if shell illustration continues to improve in this way we may soon approach the standard considered normal a hundred years ago.

The book is methodically produced, with a note defining the mollusca, a glossary and index, and is well set out to encourage a casual interest as well as providing some very useful notes for the practising conchologist. For the latter purpose it is too short, however, and it is to be hoped that the Authoress will in due course provide a second and definitive edition which might take its place with Rendall's 'Mollusca Orcadensia'. Some of the omissions of the present work meanwhile, are regrettable, notably that of Mactra glauca (the 'Five Shilling Shell'), admittedly rare but still worth looking for, and famous locally. Chitons too, are unrepresented. A note describing the Island and its best localities would be an asset, something to advise people not to spend all their time on the strand line but to seek other and better shells at low tide mark.

The book is obtainable from Miss Kendrick, Herm Island, C.I., at five shillings, post paid.

T.E.C.

The Land Mollusca of the Bembridge Limestone.

T. Pain & R. C. Preece, Isle of Wight Natural History & Archaeological Society (Reprinted 1968 from the 'Proceedings' of the Society for 1967, Vol. VI, Part II, pages 101 - 111).

This booklet, illustrated by line drawings in the text, is particularly welcome to collectors and students in the field as a handy and practical means of identification of the species most likely to be found at the existing exposures of Bembridge Limestone. This interesting group of fossil molluscs has been much neglected in the literature and it is good to have a contribution from authors who are experienced in the field aspect and also in the problems of identification and classification. It is encouraging to record that the co-author, R. C. Preece, is a Junior Member of the Conchological Society.

P.E.N.

Texas Shell News, Vol. 12, No. 1, February 1969 (Editor: Laura Gilbert).

Contains an interesting account by Jean Bayne of a shelling trip to the Isla de las Mujeres ('Island of the Women') in the Carribean.

An article on the Brazosport (Texas) Museum of Natural History is contributed by Renford Taylor.

Seafari (Palm Beach County Shell Club), Vol. 11, No. 4, April 1969.
(Editor: Cynthia Plockelman).

Cynthia Plockelman describes and illustrates Chama lactuca Dall.

Margaret Kennedy reports on a splendid haul of Chama spp., Spondylus spp. and other encrusting molluscs she obtained from two old anchors recovered by skindivers from a depth of 90 feet.

REVIEWS

EXOTIC CONCHOLOGY or Drawings and Descriptions of Rare, Beautiful or Undescribed Shells, by William Swainson, London 1821-2; 1834; 1841 (Facsimile reprint Princeton, U.S.A., 1968). 11½" x 9": 29cm x 23cm. pp.xxiv+ 48, 48 Cold-plates. Cloth bound, marbled end papers, all edges gilt. Price in U.K. £14. Available through any Natural History Bookseller.

This reprint of a much desired volume is now available. The facsimile part of the work consists of reproductions of the text of the first (1821-22) edition by Swainson, followed by the text and plates of the third (1841) edition edited by Sylvanus Hanley. The first edition was issued in parts and full bibliographical information has been added at the bottom of each text page in this section. Exceptional care has been taken in the reproduction of the (originally hand-coloured) plates, with as many as eleven colour printings for a single plate. The usefulness of the book is enhanced by the short biography of William Swainson contributed by Mrs. N. F. McMillan and by the modern taxonomic and nomenclatural notes added at the end by Dr. Tucker Abbott. A short but complete index rounds off the work.

This lavishly produced reprint of an exceedingly rare and beautiful book was mainly made possible by the endeavours of Professor R. Tucker Abbott and John E. du Pont; they are assured of the gratitude of all conchologists.

Charles Pettitt

JOHNSONIA: Monographs of the Marine Mollusks of the Western Atlantic. Volume One, 1941-1945 (1968 Facsimile). 11" x 8½"; 28cm x 21.5cm. pp.viii & 310. Price: 15.00 dollars U.S.

After being unobtainable for some time, Volume One of this extremely useful series has now been re-issued as a facsimile reprint. The Volume, in a plastic binding both attractive and serviceable, comprises monographs numbers one to eighteen. All the western Atlantic species of nine families are fully covered, viz. Cardiidae, Cassididae, Columbariidae, Conidae, Ficidae, Modulidae, Potamididae, Strombidae and Xenophoridae. Other monographs cover the following genera: Fissurella, Lucapina, Lucapinella and Diodora (Fissurellidae); Gaza and Livona (Trochidae); Tectarius, Echininus and Littorina (Littornidae); Murex (Muricidae); Dosinia, Macrocallista and Amiantes (Veneridae).

Each species description includes synonymy, location of type specimen, very full description, normal sizes and distribution. Monograph number eighteen is a review issue containing errata and addenda, together with a complete index to the preceeding monographs.

In addition, shorter notes, inserted at the ends of several monographs, give information on voyages (of the 'Argo', 'Challenger' and 'Chazalie'), collecting localities (Cienfuegos, Cuba; Guantanamo Bay, Cuba; and Santa Barbara de Samana, Santo Domingo), expeditions (Harvard-Bahamas Expeditions 1904 and 1936) and reviews of little known works on Western Atlantic Molluscs (Apgar, A.C., 1891: Mollusks of the Atlantic coast of the United States; Gualtieri, N, 1742: Index Testarum Conchyliorum; Dall and S. Timpson, 1901: Mollusca of Porto Rico; Whiteaves, J. F., 1901: Catalogue of the Marine Invertebrata of Eastern Canada).

The work is printed on good quality paper and is profusely illustrated with excellent black and white plates.

Available from the Editor, Dr. W. J. Clench, Museum of Comparative Zoology, Cambridge, Massachusetts 02138, U.S.A., or through any Natural History Bookseller. Later volumes in the series are also still available.

Charles Pettitt

PISIDIUM TENUILINEATUM STELFOX IN BEDFORDSHIRE

Pisidium tenuilineatum is one of our rarest freshwater bivalves. In December 1968 I found a single left valve among a large series of Pisidium taken from the River Ouse near Bromham, Bedfordshire, about 500 yards south of the fine medieval bridge and causeway which here carries the A428 road across the river (52/010501). The associated species of Pisidium were P. amnicum, P. casertanum (form ponderosum), P. milium, P. subtruncatum, P. supinum, P. henslowanum, P. hibernicum, P. nitidum (including form crassum) and P. moitessierianum. The river was in flood, and the above assemblage is not a natural one but represents the scourings of a variety of different ecological niches.

The freshwater fauna of the Ouse hereabouts is extraordinarily rich and varied, no fewer than thirty-nine species occurring between Bromham (52/0150) and Stevington (42/9953): Theodoxus fuviatilis, Viviparus contectus, Valvata cristata, V. piscinalis, Potamopyrgus jenkinsi, Bithynia tentaculata, B. leachi, Lymnaea palustris, L. stagnalis, L. auricularia, L. peregra, Physa fontinalis, Planorbis corneus, Planorbis carinatus, P. planorbis, P. vortex, P. albus, P. crista, P. contortus, Segmentina complanata, Acroloxus lacustris, Ancylus fluviatilis, Unio pictorum, U. tumidus, Anodonta cygnea, A. anatina, Sphaerium corneum, S. lacustre and Dreissena polymorpha (plus Pisidium as above). In addition, Anodonta complanata (minima) and Sphaerium rivicola are recorded from the River Ouse at Bedford, but have not been found recently.

Although Pisidium tenuilineatum is a rare species, it is undoubtedly overlooked owing to its minute size (about 1.5 mm.). The same applies to P. moitessierianum. When collecting Pisidium, therefore, a scoop should be used with a mesh fine enough to retain such tiny species.

M. P. Kerney

THE GIANT ANODONTA CYGNEA OF CLAUGHTON, WEST LANCASHIRE

In many museums in the United Kingdom there are exceptionally large specimens of Anodonta cygnea (L.) localised at Claughton in Lancashire and recently, interest has been shown as to whether or not the original locality is still extant.

A brief account of the discovery of these specimens appeared in the Manchester City News for May 14, 1892. It was noted that about one hundred of the large molluscs were discovered together with a number of abnormal specimens. The occurrence of these bivalves at Claughton was also mentioned by Standen (1909) who said that they were found in a large lake which had almost become choked with mud and weeds. The largest specimen measured 9" (228.6 mm.) long, 4½" (114.3 mm.) high and 3¼" (82.6 mm.) thick. The live weight was not known as the specimens were not discovered until the lake was drained and the animals were decaying in the dried mud. In the obituaries of W. Fitzherbert-Brockholes and W. H. Heathcote (see Heathcote, 1923; Jackson, 1926) further details of the discovery of these mussels in an old mill dam behind Claughton Hall are given. The largest specimens were then at the British Museum (Natural History) and in the possession of J. R. Charnley but the whereabouts of this latter specimen are not known.

The pond in which the molluscs were originally found was possibly formed as a fishpond in the 16th. century when the original Claughton Hall was built. The pond was about ten feet deep and was fed by springs. It was drained in 1892 and it was whilst the pond was being drained that the large specimens of Anodonta cygnea were discovered. Even today odd shells come to the soil surface in the vicinity of the old pond. The exact locality of the pond was at grid reference SD523423.

We are grateful to Mr. M. Fitzherbert-Brockholes for his continued interest and help in the preparation of this note.

REFERENCES.

- Heathcote, W.H. (1923): Obituary. W. Fitzherbert-Brockholes, C.B.E., J.P., D.L.. Lancs. Chesh. Nat., 16, 110.
Jackson, J.W. (1926): Obituary. William Henry Heathcote (1861-1926). NWest. Nat., I, 85-87.
Standen, R. (1909): Notes on the Freshwater Mussels of Lancashire and Adjacent Counties. Lancs. Nat., 2, 57-62.

E. F. Greenwood, N. F. McMillan

JUNIOR MEMBERS ELECTED

18th. January 1969

RANDS, MARGARET, [REDACTED], Luton, Bedfordshire.

22nd. March 1969

BURGESS, JANE, [REDACTED], London, S.W.6.

EDGCOMBE, KIM, [REDACTED], Beeston Regis, Sheringham, Norfolk.

GIBBS, DAVID, [REDACTED], Onekawa, Napier, Hawkes Bay, New Zealand.

NOBBS, ELIZABETH, [REDACTED], Beeston Regis, Sheringham, Norfolk.

The following Junior Member has been promoted to full membership -

STREET, M.L., [REDACTED], Newhall, Burton-on-Trent, Staffordshire.

MIDLANDS MEETING

The first meeting in the Midlands of members living near Birmingham was held on February 1st. at Sutton Coldfield. Unfortunately only 6 members were able to attend, but right from the start the meeting was a great success and everyone found plenty to talk about. The members attending were Mrs. Brockbank, Mrs. Charlish, Mr. and Mrs. Mantle, Mrs. Nash and a Junior member, Jesse Grant. Shells, both British and foreign marine, were exhibited. Both Mrs. Brockbank and Mrs. Charlish kindly brought dissecting microscopes so that we could all fully appreciate the beauty of a very comprehensive collection of tiny Rissoa and allied species, from Mrs. Charlish's collection. The latter also brought her Forbes & Hanley for us to look at. We were very interested to hear that Jesse was breeding some freshwater species in ponds in his own garden, and also that he had formed a small shell club at his school.

It is intended to hold another meeting in a few months' time, but in the meantime an outing was suggested to N. Wales just after the Vernal Equinox. A really enjoyable afternoon was had by all.

H. Nash

EXCHANGES

Mr. W. G. Buick, c/o. University of Papua and New Guinea, Box 1432, Boroko, Papua - wishes to build up his reference collection and offers Papuan and New Guinea shells in exchange for British Marine and non-Marine material.

Mrs. E. M. Armstrong, [REDACTED], Stoke, Plymouth, Devon, wishes to exchange cowries and olives collected in the Solomon Islands for cowries only from other countries.

A. J. Kleyweg, [REDACTED], Delft, (2H) Holland, wishes to exchange shells with English collectors for specimens collected on the Dutch coast - any offers, please?

Mr. Edwin C. Theiler, [REDACTED], Bellmore, Long Island, New York 11710, U.S.A., has shells from Long Island, Florida, Mexico, California,

Australia and New Zealand. Wishes to exchange for Voluta, Mitra, Murex, Marginella, Strombus, Lambis and Cypraea. All shells offered in exchange live taken and with full collecting data.

SHELL SALES

Peace Corps,
Fananu Island, Truk District
Eastern Caroline Islands
96942

Dear Sirs,

I am a Peace Corps Volunteer serving on Fananu Island in the Hall Islands, Truk District, Micronesia. The people on my island are interested in collecting shells to sell. There is a great abundance of shells in this area and we will be able to offer a wide selection of the common central Pacific shells, many of the less common ones, and even a few rare ones. (Several Golden Cowries have been found in this area).

We are interested in requests for specific specimens as well as general collections or bulk orders. We have Melvin's Sea Shells of the World and Van Nostrand's Standard Catalog of Shells to guide us in our pricing, but will appreciate offers from you. Our prices will have to include surface or airmail postage, which ever is preferred. We will also appreciate suggestions on preparing and packaging shells for shipment, and on methods of selling rare shells. We are also interested in finding someone to help on the identification of difficult ones. We don't have the money to buy any of the better identification guides now. I have a degree in biology and have long been interested in Malacology. I will carefully supervise the selection of shells, sending only the best specimens.

Fananu Island is a small coral atoll located 50 miles north of Truk Lagoon. About 160 people live on the island. They have a successful fishing 'co-op' which salts fish and ships them to the district center to sell. They also have a handicraft association which specializes in tortoise shell jewelry (beautifully carved and high polished earrings in shapes varying from stylized fish, crescents, Trukese lovesticks, peace symbols, etc. for \$2.50 per pair.)

The island's food sources, breadfruit and taro, were destroyed in a typhoon last year. While waiting for the new breadfruit crop to mature, they are now having to buy all of their food except for fish. They are trying very hard to develop viable enterprises on their own island using the resources at hand. Your interest in this attempt at shell exporting will be greatly appreciated. We will be anxious to hear from you. Mail to the outer islands comes only once every two months, so there will always be quite a delay in responses.

Sincerely, Mrs. Fran Calvert PCV Fananu Island

NEWSLETTERS

Please note that copies of the Newsletter, either current issues or back numbers, are sold at a charge of 2/6d. each including postage (inland).

ILLUSTRATIONS

It is hoped to include more drawings and diagrams in the Newsletter in the future, but it is important that contributors should appreciate that all originals submitted must be drawn in indian ink on white paper and must be clear and should avoid a lot of detail. They must be of the correct size for reproduction on the stencil, i.e., no more than the type width of the page. It is costly to have originals redrawn to suit our requirements, so the compiler hopes, firstly, that some more drawings and diagrams will be submitted in the future and, secondly, that contributors will kindly observe these simple instructions.

September 1969

Produced by THE CONCHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

A SIMPLE TIDAL MARINE AQUARIUM

A simple tidal marine aquarium can be constructed from two glass tanks, glass and rubber tubing, and an electric piston-action air pump. The tanks are arranged one on top of the other and one volume of water is used to create high-tide alternately in each tank. Water is pumped up from the lower tank, producing low-tide in the lower tank and high-tide in the upper tank. An automatic siphon then returns the water to the lower tank.

Figure 1 illustrates the construction and mode of operation of the pumping mechanism which produces high-tides in the upper tank. The rate of pumping water into the upper tank is controlled by:-

- i) Air supply from pump.
- ii) Degree of constriction in the glass nozzle - this can be varied.
- iii) Height H1.
- iv) Depth of water in lower tank. Efficiency of pumping decreases with decreasing depth of water in the lower tank.

(i)-(iii) can be varied to give a suitable rate of attainment of high-tide in the upper tank. Height H2 controls the height of low-tide in the lower tank.

Figure 2 illustrates the construction of the automatic siphon. Heights H3 and H4 control the heights of the tides in the upper tank. The adjustable rubber-tubing constrictor controls the rate at which water is supplied to the lower tank from the upper one. As the pump is operating while the siphon is running, the rate of flow of water through the siphon must be adjusted to compensate for the continual loss of water from the bottom tank.

Simple timed experimental runs of the two mechanisms and simple arithmetic will provide the coarse adjustment of the rates of flow of the water. Additional trial and error should quickly provide a fairly good tidal cycle.

Possible pitfalls and mishaps.

Figure 3 illustrates the way of drilling a hole in the end wall of the upper tank without producing a leaky tank or breaking the glass.

The salinity of the sea water can be maintained by topping-up with distilled water each day to a level initially marked on the side of one of the tanks. Any salt deposits formed above H.W.M. should be returned to the water.

It is essential that none of the metallic parts of the tank come into contact with the sea water if one wishes to keep anything alive in the aquarium. All-glass tanks are obviously ideal, or plastic-coated metal framed tanks. Failing this, a good coat of a non-metallic based paint or a rubber solution should be effective if it is allowed to 'weather' in the garden for a week or so after application. The interior seams of the tank may have to be sealed with a rubber solution or Seccotine.

Any dead organic matter in the aquarium, even in the sand or gravel used as a substrate, is a great danger to the health of the tank. Such material should be removed daily and a few small shore crabs are useful assistants in keeping the aquarium clean.

Brown seaweeds are impossible to keep in a healthy state in an aquarium of this sort and rapidly form a rotting mass. Red seaweeds and some green ones

are more successful but must be watched carefully. It is far simpler not to put any seaweed in the aquarium and thus avoid one source of mass deaths.

The aquarium should be kept as cool as possible by placing it in a shaded position and away from any direct sources of heat.

One of these aquaria has been kept in a healthy state for three months by following the above suggestions and by using common sense in not overcrowding the tanks and by including a small number of as many types of feeding patterns as possible.

Other useful advice can be found in "Small Marine Aquaria" by M.R. Block, Newsletter No. 16 (March 1966) p. 105.

L. D. Harfield

Figure 1

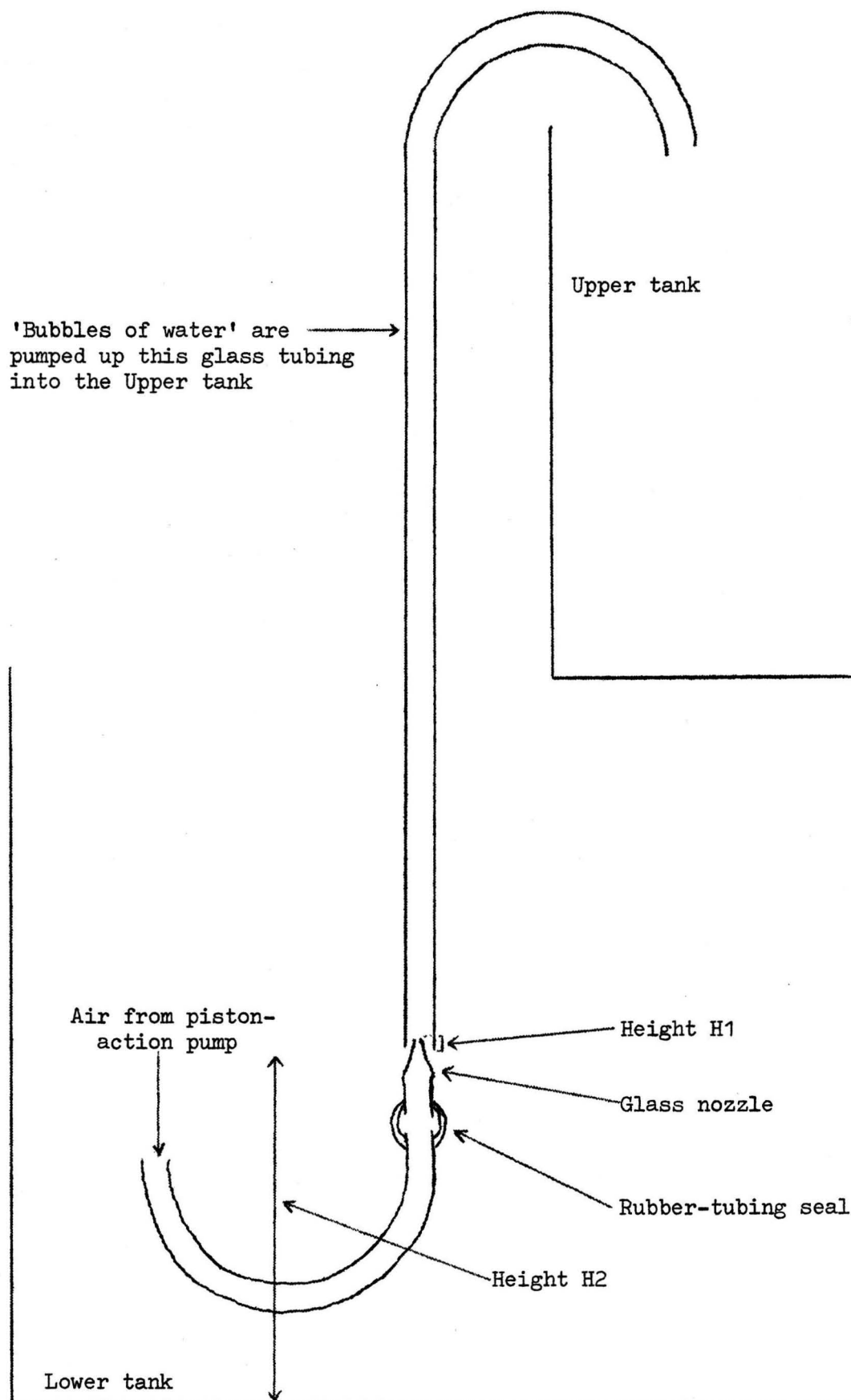


Figure 2

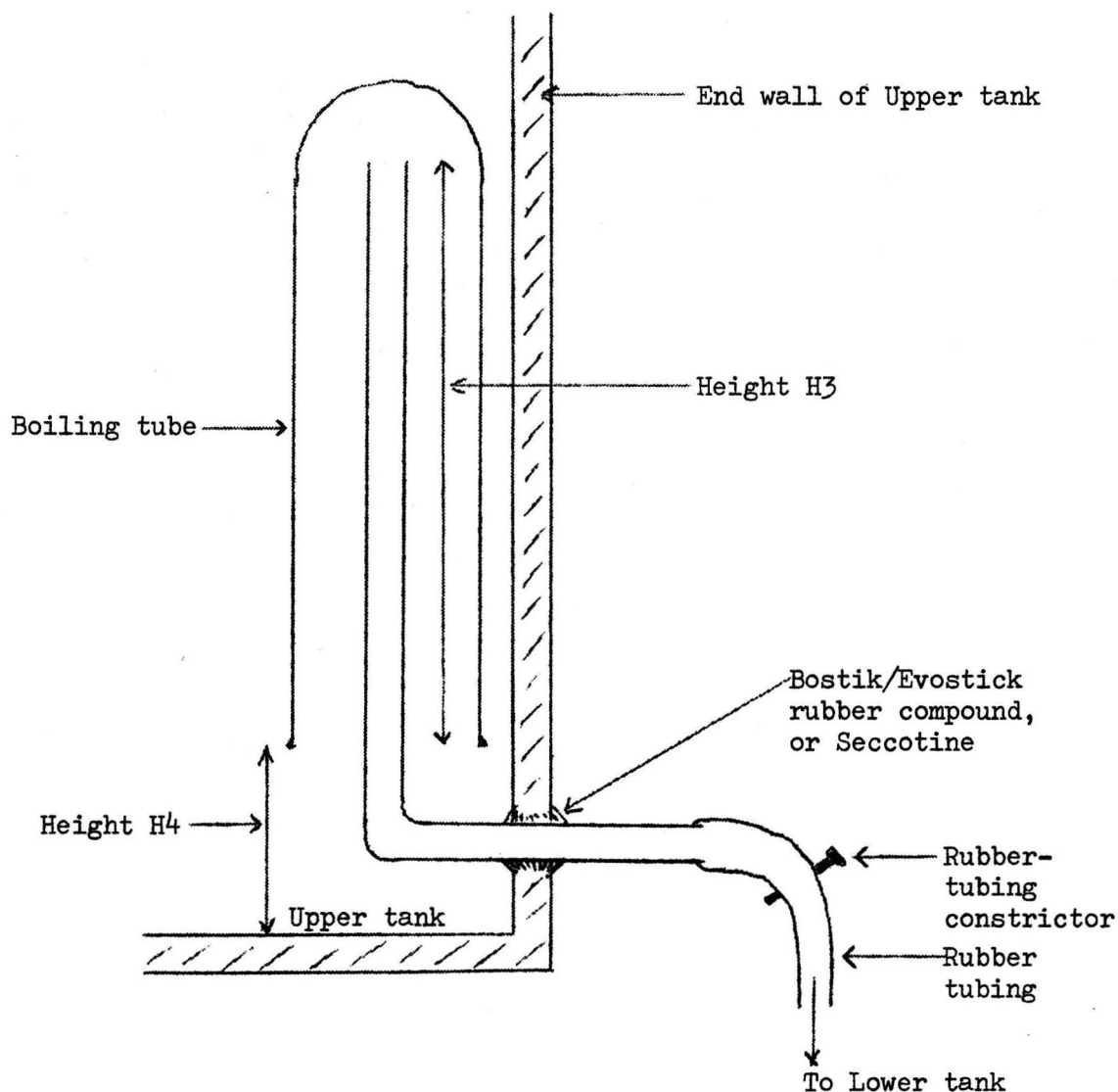
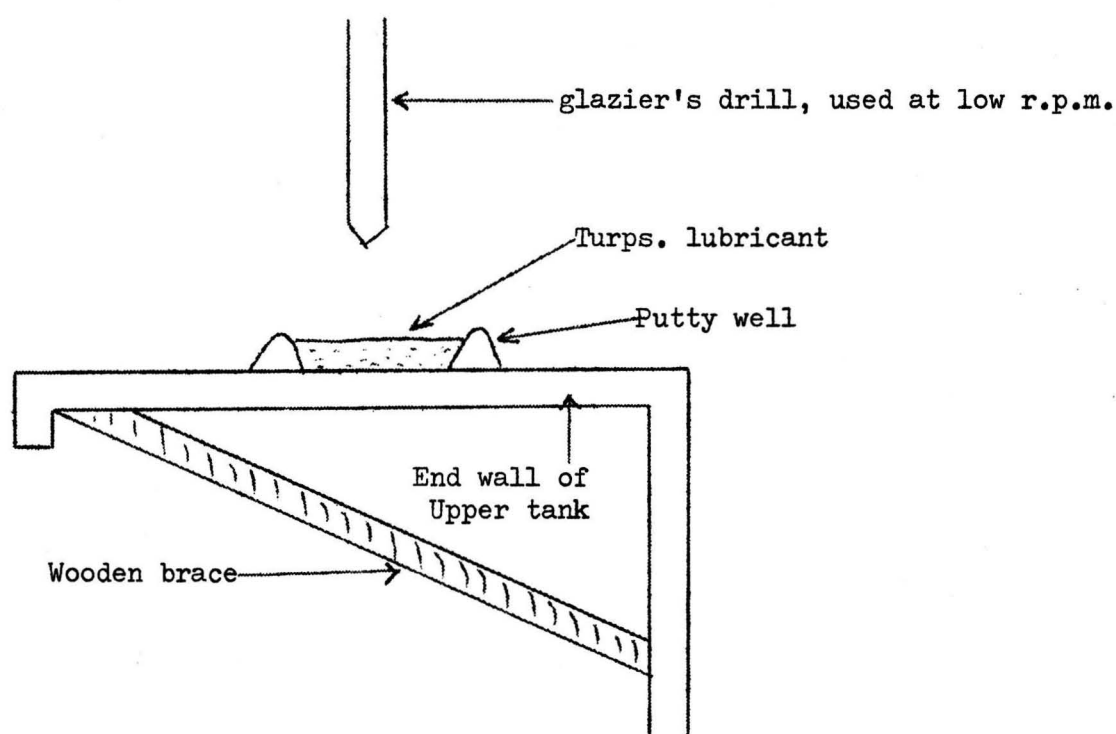


Figure 3



WHAT PRICE SHELLS?

While shell auctions are commonplace in America, those who remember the sales which took place in London at the beginning of the Century must have thought that such events were over as far as this country is concerned. This is not so, for a revival has begun, and where but the sacred precincts of Sotheby's, New Bond Street.

On 9th. July 1968 a sale was held of 'Mounted Birds, Shells, Butterflies, Minerals and other "Natural Curiosities".' Shades of the Eighteen Hundreds. The shells consisted of nine lots, Nos. 35 to 43. It will be of interest to collectors to know the prices obtained.

The piece de resistance was Lot 36, 'A Golden Cowry Cypraea aurantium Gmelin, a pierced specimen from Fiji, collected prior to 1900, $3\frac{1}{4}$ in. (9.5 cm.)'. This shell fetched £55, compared with the listed price of £31 in Van Nostrand's Catalog, 1967. It is interesting to compare these prices with those obtained in long-ago sales, the information culled from Peter Dance's 'Shell Collecting.'

Portland Collection, sold 1786	£ 3. 5. 0
Angus Collection, sold 1821	£20.10. 0
Bligh Collection, sold 1822	£ 9.19. 6
Norris Collection, sold 1873	17. 0

Lot 35 consisted of eight shells, 1 Harpa costata, 1 Murex palmarosae, 1 Cypraea mappa, 1 Cypraea argus, 1 Cypraea mus, 1 Conus aulicus and 2 Epitonium scalare in a red leather case. These fetched the fantastic price of £150. The 'Catalog' does not list Epitonium, but the other seven are rated at a total of £35.

By comparison, Lot 37, 'A collection of about 50 named cones and Cowry shells,' which included Cypraea mappa, C. argus and C. mus, as did Lot 35, went for only £12. Lot 38, a mixed collection of some 50 shells, including Harpa costata, Murex palmarosae, Epitonium scalare and Cypraea argus, all in Lot 35, was sold for £38. Other prices were £35, £20 and £80, while the last two lots, similar collections, fetched £28 and £38 respectively. The total amount paid for the shells was £464.

If you are thinking of selling your shells, it would seem that there is no point in sending them to America. Apart from this, comment is unnecessary.

L. W. Stratton

THE EFFECT OF THE EXCEPTIONALLY SEVERE WINTER OF 1962/63 ON THE MOLLUSCA OF A CHESHIRE POND

We all remember only too vividly the length and severity of the winter of 1962/63. I am told it was the worst since that of 1739/40 and I can well believe it.

In my part of Cheshire (a relatively mild and sheltered area, too) there were a few preliminary skirmishes during December 1962, just samples as it were, and then it froze without intermission from Christmas Eve until March 5th. when it began - very slowly - to thaw. That is, it froze continuously for 72 days and was also very cold before and after this period.

It occurred to me during somewhat difficult daily walks with a dog in the frozen fields that it might be interesting to see what effect these abnormally severe conditions had on the freshwater Mollusca. As far as I could learn no such study had been made in this country, though no doubt plenty of work has been done in America where such winters are normal.

Fortunately, within a few minutes' walk of where I live in Bromborough in the Wirral peninsula of Cheshire there is a half-acre pond pleasantly easy of

access and, more fortunately still, I had copious notes on the Mollusca of this pond from 1942 to 1962.

I planned to make regular counts of the Mollusca (number of snails collected in an hour by hand-scoop) and also to make temperature records and this I hoped to continue for a year, beginning as soon as the thaw started. However, the pond was discovered by the angling fraternity and their activities have so largely spoilt the pond that work was abandoned at the end of six months (in August 1963) and it was impossible to use a recording thermometer as I had wished to do. Despite this I did gather some interesting data and here is a brief account of them.

Woodslee Pond lies close to the large school of that name, and is in boulder-clay in a fairly open position, about 100 ft. above sea-level. It is surrounded by abandoned pasture, fast reverting to scrub (mainly birch and oak). In its present condition the pond covers about half an acre and a shallow bar across it suggests that it has been evolved from two adjacent marl-pits. It is quite shallow and its greatest depth now is thought to be only about 4 ft. The 1949 drought lowered the water-level (? by about a foot) and it has never regained its former level. In addition re-colonization by plants is proceeding rapidly, mainly by Typha latifolia and Sparganium ramosum and S. simplex. There is a good deal of Elodea and Callitriche sp. is increasing. It may be mentioned that the severe winter did not kill off Elodea although I have read that it is a frequent casualty in really hard weather.

Willows (Salix cf. fragilis) form a belt across one end of the pond which is otherwise little shaded.

Woodslee Pond has been under observation for twenty years and its molluscan fauna has not altered in that time (except in the case of Pisidium sp. which will be referred to later). It comprised Lymnaea peregra, L. auricularia var. acuta, Planorbis corneus, Planorbis albus, Segmentina complanata, Sphaerium corneum, Pisidium casertanum and P. subtruncatum. Lymnaea stagnalis was introduced into the pond in March 1956 and soon became one of the most abundant species.

The pond was completely frozen over on Christmas Eve and remained thus with people skating, etc. on it until March 5th. when it began to thaw and in two days a 10-foot wide belt all round the margin was ice-free. The big floes in the middle, however, did not finally disappear until nearly three weeks later, and on several nights the temperature was sufficiently low for the margins, to a width of some feet, to freeze again.

The fish casualties were heavy; on March 10th. and again a week later all seen were collected and identified. In order of abundance the species represented were sticklebacks, rudd, tench (8 fish from 9" - 16" long) and a solitary perch. Other vertebrates living in the pond are all three species of British newts, and both frogs and toads spawn in it. First frogspawn seen March 31st. 1963 when also the first toads were seen in cop.

By March 10th. the ice had shrunk sufficiently to show a bank a foot or more across and several inches deep composed of dead Planorbis corneus and Lymnaea stagnalis, the animals still in their shells, and this extended almost all round the pond. The numbers of dead snails must have run into hundreds of thousands. I did not find any Lymnaea peregra at the spots where I sampled this bank of dead molluscs and if any were present they must have been few in number. Or possibly, being much smaller, they disintegrated more rapidly than the other species.

No living snails of any sort were taken on this date (March 10th.). Subsequent weekly counts (number of snails taken in an hour by hand-scoop) showed that Planorbis corneus had best survived and Dr. H. B. N. Hynes has suggested that this may be due to P. corneus having haemoglobin in its blood and being therefore more tolerant of lack of oxygen when the pond was iced over. It is also long-lived and continues to breed for several years. Although not native in the Wirral peninsula it is thoroughly well established there now, and I have not known it to die out in any of the ponds I have studied for twenty years. P. corneus recovered quickly from the effects of the winter and by April 27th. young specimens were abundant, forming nearly 50% of the total

catch of the species.

Lymnaea stagnalis was very hard hit and recovered much more slowly than did P. corneus; it did not begin to breed until much later (July-August) but by March 1964 seemed to have regained its former numbers.

Of other species Lymnaea peregra, formerly plentiful in the pond, was taken on six occasions in 1963, a total of 17 specimens only. L. peregra is usually a hardy species and its near-annihilation is noteworthy and difficult to understand. L. auricularia var. acuta (the typical form does not occur in the district) was abundant in 1956 since when its numbers have diminished yearly and by 1962 none could be found. Nor has it been found since.

One Planorbis albus was taken on May 12th., four on July 4th., one on July 12th. and fourteen on August 12th. The species has survived but is obviously making a very slow come-back. Of the other planorbid which formerly lived in the pond (Segmentina complanata) no examples have been taken since the winter of 1962/63.

Among the bivalves Sphaerium corneum survived in fair numbers and was breeding in May (12th.); young of all sizes were abundant until August (at least).

Pisidium species seem to have vanished from the pond but this may be due partly to the increasing muddiness and general deterioration of the pond as a habitat; rubbish is being tipped (unofficially) and anglers have made fishing-stands, greatly to the detriment of conditions in general. Casual searches for Pisidia during 1961 and 1962 yielded none so that their absence after the severe winter was not wholly unexpected.

The extra-British range of the two species most affected by the 1962/63 winter in my pond, that is, L. stagnalis and P. corneus, includes northern Asia from Kashmir to Siberia in the former species and Sweden, Finland, Siberia and Central Asia in the latter. Both species must live through far more severe conditions in Siberia yet suffered such heavy losses in our abnormal winter. L. peregra flourishes in Iceland, yet was almost exterminated in my Cheshire pond.

Nora F. McMillan

MONACHA CARTUSIANA (MULLER) IN SUFFOLK

The discovery on 6th. September 1968, of Monacha cartusiana (Muller) living in East Suffolk would appear to be of some importance. There are four previous records of this snail in East Anglia, as follows:

- Mayfield, A. Flora and Fauna of Norfolk, Non-marine Mollusca. Trans. Norfolk and Norwich Nat. Soc., Vol. 8.
"Norfolk E. One dead shell by roadside, Long Stratton, 1890. (L. E. Adams)
- Mayfield, A. Notes on the Land and Freshwater Mollusca of East Suffolk. J. Conch., Vol. 10, 295-299. April 1903.
"there is a flourishing colony of this species on a chalky bank at Needham Market."
- Mayfield, A. J. Conch., Vol. 11, 333-340. July 1906.
"A single dead specimen at Great Fakenham (Mrs. Caton). This is the fourth East Anglian locality in which this species has been found."
- Mayfield, A. Non-marine Mollusca of Suffolk. J. Conch., Vol. 12, 269-282. April 1909.
"In a pit at Little Glemham (G. T. Rope)."
- Morley, C. The Mollusca of Suffolk. Trans. Suffolk Nat. Soc., Vol. 4, 1940.
"Needham Market and Glemham Parva (Green 1903): a colony on chalk at the former."

There is no date to Mrs. Caton's finding at Great Fakenham, but it must have been before 1906. Morley's reference to the date for Glemham Parva is wrong. Green's 1903 paper is "A list of Marine Mollusca." Suffolk Inst. Archaeology. His "Catalogue of Land and Freshwater Shells of Suffolk" is dated 1891.

No mention of living snails is made for Glemham Parva, so apparently the only living colony was at Needham Market, discovered by Mayfield in 1902. The exact location is known, but recent search has failed to rediscover Monacha cartusiana there, either living or dead, and it would seem that the colony is now extinct. The pit at Glemham Parva has not so far been located.

At the present site only a few shells were found, one living and two dead shells being taken. They were in grass in an area where chalk was in evidence. Associated species were Hygromia hispida (Linne), Monacha cantiana (Montagu), Helicella caperata (Montagu), Helicella gigaxi (L. Pfeiffer) and Oxychilus cellarius (Muller).

The snails appear to have a somewhat precarious hold in this site, which is limited in area, and it is good to know that a preservation order is to be put upon it.

L. W. Stratton

A SMALL BOG IN CRANHAM WOOD

In his paper, "A Revised List of the Land & Freshwater Mollusca of Gloucestershire", of 1911, Charles Upton recorded Azeca goodalli (Férussac), Lauria anglica (Wood), and Clausilia rolphi Turton from "a small bog in Cranham Wood". The first species is fairly common and the last local in Gloucestershire, but L. anglica has not been definitely recorded from elsewhere in the county. It was decided to make a search for Upton's locality in the autumn of 1968. Two visits were made to a likely area, the second being successful.

The site in Cranham Wood at Grid Reference 32/907130, is in a small westward running valley which eventually joins the Frome valley. The valley sides here rise to 900 ft. O.D., and consist of Inferior Oolite underlain by Upper Lias Sands with Oolite downwash over them. At about 720 ft. Upper Lias Clay outcrops in the valley bottom and gives rise to springs. The vegetation of the valley is basically beechwood, but the standards have been felled over part of the area. On the narrow strip of Upper Lias an alder wood is developed with a very wet ground layer.

A rich molluscan fauna occurs in the wet ground litter round the springs. This fauna was mainly examined by taking material home. Samples were collected as follows:

Sample A: a bag of ground litter consisting of dead leaves, mostly alder (Alnus glutinosa L.), with some beech (Fagus sylvaticus L.), moss, dead grass, and living plants of golden saxifrage (Chrysoplenium oppositifolium L.), collected from different spots over about 10 square metres, under the shade of alders on 20th. November 1968.

Sample B: a bag of dead leaves, mostly beech with a little alder, hawthorn (Crataegus monogyna Jacquin), and ash (Fraxinus excelsior L.), remains of Dog's mercury (Mercurialis perennis L.) and giant horsetail (Equisetum telmateia Ehrhart), and living plants of golden saxifrage, a speedwell (Veronica montana L.) and a buttercup (Ranunculus repens L.), collected from an area of one square metre at the edge of a clearing round a spring 20 yards west of the Sample A site, on 1st. December 1968. The spring was marked by an abundant growth of giant horsetail which is characteristic of springs on the Upper Lias in Gloucestershire.

Though the samples were collected in a different manner, the actual amount of litter was roughly equal in each case, so a loose comparison can be made between their two counts. In fact the Percentage of Affinity between the two counts is 71%. The figures indicate both living and fresh dead shells. The

only species not found living in the samples was *Arianta arbustorum* though the "Helix" juveniles may well be this.

The counts are:

<u>Species</u>	<u>Sample A</u>	<u>Sample B</u>
* <i>Acicula fusca</i>	17	0
* <i>Carychium minimum</i> seg.	38	61
* <i>Carychium tridentatum</i> (i)	119	327
<i>Azeca goodalli</i>	8	19
<i>Cochlicopa lubrica</i> seg.	8	3
* <i>Columella edentula</i> seg.	17	6
* <i>Vertigo substriata</i> (ii)	0	3
* <i>Lauria anglica</i> (iii)	0	42
<i>Acanthinula aculeata</i>	3	7
* <i>Clausilia rolphe</i> (iv)	10	3
<i>Arianta arbustorum</i>	1 fragment	0
" <i>Helix</i> sp." juveniles	17	14
* <i>Hygromia subrufescens</i> (v)	4	2
<i>Hygromia striolata</i>	1	1
<i>Hygromia hispida</i>	0	3
<i>Punctum pygmaeum</i>	0	30
<i>Discus rotundatus</i>	60	87
<i>Arion intermedius</i>	8	14
<i>Arion hortensis</i>	0	10
<i>Euconulus fulvus</i>	25	41
* <i>Vitrea crystallina</i> seg.	15	69
<i>Vitrea crystallina</i> agg. (juveniles)	0	25
<i>Oxychilus cellarius</i>	3	1
<i>Oxychilus alliarius</i>	6	1
<i>Retinella radiatula</i>	5	1
<i>Retinella pura</i>	23	68
<i>Retinella nitidula</i>	9	3
<i>Vitrina pellucida</i>	6	7
* <i>Vitrina major</i> (vi)	1	(1)
<i>Agriolimax reticulatus</i>	5	1
<i>Agriolimax laevis</i>	5	1

*Examples kindly verified by Dr. M. P. Kerney.

Notes

- (i) The figures are probably an under-count for this genus.
- (ii) New to v.c. 33; the specimens are in the Conchological Society's Voucher Collection.
- (iii) Three age groups were present; adults, 2nds grown specimens of 5-6 whorls, and young juveniles with 3 whorls.
- (iv) Three of the four living adults had worn shells; the worst worn had completely lost its periostracum and most of the ribbing, and there was green algal growth along the sutures.
- (v) This is widespread in old woods on the Cotswolds, though not confirmed for v.c. 33 until 1968.
- (vi) A live sexually mature specimen from Sample A was determined by dissection by Dr. L. Lloyd-Evans, and a dead shell from Sample B was determined as probably this by Dr. Kerney. The fifth v.c. 33 locality.

In addition, *Marpessa laminata*, *Arion circumscriptus sylvaticus*, and *Vitrea contracta* occur on the slope above the springs, and single specimens of *Arion ater* agg. and juvenile *Limax maximus* were seen in the valley bottom. *Vitrea contracta* was also collected at the edge of the wet area on 1st. December.

It is not clear why some species should occur in one sample and not in the other. Differences in the sample composition, e.g. the presence or absence of

moss, and the proportion of beech leaves, may be part of the cause.

Vertigo substriata and Lauria anglica have similar distributions in the British Isles (Ellis 1951), so their occurrence together well outside their main range is an interesting comment on the power of some non-marine mollusca to survive as small isolated colonies for long periods.

Readers may like to compare the above list with those given by Boycott (1934, p. 26) for Witcombe (not Whitcombe) Wood, half a mile from the present locality, and for Torc Woods, Muckcross, Co. Kerry. Five of the seven species recorded from Torc and not from Witcombe occur here, the missing two being Acanthinula lamellata and Lauria cylindracea.

Thanks are due to Drs. M. P. Kerney and L. Lloyd-Evans for determining specimens and to Mr. D. B. Atty for examining the counts statistically.

D. C. Long

References:

- Boycott, A.E., 1934: The habitats of land Mollusca in Britain. J. Ecol. 22: 1-38.
Ellis, A.E., 1951: Census of the Distribution of British Non-Marine Mollusca. J. Conch. 23: 171-244.
Upton, C., 1911: A Revised List of the Land and Freshwater Mollusca of Gloucestershire. Proc. Cotteswold Naturalists' Field Club. 17: 177-192.

FIELD MEETING - TO THE SHROPSHIRE UNION CANAL, CHESHIRE, 13th. APRIL 1969

A party of six members and two friends met at Chester General Station, and went by car to the bridge crossing the Shropshire Union Canal near the Chester Zoological Gardens (O.S. 33414711) where they were met by a party of members of the Liverpool Naturalists' Field Club. Heavy rain had fallen earlier, but conditions for collecting were excellent, and the excursion resulted in the taking of over fifty species.

By the roadside near the bridge the following were obtained:

<u>Carychium tridentatum</u> (Risso)	<u>A. ater</u> (L.) (agg.)
<u>Cochlicopa lubrica</u> (Müller)	<u>Oxychilus alliarius</u> (Miller)
<u>Helix nemoralis</u> L.	<u>Retinella radiatula</u> (Alder)
<u>Hygromia hispida</u> (L.)	<u>R. nitidula</u> (Draparnaud)
<u>Discus rotundatus</u> (Müller)	<u>Vittrina pellucida</u> (Müller)
<u>Arion circumscriptus</u> Johnston (seg.)	
<u>A. hortensis</u> Ferussac	<u>Agriolimax reticulatus</u> (Müller)

The following species were found in the canal:

<u>Viviparus viviparus</u> (L.)	<u>Planorbis carinatus</u> Müller
<u>Valvata piscinalis</u> (Müller)	<u>P. vortex</u> (L.)
<u>Bithynia tentaculata</u> (L.)	<u>P. albus</u> Müller
<u>B. leachi</u> (Sheppard)	<u>Segmentina complanata</u> (L.)
<u>Lymnaea palustris</u> (Müller)	<u>Acroloxus lacustris</u> (L.)
<u>L. stagnalis</u> (L.)	<u>Succinea pfeifferi</u> Rossmässler
<u>L. auricularia</u> (L.)	<u>Unio pictorum</u> (L.)
<u>L. peregra</u> (Müller)	<u>Anodonta anatina</u> (L.)
<u>Physa fontinalis</u> (L.)	<u>Sphaerium rivicola</u> (Lamarck)
<u>Physa</u> sp.	<u>S. corneum</u> (L.)
<u>Planorbarius corneus</u> (L.)	<u>S. lacustre</u> (Müller)

On a previous visit to this canal the absence of Pisidium spp. was noted, and the same phenomenon was again observed. The bottom of the canal appeared muddy, with a good deal of decaying vegetable matter, and was obviously unsuited to these species.

The canal bank had the following species:

<u>Carychium minimum</u> Müller	<u>Euconulus fulvus</u> (Müller)
<u>Cochlicopa lubricella</u> (Stabile)	<u>Vitrea crystallina</u> (Müller)
<u>Vallonia costata</u> (Müller)	<u>V. contracta</u> (Westerlund)
<u>V. pulchella</u> (Müller)	<u>Oxychilus cellarius</u> (Müller)
<u>Hygromia hispida</u>	<u>O. alliarius</u>
<u>Discus rotundatus</u>	<u>Zonitoides nitidus</u> (Müller)
<u>Arion intermedius</u> Normand	<u>Agriolimax reticulatus</u>
<u>A. subfuscus</u> (Draparnaud)	<u>A. laevis</u> (Müller)

Some adjacent ditches were examined. The first of these produced Pisidium casertanum (Poli) and P. personatum Malm. The second ditch had Succinea pfeifferi, Pisidium casertanum and P. personatum, while the reeds growing in and beside it had Vertigo antivertigo (Draparnaud). The third ditch contained Lymnaea peregra, Planorbis contortus (L.) and Pisidium personatum.

Marjorie Fogan

FIELD MEETING - TO SOUTHPORT, LANCASHIRE, 20th. APRIL 1969

A group of ten members met at Southport and spent a pleasant and interesting afternoon on the shore to the south of the pier, searching for marine molluscs. Two previous visits have been made to Southport shore and these were reported in Newsletters 21 and 25 (pages 10 and 49 respectively) where lists of the species found are given.

On this third visit we collected 39 separate species, 5 of which are species which were not found on the two earlier visits. The additions to the lists in the Newsletters mentioned, are:-

<u>Dosinia lupinus</u> (L.)	<u>Nucula sulcata</u> Bronn
<u>Spisula elliptica</u> (Brown)	<u>Gibbula cineraria</u> (L.)
<u>Littorina littorea</u> (L.)	

This group now brings the total of species found recently at Southport to 51.

The only molluscs found live on this occasion were Macoma balthica (L.), Mytilus edulis (L.) and Mactra corallina (L.) which increases the number of species found live at Southport to 7.

Jean Kline

FIELD MEETING - TO HOLDEN CLOUGH, OLDHAM, LANCASHIRE, 10th. MAY 1969

Holden Clough (Map Ref. 34945016), is a very small valley with a stream running along the bottom and having trees and shrubs, such as oak, holly and ash, growing on the steep-sided clay banks. It is in fact one of the few remaining examples of many such "cloughs" which used to be found in this area, and for this reason local naturalists are busy recording its flora and fauna before this one too is engulfed by housing estates. One has already appeared and is looming over a shoulder of the clough. We are fortunate however, in that the Oldham Libraries Committee have agreed to publish the finished report.

A group of four members met here on Saturday afternoon to make a start on the mollusca, and recorded the following species:-

<u>Potamopyrgus jenkinsi</u> (Smith)	<u>Euconulus fulvus</u> (Müller)
<u>Carychium minimum</u> Müller agg. (to be det.)	<u>Vitrea crystallina</u> (Müller)
<u>Lymnaea peregra</u> (Müller), near the stream	<u>Oxychilus cellarius</u> (Müller)
<u>Planorbis leucostoma</u> Millet, in a small swamp	<u>O. alliarius</u> (Miller)

Cochlicopa lubrica (Müller)

Discus rotundatus (Müller)

Arion intermedius Normand

A. circumscriptus Johnston

A. hortensis Ferussac

A. subfuscus (Draparnaud)

A. ater agg., chocolate-brown in colour (to be det.)

Retinella radiatula (Alder)

R. nitidula (Draparnaud)

Zonitoides excavatus (Alder)

Agriolimax reticulatus (Müller)

A. laevis (Müller)

Small ponds on either side of the upper edges of the clough yielded:-

Planorbarius corneus (L.)

Segmentina complanata (L.)

P. crista (L.)

P. contortus (L.) and Pisidium spp. (to be det.)

It is to be hoped that several more meetings of this nature can be arranged, so that it will be possible to give the most complete list that we can obtain.

Wm. F. Edwards

PUBLICATIONS RECEIVED

Bulletin Mensuel (2) No. 4, April 1969, Association Belge de Malacologie.

The Bulletin always contains minutes of meetings, personal news and lists of recent publications. There are requests for correspondents and exchanges and the April issue includes a glossary of French terms and articles on Belgian littoral erosion (S. Duchamps) on *Gibbula* (with a bibliography and synonymy) and the final part of a thoroughgoing treatment of the European Polyplacophorans by M. Lucas.

Editor Maurice Lucas, [REDACTED], Bruxelles 17, Belgium.

'A Sheller's Directory of Clubs, Books, Periodicals and Dealers', 76 pp., listing 88 clubs, 168 books, 13 periodicals and 90 shell dealers. \$ 1.00.

'Catalog of Dealers' Prices for Marine Shells', 2nd. Edition, listing over 5,000 species and the prices charged for them by various dealers, 75 pp. \$ 3.00.

These and other works are edited by Thomas C. Rice and can be had from him at P.O. Box 33, Port Gamble, Washington, U.S.A. 98364.

Gloria Maris, September 1968, Conchological and Malacological Association 'Gloria Maris' of Antwerp.

In addition to notes of the Society, contains an article on the identification of *Cymbium* with illustrations and synonymys written in Flemish by F. van Bulck and including a special study of *C. marocanus* Pallary 1930.

Secretary, Jean Wuyts, [REDACTED], Antwerp, Belgium.

T.E.C.

GENERAL NOTES

We have been requested to bring details of the following Trust to the attention of members. It is understood that the Trustees are paying out pensions in the range of £180-£410 p.a. at the present time.

JOHN MURDOCH'S TRUST. Pensions available for bachelors or widowers over 55 years of age.

The late John Murdoch, by his Will, directed his Trustees to employ the

residue of his Estate in instituting and carrying on a scheme for the relief of Indigent Bachelors and Widowers, of whatever religious denomination or belief they may be, who have shown practical sympathy either as amateurs or professionals in the pursuits of Science in any of its branches, and whose lives have been characterised by sobriety, morality, and industry, and who are not less than fifty-five years of age.

John Murdoch's Trustees resolved to carry out the terms of the bequest by granting donations or pensions to persons who comply with these conditions. Pensions will be given from year to year only, and may be increased, reduced, or withdrawn altogether as the Trustees see fit.

Application forms for pensions or donations may be had on application to: Messrs. Shepherd and Wedderburn, 16 Charlotte Square, Edinburgh, EH2 4YS.

Papers for Students. No. 7, "Literature on British Molluscs".

This paper has been out of print for some time. A reprint is now available. Since the publication of the original issue on 12th. May 1966 many new books and papers have appeared. Mrs. Turk has prepared two pages of "Additions and Corrections" and these form part of the new issue. However, many of those who received the first publication may like to have these two pages. It is hoped some will be available, price 2d., at the next meeting of the Society on October 18th. 1969. Those not able to be present can secure copies from me by post, postage and packing 6d. Payment can be made by sending stamps value 8d. to [REDACTED], Bromley, Kent. [REDACTED].

H. E. J. Biggs

REVIEWS

Owing to the somewhat erratic appearance of the Journal of Conchology of late, some confusion seems to have arisen about reviews and the purpose of this note is to clarify matters.

All books and sizable papers intended for review should be sent to the Editor at the address below. Brief notes drawing attention to periodicals, other Societies' Newsletters, Notes, etc., will continue to appear in the Newsletter.

The Editor (Nora F. McMillan), [REDACTED], Bromborough, Cheshire.

INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

Announcement A.(n.s.) 84

Required six-month's notice is given on the possible use of plenary powers by the International Commission on Zoological Nomenclature in connection with the following names listed by case number:

(see, Bull.zool.Nomencl. 26, pt. 1, 12th. May 1969):

- 1868. Suppression of thirteen generic names and one specific name published by R. S. Allan, 1926, for New Zealand Mollusca.
- 1873. Suppression of Hesperites and Hesperites clarae Pompeckj, 1895 (Cephalopoda).

Comments should be sent in duplicate, citing case number, to the Secretary, International Commission on Zoological Nomenclature, c/o. British Museum (Natural History), Cromwell Road, London, S.W.7, England. Those received early enough will be published in the Bulletin of Zoological Nomenclature.

JUNIOR MEMBERS

Elected - 17th. May 1969

DEANS, Lynda M., Burnbraes School, Moffat, Dumfriesshire.

GLEW, David H.M., [REDACTED], West Wickham, Kent.

WILLIAMS, Tessa, [REDACTED], Nairn, Scotland.

TRANSFERRED FROM JUNIOR TO SENIOR MEMBERSHIP

HEADON, M.P., [REDACTED], Stifford Clays, Grays, Essex.

CHANGE OF ADDRESS

WEAVER, Kevin, [REDACTED], Somerset West, Cape, Republic of South Africa.

DREISSENA COCHLEATA IN LANCASHIRE

While examining drift at the highwater mark on the beach at Fairhaven, Lancashire, in September 1966, I picked up a small group of unusual looking mussels. These still had a part of the animal matter inside, and consisted of approximately 18 shells of various ages, held together by the byssus. Study of the group eventually established that they were the species known on the Continent as Dreissena cochleata (Kick in Nyst). It would seem that they either came directly from the hull of a ship or there is the possibility that they may be living somewhere in the Ribble Estuary, and it would be worth-while looking out for this species in suitable places. It occurs on pilings, rafts and ships' hulls in Belgium, France, Holland and Germany, in brackish water.

Dr. W. Adams, author of "A Fauna of the Land and Freshwater Mollusca of Belgium" (1960) informs me that the species was introduced into Europe from West Africa. P. J. van Beneden (1837) suggested that his D. africana from Senegal might be identical with D. cochleata. Later, C. R. Boettger (1928) stated that the species was D. lacustris (Morelet) and not D. africana. Both species are West African.

I suppose that there is a further possibility - that the shells came direct from West Africa. No doubt a search of the local shipping lists for that period would solve this point. Examples of the shells were sent to the recorder, Mrs. S. Turk and two specimens are in the author's collection.

Philip Cambridge

THRUSHES FEEDING ON SLUGS

On the morning 6th. June 1968, by Merryweathers Nursery, Halam Road, Southwell, I observed a thrush with a slug in its beak. The slug was probably of the genus Arion. The bird alighted onto the footpath with its prey, holding the slug by the front of the mantle. The bird proceeded to drag the slug backwards and forwards in the dust, at the side of the path, following much the same procedure I had previously observed with a blackbird feeding on Arion subfuscus (Draparnaud), Pitchford, (1948).

When the thrush had succeeded in cleaning the slug of slime, it then picked up the slug, and beat it on the footpath, until it broke open. The bird made a meal out of the outer skin, before collecting the viscera and flying off over the road.

About a fortnight later on 19th. June 1968, in Church Lane, Thurgarton, I saw a thrush alight on the road carrying a slug in its beak; by cautious approach I was able to see the slug was a half-grown Arion ater (L.).

This bird followed the pattern of procedure previously described, after

devouring the skin of the slug, the bird picked up the viscera and flew over the stone wall, to a nest of young in a yew tree on Boots' premises. The weather was very dry at this time and I think snails would have been hard to find. Thrushes seem to prefer snails to slugs.

Blackbirds devour a fair number of slugs in my garden, particularly Arion hortensis Férussac and Agriolimax reticulatus (Müller). Along with Milax budapestensis (Hazay), these slugs create much damage in the herbaceous and vegetable garden.

Pitchford, G.W., 1954. Blackbird feeding on Arion subfuscus (Draparnaud), J. of C., Vol. 24, No. 1, p. 24.

G. W. Pitchford

An entertaining article on Bivalves by John Welman, "A dish of clams," appeared in Maga (Blackwood's Magazine) for last October (No. 1836, p. 317).

British Snails by A. E. Ellis (Clarendon Press, 1926) has been out of print since 1950 and as much as £7.10.0 has been paid for a copy in recent years. A second edition was published this August, reprinted lithographically from corrected sheets of the first edition. There is an Appendix of additional species added to the British list since 1926 and 13 pages of notes referring to the text, also a supplementary Bibliography. Price 45/-. It will be reviewed in the Journal of Conchology.

REQUESTS

The following books are required by Anthony Walton, [REDACTED], Tulse Hill, S.W.2 -

FORBES & HANLEY, edition with coloured plates.

STEP, Shell Life, edition with coloured plates.

G. B. SOWERBY, Illustrated Index of British Shells, preferably second edition.

Mr. B. Davis, Room E 3, Dept. of Geology, King's College, Strand, London, W.C.2, would appreciate information on the genus DENTALIUM under the following headings-

- 1) distribution and depths around Europe - exact localities please.
- 2) ecology and substratum type.
- 3) shell accretion rates and growth stages.
- 4) genetic history (modern) and life span.
- 5) food associations and predators.

Mrs. F. Curle, [REDACTED], Westcliff-on-Sea, Essex, is interested in purchasing shells to build up her collection and would like to receive offers. Later on, she may be in a position to offer exchanges of shells.

Produced by THE CONCHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

COLLECTING SNAILS IN HUNGARY

The Danube in Southern Hungary and its Banks

All ecological notes in books are to be taken as relative. I know Truncatellina costulata (Nilsson) from the island of MÖn, where it occurs on dry grassy slopes - you may fancy my surprise, when I was shown it last autumn living in a moist glen covered by wood and shrub. It is the same thing with Abida secale in Thuringia, the few colonies we have there are not at all dry and sunny - if no plants give it shadow, it lives even under stones. We believe that far from the sea coast the air is too dry for them - so they need a more moist substrate.

In 1967 I was in Hungary for the first time. Dr. Andor Richnovszky, a member of the Conchological Society, had invited me. I was most interested in Fagotia acicularis (Férussac), a species that occurs far from its native country in some Pleistocene sands and gravels, also in a marl, all places situated rather near together in the Valley of the river Unstrut, northern Thuringia, and its left tributary Helme. Four places were worked at the end of the last century by Wüst (Edersleben, Rossleben, Zeuchfeld 1900, Bottendorf 1902), and in 1963 a fifth place was detected (Kalbsrieth, situated between Edersleben and Bottendorf) that I had to work (Zeissler 1968).

I wanted to know what species live together with Fagotia today, and also what fauna was to be expected on the banks of a river with Fagotia. So I was glad of an occasion to visit Hungary.

Baja is situated in the south of Hungary, a small nice town in the sandy plain, at the left side of the Danube, surrounded by vineyards, fields of Indian corn, paprika, etc., and on the opposite bank, accessible by one single bridge for railway, carriages and walkers, we see nothing but woodland. Next to the river it consists of several species of Salix only, then some Populus occur here and there, but within the forest Populus nigra is most frequent. Far from the river there is still a zone of Oak, that looks like similar forests in Germany.

I was surprised, that there were no foreign trees, no shrubs I did not know from home. But the predominance of Black Poplar was strange to me, also that Rubus caesius, in Germany a poor creeping plant on dry slopes, was developed as a liana and hung down the trees. The second surprise was, that in the forests I found no sort of snail I did not know before. Carychium minimum, Cochlicopa lubrica and C. nitens, Succinea hungarica and S. oblonga, Punctum pygmaeum, Vitrea crystallina, Aegopinella nitens, Zonitoides nitidus, Euconulus fulvus, Cochlodina laminata, Laciniaria biplicata, Bradybaena fruticum, Perforatella rubiginosa and P. incarnata, Trichia hispida, and T. unidentata, Arianta arbustorum, Cepaea hortensis and Helix pomatia, all might occur in any middle European wood, not always together, not all everywhere, but they are known here as woodland species. Valloniae of several species also occur exceptionally in German forests. But Abida frumentum, Pupilla muscorum, Chondrula tridens, Monacha carthusiana, Euomphalia strigella, Cepaea vindobonensis, mostly live on open places, as far as they occur at all.

If one wants to understand their occurring in the forest along the banks of the Danube, one must consider that a wood of Salix and Populus is much lighter than the "green darkness" of a German oak or beech forest. In Hungary sun shines onto the bottom between the trees.

A small dry Robinia forest far from the Danube looked somewhat strange to me. It was in October, and I saw the bottom of the forest covered with flowers of all

colours. In Germany we know woodland flowers, only in the spring, the latest vanish in June. But the most frequent flower of this forest in autumn was Delphinium consolida, in Germany growing among the corn. And the snail fauna there was: Abida frumentum, Chondrula tridens, Helicella hungarica and H. obvia, Cepaea vindobonensis and Helix pomatia. Helicella hungarica was new to me. We must admit, that those species also may occur in quite open plains of southern Hungary.

The Danube proved disappointing as it was impossible to get living snails or bivalves out of the water. Living aquatic mollusca I got only from ditches and ponds, where Lymnaea stagnalis and Planorbarius corneus grow to really giant sizes. Also on the sandy beach of the river one could find living Unio pictorum, Anodonta piscinalis and Viviparus viviparus, left by the water. What one calls "the typical Danube Fauna" was only to be obtained by sifting sand, i.e. in a subfossil state. It consists of the following snails: Theodoxus transversalis, T. danubialis (= T. cantianus), Viviparus viviparus (V. hungaricus or V. acerosus do not differ from it but by their size), Valvata piscinalis and V. naticina, Lithoglyphus naticoides (which is the most frequent species of all), Bithynia tentaculata, Fagotia acicularis, Radix peregra ovata, Planorbis planorbis, Gyraulus albus and G. acronicus, Planorbarius corneus, and of the bivalves: Unio crassus, U. tumidus, U. pictorum, these rather rare, further Sphaerium rivicola, S. solidum, S. corneum, Pisidium amnicum, P. henslowanum, P. subtruncatum, P. casertanum (all Pisidia revised by Kuiper), and Dreissena polymorpha.

We must not forget that by sifting we found in the same samples also some marine shells. I remember a Mactrid and snails like Turritella and Cerithium, but I was unable to determine them. They are Tertiary shells of the old "Pannonical Sea". The old marine sand is removed again and again by the great river, and so species of different ages are mixed.

Indeed we may find also specimens of all land snails and mollusca of shallow water that are occurring round the Danube, but they are less frequent than the fauna of the river itself.

I doubt whether this "typical Danube fauna" is still found living in that part of the Danube, as the water here is now polluted. I saw only those few living species mentioned above.

I thank Dr. Richnovszky for his invitation and his friendly help in collecting as well as Mr. Kuiper for determining the Pisidia of this collection.

References:

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- (1967): Data to the Mollusk Fauna of the Flood Area of the Danube - Opus.Zool. 7/1: 195-205, Budapest.
- Wust, E. (1900): Untersuchungen über das Pliozän und das Älteste Pleistozän Thüringens nördlich von Thüringer Walde und westlich von der Saale - Abh.Naturf.Ges.Halle 23: 21-268, Stuttgart.
- (1902): Ein pleistozäner Unstrutkies mit Corbicula fluminalis Müll.sp. und Melanopsis acicularis Fér. in Bottendorf bei Rossleben - Zeitschr.Naturwiss. 75: 209-223, Stuttgart.
- Zeissler, H. (1968): Mollusken aus dem altpleistozänen Unstrutkies von Kalbsrieth - Ber.deutsch.Ges.geol.Wiss.A.Geol.Paläont. 13/3: 401-413, Berlin.
- Zeissler, H. & Richnovszky, A. (1968): Zwei südungarische Waldschneckenfaunen - Mitt.Deutsch.Malak.Ges. 1/11: 223-226, Frankfurt am Main.

Hildegard Zeissler
Institut für Quartärpaläontologie, Weimar

A VERY CHEAP MODULAR STORAGE SYSTEM

Many beginners find difficulty in devising cheap storage for their shells and even advanced collectors, with walls lined with cabinets, may require additional

short-term storage for material being worked on. I would therefore like to suggest an expedient which has the merits of extreme cheapness and simplicity. Stockings are normally sent to retailers in cardboard boxes about 10" x 8", the depth depending on the number of pairs. The boxes of the better-known firms are of good-quality card and in a variety of colours, currently orange, pink, blue, green, yellow and gilt. The largest size is sufficiently deep to take all save the very largest British molluscs, while the shallowest is ideal for bivalves displayed flat.

If it is desired to sub-divide them it will be found that trays made from ordinary (not flip-top) cigarette boxes will fit precisely; 12 trays made from tens; 6 from twenties or a combination. The easiest way of making trays is to cut the flaps from the insides and join the corners. This can be done with self-adhesive plastic tape (as sold by Woolworths) but drafting tape, passe-partout or linen tape is probably preferable as only experience will show which of the more modern types break down into a disgusting sticky mess. However, if a life of not more than a year is contemplated, ordinary 'Scotch' or Sellotape' will serve. With both boxes and trays the appearance can be improved by covering with good quality paper but both sets of manufacturers are likely to use a product with a good shelf-life, at least under British conditions, so this is merely an additional refinement. The boxes have the advantage of being 'colour-coded'. They are stout enough to be stacked at least six deep without damage and can usually be had for the asking. While the museum-trained may be suspicious of their durability I can only say that I have handled cigarette boxes at least thirty years old - and stocking boxes ten years old - which showed no sign of deterioration and, as far as I can tell, no injurious fumes are given off. The stocking boxes can also be used as trays, in drawers, and (if cork stops are placed in the corners) stacked.

Dr. L. S. Garrad, A.M.A.

HELIX ASPERSA ON THE BERWICKSHIRE CLIFFS

One should not always believe rumours. The particular ones which led me to find thriving colonies of Helix aspersa (Müller) far from any garden, concerned reports of Helix pomatia (L.) on the Berwickshire coast, East Scotland, near Fast Castle (36/860715). Although it was extremely unlikely that these reports were true, none-the-less they were worth a follow-up, especially as the area concerned was blank on the Census map so that any mollusc would be a worthwhile find. Indeed no H. pomatia were found, although one instigator of the rumours still maintains that they live in the grounds of Coldingham Priory, having been introduced by the monks several centuries ago. In view of the fact that the large snails elsewhere are H. aspersa, one imagines that the monks, as a piece of one-up-manship, served this edible snail to their honoured guests, who without the benefit of the Trades Descriptions Act, were deceived into thinking that they were eating Roman snails unusually far north.

H. aspersa proved to be flourishing in the coastal area north-east of the A 1107 road. No gardens were searched, but the animals were found in walls beside fields and in nettlebeds beside streams, in fact anywhere where there was lush vegetation upon which to feed and crevices in which to lie up, although many were found dormant precariously attached to the stems and leaves of whatever they had been eating.

The most interesting locality was set rather apart from the others. It was most easily reached along the base of the sea cliffs. Upon rounding a rocky corner, where one could be cut off by the tide, we found a tiny cove, Windylaw Cove (36/832702) with a scree leading down into it and cliffs behind. The smooth Silurian greywacke rocks gave way above to a steep grassy slope, the top of which is about 300 to 400 feet above sea level. The upper part of the scree was thickly overgrown with vegetation, chiefly Dog's mercury (Mercurialis perennis (L.)), nettles (Urtica dioica (L.)), Cow parsley (Heracleum sphondylium (L.)), garlic (Allium sp.) and Wood sage (Teucrium scorodonia (L.)). Dried slime of large snails decorated the plants like tinsel on a Christmas tree. We climbed to the base of the cliffs. Enormous snails were clustering in the cracks as thickly as the winkles on the rocks below. Closer investigation revealed many juveniles as well and the tragic remains of those we had unwittingly crushed underfoot beneath the plants. H. aspersa everywhere! Trails led straight up the rock face and into

the grass, but few trails went in a horizontal direction. Though the animals appear to be rock climbers they have not mastered the art of the traverse. Snails were in cracks and on the open rock as far up as we could see.

The colouring of the shells of H. aspersa in this isolated place was a little different from that generally regarded as characteristic for the species. It consisted of four wide spiral brown bands with the zig-zag mottling almost absent. Shells in neighbouring localities had zig-zag marking in both large and small amounts, but generally the latter, and so it is not possible to say whether the lack of zig-zags is here a result of inbreeding in isolation or a common characteristic of the region.

H. aspersa was not the only species of mollusc found in Windylaw Cove. Also present, in approximate order of abundance, were:-

<u>Discus rotundatus</u> (Müller)	<u>Clausilia bidentata</u> (Ström)
<u>Oxychilus cellarius</u> (Müller)	<u>Acanthina aculeata</u> (Müller)
<u>Cepaea nemoralis</u> (L.) and <u>C. hortensis</u> (Müller) (are the brown and white lipped varieties just one species here, neither being at all common?)	
<u>Retinella nitidula</u> (Draparnaud)	<u>Balea perversa</u> (L.)

This cove was compared with a place about a quarter of a mile west along the shore, where the cliffs are all grass covered and there are some ruined cottages. Here were found only three dead shells of H. aspersa, all more or less mottled, but plenty of

<u>Lauria cylindracea</u> (da Costa)	<u>Discus rotundatus</u> (Müller)
<u>Clausilia bidentata</u> (Ström)	<u>Oxychilus alliarius</u> (Miller)
<u>Cepaea</u> sp.	<u>Euconulus fulvus</u> (Müller)

A blackberry thicket contained numerous Monacha granulata (Alder) and a muddy stream had small Lymnaea truncatula (Müller).

Shelagh M. Smith

SNAIL-EATING DRAGONS

An entertaining account of the feeding habits of the Guiana Dragon or Caiman Lizard (Dracaena guianensis), a predator on snails, is given by Gerald Durrell (pp. 69-72). This large amphibious lizard "abounds in the tidal marshlands of the Guianas and the lower Amazon," while a second species with similar habits, D. paraguayensis, "lives in the great swamps of the upper Paraguay River" (Pope, p.305; illustration on plate 207). The prey is grasped by the small, pointed teeth at the front of the jaws and then crushed by the large, flat molars, which resemble miniature elephant's teeth. The fragments of shell are ejected with the aid of the tongue. There is a description of Dracaena in Schmidt & Inger (p.139) and a good portrait in Mertens (plate 56). It is perhaps rather unkind to allude to the uninspired guess in the Cambridge Natural History (vol. 8, p.549): "it seems to be semi-aquatic, and, to judge from the teeth, herbivorous." Some skinks, e.g. Tiliqua gerrardi, also have a dentition adapted for crushing snail shells (Mertens, p.100).

Colubrid snakes of the sub-family Dipsadinae are also snail-eaters. "They insert the lower jaw into the opening of a snail's shell, drive their enlarged, somewhat recurved teeth into the snail's body by a lateral rotation of the jaw, and draw it out with great skill and immediately devour it" (Mertens, p.94). Some other snakes prefer slugs (Schmidt & Inger, p.224).

References:

- Durrell, G., 1964. Menagerie Manor. Rupert Hart-Davis, London.
Mertens, R., 1960. The World of Amphibians and Reptiles, translated by H. W. Parker. George G. Harrap, London.
Pope, C. H., 1956. The Reptile World. Routledge & Kegan Paul, London.
Schmidt, K. P., & Inger, R. F., 1957. Living Reptiles of the World. Hamish Hamilton, London.

A. E. Ellis

SNAIL-EATING SHEEP

The quotation from Peter Kalm referring to pigs eating snails (Conchologists' Newsletter No. 29, p.97), calls to mind the following references to sheep with the same taste.

(1) "Their Sheep thrive exceedingly, the Grass on their Commons being short and dry, and full of the same little Snail which gives so good a relish to the Sennan and Phillac Mutton in the West of Cornwall. The Sheep will fill themselves upon the Ore-weed as well as the Bullocks." Borlase, W., 1756. "Observations on the ancient and present state of the Isles of Scilly," p.32. Oxford.

(2) "In the neighbourhood of St. Columb, in Rôsland, and St. Kevern, their sheep are large, and bring a great price, but the sweetest mutton is reckoned to be that of the smallest sheep, which usually feed on the commons where the sands are scarce covered with the green-sod, and the grass exceedingly short; such are the towans or sand-hillocks in Piran-sand, Gwythien, Philac, and Senan-green near the Land's-End, and elsewhere in like situations. From these sands come forth snails of the turbinated kind, but of different species, and all sizes from the adult to the smallest just from the egg; these spread themselves over the plains early in the morning, and whilst they are in quest of their own food among the dews, yield a most fatning nourishment to the sheep." Borlase, W., 1758. "The Natural History of Cornwall," p.286. Oxford.

There is a reference to pigs eating limpets in the Rev. George Woodley, "A view of the present state of the Scilly islands" etc., p.79 (London & Truro, 1822): "Of hogs there are great numbers on all the principal Islands; but such of those animals as belong to the poor are in general fed on ore-weed, limpets etc. which gives the flesh a disagreeable redness, and a very unpalatable, fishy taste."

Note: in the above extracts the spelling is as in the originals.

Stella M. Turk

FIELD MEETING - TO CHARMOUTH AND LYME REGIS, DORSET

Friday May 9th. - Sunday May 11th. 1969

Joint Meeting with the British Sub-Aqua Club (Croydon Branch)

On Saturday morning May 10th. fourteen members of the C.S.G.B.I. and a number of the British Sub-Aqua Club, lead by G. Dinesen, with equipment, met at 10 a.m. on the Cob, Lyme Regis with the intention of exploring the sea bottom of Lyme Bay and collecting live specimens of some of the marine molluscs of this area. Unfortunately the weather turned for the worse and all previous plans had to be scrapped. A fuller report of the diving over the weekend is given below. In the afternoon the C.S.G.B.I. members, with the kind permission of Mr. T. J. Wallace and the Headmaster of Allhallows School, visited the Axmouth Lyme Regis Undercliffs, a National Nature Reserve, and a very profitable time was spent searching for freshwater and terrestrial molluscs in beech woods and chalk scrubland. A few shore species were collected at Humble Point (Grid Ref. 902302) and are in the Marine list below marked with an asterisk (*).

Terrestrial and freshwater molluscs taken on the Undercliffs:-
Oxychilus helveticus (Blum); Lymnaea peregra (Müller); Arion hortensis (Férussac); Arion intermedius (Normand); Retinella nitidula (Draparnaud); Lehmannia marginata (Müller) on beech trees; Discus rotundatus (Müller); Arion ater and Arion ater aggregate; Ena obscura (Müller); Cepaea nemoralis (L.); Hygromia hispida (L.); Helix aspersa (Müller); Limax maximus (L.); Marpessa laminata (Montagu); Clausilia bidentata (Strom); Helicodonta lapicida (L.); Hygromia striolata (C. Pfeiffer); Arion circumscriptus (Nilsson); Oxychilus draparnaldi (Beck), all being taken near the "Pumping Station" (Grid Ref. 903289).

The following were taken along the path to the sea:-
Cochlicopa lubrica (Müller); Pomatias elegans (Müller); Ena obscura (Müller);

Abida secale (Draparnaud); Oxychilus cellarius (Müller); Helicella caperata (Montagu); Marpessa laminata (Montagu) albino form; Lauria cylindracea (da Costa); Oxychilus alliarius (Miller); Euconulus fulvus (Müller); Helicella virgata (da Costa); Clausilia rolpheii (Turton), an interesting specimen as it becomes rare in Devon; Carychium tridentatum (Risso). Pisidium casertanum (Poli) and Pisidium personatum (Malm), checked by Dr. M. Kerney, were found in the stream running through the pumping station.

A number of new records were added to the species list being compiled by Mr. T. J. Wallace for the Nature Conservancy, and it is one of the best recorded reserves in the country, for which they are very grateful.

On the Sunday the weather had improved slightly and so the party split up into a number of groups. The main group going with Tom Pain in search of fossils, his report follows:-

"Geology: On Sunday May 11th. a short visit was paid to the cliffs East of Charmouth, to examine the Lower Lias, Black Ven Marls and also to Golden Cap near Seatown, where the Belemnite Marls are exposed on the foreshore and the Green Ammonite Beds above in the cliff. Fossils, with the exception of Belemnites which are very abundant in the marls, were by no means plentiful.

This was followed by a trip inland to Horn Park Quarry, near Beaminster. This is now the only quarry in the Inferior Oolite of Dorset still working and fossils were abundant. The Lower Inferior Oolite (Murchisonae Zone, concavum and murchisonae subzones) is well exposed here and the zone ammonite, Ludwigia murchisonae (J. de C. Sow.) was not uncommon together with numerous other ammonites (Graphoceras, Brasilina, etc.). Gastropods (Pleurotomaria) and numerous Bivalves. From the point of view of those who wished to collect fossils, a most productive locality".

Celia Honnor and M. J. Willing got up at 5 a.m. to catch a trawler from the Cob and Mr. and Mrs. Llewellyn Jones went out on a very choppy trip with the divers mentioned in G. Dinesen's report following:-

"The weather improved somewhat on Sunday, and it was possible to go out in the boat. The sea was rough and, when we eventually arrived at the spot where we intended to dive near the wreck, it was found that the buoy which marked the wreck had apparently been washed away by the heavy seas. We then proceeded towards the cliffs to the west of Lyme Regis, where we dived on the stony bottom at a depth of 65 ft.. Here conditions were, from a diving point of view, appalling. The visibility was 6" which means that you have to keep your face mask almost glued to the bottom to see anything. Nevertheless, the divers did bring up several shopping bags containing various specimens, including some exquisite examples of "Rose coral" - Lepralia foliacea.

In spite of the adverse conditions which we encountered and the comparatively poor result, personally I am inclined to believe that the idea of the two societies working together is a sound one. I feel that a lot of beneficial work could be done through co-operation between skin divers and members of the Conchological Society. If the latter shares these views, I shall both in my personal capacity and as Chairman of the Croydon Branch of the British Sub-Aqua Club, be happy to offer our co-operation".

A further dredge, using Mrs. Turk's Naturalist Dredge, was made from a local boat by Dr. and Mrs. Richard Llewellyn Jones and Janet Sawyer which added Venus striatula and Abra alba to our list. At this point Celia and Willing returned from their extremely successful trawling trip, and we all returned to the "Cottage", Charmouth, where hot scones with strawberry jam and fresh cream made an excellent end to the day! The specimens collected during the day were then pooled, sorted and redistributed.

Marine mollusc list:-

Littorina littorea*(L.); Littorina littoralis*(L.); Littorina saxatilis*(Olivi) and var. rudis, tenebrosa and tenebrosa tessellata*; Littorina neritoides*(L.); Patella vulgata (L.)*; Gibbula umbilicalis (da Costa)*; Nassarius incrassatus (Strom); Crepidula fornicata (L.); Natica alderii (da Costa); Calliostoma zizyphinum (Lamarck); Trivea arctica (da Costa); Turritella communis (Risso); Barnea parva (Pennant); Pholadidae loscombiana (L.); Hiatella striata (Fleuriau); Anomia ephippium (L.); Pecten maximus (L.); Cardium echinatum (L.); Venus

striatula (da Costa); Chlamys opercularis (L.); Chlamys distorta (da Costa); Venerupis rhomboides (Pennant); Spisula subtruncata (da Costa); Venus verrucosa (L.) dead; Mytilus adriaticus (L.); Abra alba (Montagu).

I would like to end this report by thanking everyone who came for being so patient and understanding. It was a great pity that the weather was so bad, especially as it was the first time the Society has tried to organise anything on these lines with the British Sub-Aqua Club. Although the diving was, as far as the conchologists were concerned, a disappointment I still fully agree with what Gilbert Dinesen says in his report and hope that in the future we can arrange a similar meeting which will produce some really useful information and specimens.

J. E. Llewellyn Jones

FIELD MEETING - TO AINSDALE NATIONAL NATURE RESERVE, 28th. June 1969

Ainsdale National Nature Reserve occupies about a thousand acres of duneland on the south Lancashire coast and is internationally famous for its rich variety of both plant and animal life. Five members and two visitors visited the Reserve on June 28th. and were shown a representative section of the terrain, from open dunes to fixed dunes, a wet alder wood, and, for freshwater habitats, a ditch (beside the Fisherman's Path) and two "slacks" (water-logged "lows" between two lines of dunes).

Naturally the synanthropes were absent but a total of 23 species was obtained although we were handicapped, malacologically speaking, by a gloriously sunny and dry day. The list is as follows (all records in Square 34/20).

In and beside ditch by Fisherman's Path.

Potamopyrgus jenkinsi
Lymnaea truncatula
Aplexa hypnorum
Succinea pfeifferi
Euconulus fulvus
Pisidium sp. (to be det.)

Carychium minimum s.s.
Lymnaea palustris
Planorbis crista
Vallonia pulchella
Arion ater s.l. juvenile

Nettle-patch near path.

Arion intermedius

Two "slacks" (Massam's & another nearby).

Lymnaea truncatula
Cochlicopa lubrica s.s.

Aplexa hypnorum
Vitrea crystallina s.s.

Alder wood (wet).

Euconulus fulvus
Arion intermedius
Agriolimax laevis

Oxychilus alliarius
Arion hortensis

Open dunes.

Cepaea nemoralis

Helicella caperata

Among sycamores.

Vitrea crystallina s.s.
Oxychilus alliarius

Vitrea contracta
Vitrina pellucida

Fixed dunes.

Cochlicopa lubricella
Helicella caperata
Retinella radiatula

Cepaea nemoralis
Euconulus fulvus
Vitrina pellucida

We are grateful to Mr. Neil Robinson, the Warden-Naturalist of the Reserve,

for his helpfulness and expert guidance throughout our visit.

Nora F. McMillan

FIELD MEETING - TO DOVER AREA, KENT, 13th. July 1969

A group of fifteen members, including two juniors who had travelled from the Isle of Wight, met on a fine sunny day to explore some of the Molluscan fauna in East Kent. The first stop was on Langdon Cliffs above Dover in square TR/34 where the following species were found:-

Cochlicopa lubrica (Müller)
Ceciloides acicula (Müller)
Vallonia costata (Müller)
V. excentrica Sterki
Helix aspersa Müller
Hygromia striolata (Pfeiffer)
H. hispida (L.)

Monacha cantiana (Montagu)
Helicella caperata (Montagu)
Punctum pygmaeum (Draparnaud)
Discus rotundatus (Müller)
Arion intermedius Normand
Oxychilus cellarius (Müller)
Retinella nitidula (Draparnaud)
Agriolimax reticulatus Müller

The party then moved on to a hillside on chalk just outside Deal and still in square TR/34 where Helicella elegans was found in some numbers. Species found here but not at the first stop were:-

Pupilla muscorum (L.)
Clausilia bidentata (Ström)
Helicigona lapicida (L.)
Helix nemoralis L.

Helicella virgata (da Costa)
H. elegans (Gmelin)
Vitrea contracta (Westerlund)
Oxychilus draparnaldi (Beck)

After lunch it was decided to try another square and the party proceeded to Plucks Gutter on the River Stour in TR/26. Here one of the junior members fished out an old specimen of Pseudamnicola confusa but no others were found. Collecting was good at this spot and a great pile of water plants that had been fished from a dyke alongside the river produced a number of aquatic species in great profusion. The final list from this site was thus:-

Valvata cristata Müller
V. piscinalis (Müller)
Potamopyrgus jenkinsi (Smith)
Bithynia tentaculata (L.)
B. leachi (Sheppard)
Carychium minimum Müller
Lymnaea truncatula (Müller)
L. palustris (Müller)
L. stagnalis (L.)
L. peregra (Müller)
Physa fontinalis (L.)
Planorbis carinatus Müller
P. planorbis (L.)
P. vortex (L.)
P. crista (L.)
Ancylus fluviatilis Müller
Segmentina complanata (L.)
Succinea pfeifferi Rossmassler

Cochlicopa lubrica (Müller)
Vallonia excentrica Sterki
Arianta arbustorum (L.)
Helix aspersa Müller
Hygromia hispida (L.)
Helicella virgata (da Costa)
Oxychilus cellarius (Müller)
Retinella nitidula (Draparnaud)
Agriolimax reticulatus Müller
A. laevis (Müller)
Sphaerium lacustre (Müller)
Pisidium amnicum (Müller)
P. personatum Malm
P. subtruncatum Malm
P. henslowanum (Sheppard)
P. nitidum Jenyns
P. moitessierianum Paladilhe
Succinea putris (L.)

Pisidium moitessierianum was a new record for Kent.

Still full of enthusiasm the party then proceeded to the River Little Stour at Littlebourne in square TR/25 where the following were recorded:-

Valvata cristata Müller
V. piscinalis (Müller)
Potamopyrgus jenkinsi (Smith)
Bithynia tentaculata (L.)
Lymnaea truncatula (Müller)
L. palustris (Müller)
L. stagnalis (L.)

Cochlicopa lubrica (Müller)
Vallonia costata (Müller)
Helix aspersa Müller
Hygromia striolata (Pfeiffer)
H. hispida (L.)
Monacha cantiana (Montagu)
Oxychilus cellarius (Müller)

L. peregra (Müller)
Physa fontinalis (L.)
Planorbis planorbis (L.)
P. vortex (L.)
P. albus Müller
Ancylus fluviatilis Müller
Succinea putris (L.)
S. pfeifferi Rossmassler

Retinella nitidula (Draparnaud)
Agriolimax reticulatus Müller
Sphaerium corneum (L.)
S. lacustre (Müller)
Pisidium amnicum (Müller)
P. subtruncatum Malm
P. nitidum Jenyns

On the way back to Dover the party called in at St. Margaret's Bay to look at the marine fauna but only the following few species were recorded:-

Living specimens of
Lepidochitona cinereus (L.)
Patella vulgata L.
Littorina littorea (L.)

Littorina saxatilis (Olivi)
Nucella lapillus (L.)
Mytilus edulis L.

Dead specimens of
Hiatella arctica (L.)

and worn shells of
Patelloida virginea (Müller)
Gibbula cineraria (L.)
Chlamys distorta (da Costa)

Cardium edule L.
Spisula elliptica (Brown)
Barnea parva (Pennant)

Thanks are due to Dr. M. P. Kerney who identified the Pisidium and confirmed identification of the land and freshwater species in the field and to Mrs. J. Llewellyn Jones who identified the marine species.

E. G. Philp

FIELD MEETING - TO KEYHAVEN, HAMPSHIRE, 17th. August 1969

Director: June Chatfield

A joint field meeting was held on Sunday 17th. August 1969 with some members of the Hampshire Naturalists' Trust. The party visited several collecting sites in grid squares 40/29 and 40/39 and included Keyhaven Marshes managed as a reserve area.

A grassy sea wall and tall grass behind this yielded an assemblage of typical grassland species including: Cochlicopa lubrica, Pupilla muscorum, Vallonia excentrica, V. costata, Cepaea sp., Hygromia hispida, Arion intermedius, A. hortensis, Oxychilus cellarius, O. alliarius, Retinella nitidula, Milax budapestensis, M. sowerbyi and Agriolimax reticulatus.

Following a path along the Keyhaven Marsh reserve an additional series of habitats were investigated. Hydrobia ulvae was common on the Spartina salt-marsh, H. ventrosa in a brackish ditch and Pupilla muscorum, Vallonia excentrica, Hygromia hispida, Helicella caperata, Arion intermedius and Agriolimax reticulatus lived on a dry grass bank.

The Avon River, half a mile inland supported only a limited fauna dominated by Potamopyrgus jenkinsi, whilst collecting in and alongside the larger Lymington River near Boldre resulted in a total list of: Carychium minimum, Lymnaea truncatula, L. peregra, L. palustris, Planorbis carinatus, P. leucostoma, P. albus, P. contortus, Ancylus fluviatilis, Succinea putris, S. pfeifferi, Vitrea crystallina s.s., Zonitoides nitidus, Agriolimax laevis, Sphaerium corneum, Pisidium amnicum, P. personatum, P. subtruncatum, P. hibernicum and P. nitidum.

Acid woodland west of Pennington (40/29) and north of Boldre (40/39) produced a typical fauna and a striking abundance of the calcifuge Zonitoides excavatus and also garlic snails, Oxychilus alliarius in both woods. The fauna in the damp acid oakwood at Everton (40/290946) consisted of: Carychium tridentatum, Cochlicopa lubrica s.s., Hygromia hispida, Discus rotundatus, Arion intermedius, A. circumscriptus, A. hortensis, A. subfuscus, Euconulus fulvus, Vitrea crystallina s.s., Oxychilus cellarius, O. alliarius, Retinella radiatula, R. nitidula, Zonitoides excavatus, Limax maximus, Lehmannia marginata and Pisidium personatum under a log

on wet ground. Agriolimax caruanae was present on a roadside bank outside the wood.

Although no exceptional snails were found, it was an interesting day and produced over 70 new Census records from the variety of habitats investigated.

J. E. Chatfield

PUBLICATIONS RECEIVED

New York Shell Club Notes No. 150 (March 1969).

This unassuming title identifies a publication with a high standard of scientific excellence, and this is hardly surprising in view of the many famous conchologists who belong to the Club. The Number reviewed celebrates the 20th. anniversary of the founding of the New York Shell Club Inc., and contains several articles of very general interest besides reviews, etc., and a note to inform us that the American Museum of Natural History is now just 100 years old.

W. N. Shaw (Bureau of Commercial Fisheries) writes on the cultivation of oysters in Chesapeake Bay. Experiments are being carried out producing the seed on rafts to foil bottom-crawling predators, but it has become evident that the rafts must be placed in position only just before the spawning season, or they quickly become covered with fouling organisms. Flatworms (Stylochus) continue to be a big menace for the time being.

A. d'Attilio (member of our own Society) contributes an article on the Role of Palaeontology in Molluscan Systematics, making the point that much of the constant splitting process which pervades modern taxonomy seems illogical until the relevant fossils have been studied; also that the recent species of molluscs, said to amount to about 100,000, have been preceded in geological times by many times that number.

There are extracts from an article by Omar E. Sicardi on the influence of Marine Currents on the Molluscan Fauna of Uruguay. This fauna is unusually rich - the complex series of currents influencing it is described and an attempt is made to list the fauna resulting from each.

I. W. Ropes (Bureau of Commercial Fisheries) describes the Surf Clam Fishery. Spisula solidissima is, it seems, the second most popular molluscan food in the U.S.A., although unlike oysters they are never eaten au naturel. Habitat, method of harvesting and current research are all reviewed.

T.E.C.

Poirieria. Vol. 4, Part 6. March 1969.

This publication seems to have effectively solved the problem of providing acceptable illustrations in a duplicated form: those with this issue are a credit to somebody unnamed, and to the Journal. They are provided in connection with an article on Phrixgnathus and Paralacoma by J. Goulstone, and would be quite adequate for the identification of these 1-2 mm. sized shells. Also illustrated effectively are articles on the Nuculanidae of New Zealand and on the local species of Architectonica, which are six in number. These articles are not signed and one infers the hand of the Editors.

A. Allo reports a more than usually interesting field meeting in the Waihou Bay area; the issue also contains a number of short notes of quite general interest, one of which concerns Vertigo pygmaea, now firmly established in New Zealand both in gardens and remote places.

Editors: N. & N. Gardner, Conchology Section, Auckland Institute and Museum, New Zealand.

T.E.C.

'A Sheller's Directory of Clubs, Books, Periodicals and Dealers' §1 (mentioned in September 1969 Newsletter).

'Additions and Revisions to A. Myra Keen's Sea Shells of Tropical West America' §2,

'A Catalog of Dealers' Prices for Marine Shells' Second Series §3 (mentioned in September 1969 Newsletter).

'A Checklist of the Marine Gastropods from the Puget Sound Region' §4.

All the above, by Thomas C. Rice, can be obtained through the new periodical 'Of Sea and Shore', [REDACTED], Port Gamble, Washington 98364, U.S.A.

The Sheller's Directory contains a mine (to coin a phrase) of information. The book list includes almost every in-print volume of importance now available, and there must be very few shell clubs anywhere in the world of which full details are not provided. Many dealers are listed and quite a number of advertisements are carried in addition.

'The Additions and Revisions' represents a very successful attempt to bring up to date Myra Keen's famous work, now over eleven years old; a great deal of additional information on the Panamic province has become available in the meantime.

The 'Catalog' lists something like 40,000 species and subspecies with the range of prices asked for them by various dealers: it thus covers a much wider scope than the well-known Van Nostrand Catalog. Genera are arranged alphabetically for easy reference but are based on Thiele. Collectors who buy their shells from dealers will undoubtedly find this book an essential aid to bargain hunting.

The Author is certainly to be congratulated on the 'Checklist'. The coastal area covered includes all that of Washington State and British Columbia to the north of Vancouver Island; a rugged and indented coast exceeding in its length all that of the rest of the U.S.A. combined. It forms the centre of two faunal areas and this results in an extremely wide variety of molluscan life. 519 gastropod species are listed (and a few subspecies), each one with synonymy, references, range, type locality and collecting data. The references usually omit that concerning the original description but otherwise the listing appears detailed and accurate, with maps, bibliography and index. It is to be hoped that the bivalves will follow.

T.E.C.

GENERAL NOTES

Notes on Cypraea aurantium.

This rare Golden Cowry, known also as the Orange Cowry, from Fiji is worn by chiefs in the Friendly Islands and is considered to be the highest order of dignity. It is a symbol of sovereignty. Exports of the shell from Fiji are sternly prohibited.

In the Conchologists' Newsletter, No. 30, for September 1969, p.108, Mr. L. W. Stratton gives some notes on prices paid for this shell by collectors. From certain priced sale catalogues in my possession I can add a few more details. Sir David W. Barclay collection, sold 1891, three fine specimens (called C. Aurora) fetched £2. 2. 9, £3.17. 6 and £1.15. 0. Robert Cairns collection, sold 1912, an example and ten Cypraea mus, fetched only 8/6d.

I possess a fine example, pierced with a small hole on one side, from Lifu, Loyalty Islands, presented to me by Dr. Arthur Bulleid. In Lifu it is regarded as a kind of fetish. According to native reports one found by an old woman who was struck on the forehead by a demon who asked her why she took the shell. The woman died from the effect of the blow.

J. Wilfrid Jackson

The Quahog

The occurrence of Venus (Mercenaria) mercenaria (L.) in Britain and Europe has been fully dealt with by Heppell (1961), and Tebble (1966).

About 17.30, 11th. August 1968, the tide in Southampton Water was ebbing fast and the writer was walking along the upper shore from Woolston towards Weston. Fresh dead shells of V. mercenaria were scattered about usually with the left valve and ligament intact and only a few jagged pieces of the right valve remaining.

By the time Weston was reached a fair expanse of shore was exposed and turning towards the water's edge, the disturbance made by each footfall caused the Cerastoderma edule (L.) to close their valves quickly. Thus numerous small jets of water would shoot upwards from their shallow burrows, nearer low water mark much stronger jets of water started shooting upwards defining the burrows of V. mercenaria. These were numerous and were easily removed from the black muddy sand, 30 specimens were collected ranging from 50mm. to 11.6cm. in length. The umbones of the smaller examples are of a purplish colour, the remainder of the periostracum of the shell being a uniform buff colour, the umbones and ligament in the larger examples are of a dark brown colour, the remainder of the periostracum being a light brown varnish colour, after a thorough cleaning.

Lepidochitona cinereus (L.) were found on stones and inside dead bivalve shells, Littorina littorea (L.) and Littorea saxatilis (Olivi) were plentiful, Mytilus edulis L. attached to dead shells and stones near low water mark.

Dead shells observed were Venerupis decussata (L.), Mya truncata L. and Mya arenaria L. Working back towards Woolston the firm muddy sand mixed with shells and stones, gave way to slimy black mud, molluscs became scarcer. Attached to the right valve of M. edulis embedded in the mud was a slender object, with an oval body, brownish in colour, about 3 inches tall, which may have been a species of Tunicata, when touched it seemed rather leathery.

Heppell, D. (1961). The naturalisation in Europe of the quahog Mercenaria mercenaria (L.) J. of Conch., Vol. 25, p.21-34.

Tebble, N. British Bivalve Seashells, p.118-9. Plate 12, Text fig. 57.

G. W. Pitchford

Vertigo moulinsiana (Dupuy) in Dorset

The late A. G. Davis (1957), describes the locality at East Burton, Dorset, XLII.S.W. for V. moulinsiana. "Reedbeds on banks of River Frome, $1\frac{1}{4}$ miles west of Wool Station. The site is reached by a track $\frac{1}{2}$ mile north-west of Seven Stars Hotel." The writer visited this locality on 6th. August 1968 and found V. moulinsiana rather rare, only five specimens were found. Vertigo antivertigo occurs on both sides of the river, and is fairly common on the lower leaves of reeds. Other mollusca found were: *L. truncatula, *C. lubrica, S. putris, D. rotundatus, Z. nitidus and *Agriolimax laevis.

Between Wareham Station, Northport, Dorset, and the River Trent or Piddle, $\frac{1}{2}$ mile north of Wareham (Map ref. 920875), there is an area of swampy ground. Access to this ground is by a rough track off the A51 road, immediately adjacent to the South Dorset Bus Depot. On either side of this track there are ditches covered with dense vegetation, Filipendula almaria (L.), Epilobium hirsutum L., Symphytum officinale L., Typha latifolia L., Carex sp. and Phragmites communis Trinius. V. moulinsiana was found on the last three mentioned plants, plentiful on Phragmites, clusters of 5 to 12 specimens could be seen on a single reed blade. Other mollusca found were Succinea putris, Cepaea nemoralis, Monacha granulata, Arion subfuscus and Agriolimax reticulatus, 55 specimens of V. moulinsiana were collected in less than 30 minutes, while waiting for the train connection to Bournemouth, after a collecting trip to Durlleston Head, near Swanage on 8th. August 1968 (So far I have been unable to find any mention of this locality previous to my visit).

Davis (1957) mentions two further localities for V. moulinsiana on the River Trent or Piddle, Troop, Dorset, 7 miles N.W. of Wareham, and Tanpits Coppice, Dorset, 5 miles N.W. of Wareham. (Ord. Surv. Map 178).

*Not recorded by A. G. Davis.

Davis, A.G. & M.M. (1957). Vertigo moulinsiana (Dupuy) in Dorset. J. of Conch., Vol. 24, No. 6, p.193-4.

G. W. Pitchford

Question: Along the lower Gulf Coast of Florida we often find cockle shells thrown up by the thousands. Generally though, all shells that come in at one time will be either left-handed or right-handed and not mixed. One day we may have an epidemic of left-handed cockles; then a few days later of right-handed shells. What is the explanation for this phenomenon? R. E. Y. Fort Myers, Florida.

Answer: The problem ... is still not completely solved. However this seems to occur because the two valves of the cockle will tend to diverge in a current. The valves are asymmetrical and are mirror images. They travel obliquely to the current, so populations of right-handed and left-handed valves are found at different places and times.

(from P. Cambridge)

SALES & EXCHANGES

Shells for Sale

Browse in baskets full of shells from all parts of the world - at Eaton's Shell Shop, 16 Manette Street, off Charing Cross Road, London, W1V 5LB, (01-437 9391).

Andre H. Chambon, [REDACTED], Papeete-Tahiti, French Polynesia, wishes to obtain a specimen of Cypraea mus and of Cypraea surinamensis. He also has available a list of Tahitian shells for sale.

Romeo M. Lumawig, [REDACTED], Marinduque, Philippines, E-201, offers Philippine shells for sale and invites members of the Society to write to him.

For sale: Fine specimen shells from world-wide collection. Please write for catalogue to P. & S. Dressler, [REDACTED], Margaretenstr. 1, Germany.

Here is a further "exchanges wanted" address: Mrs. L. S. Figgis, [REDACTED], Western Australia 6707 - mainly Cypraea, Voluta, Tenebra, Oliva.

Small white otter shells urgently wanted for flower decorations, also tropical seaweed of the small white stalk variety - Mrs. A. Cameron, [REDACTED], Darlington, Co. Durham.

Request for Information

From Miss Trudy M. Thomson, Newton Park College, Newton St. Loe, Bath, Somerset. I am a Biology student at Newton Park College and am making an intensive study of the biology of Helix aspersa, the common garden snail. I would be very grateful if readers could provide me with any information, especially with respect to distribution and population counts in different areas taking into consideration different soil conditions.

BACK NUMBERS OF THE NEWSLETTER

Readers are reminded that copies of the following issues are still available, at a charge of 2/6d. each (including inland postage).

Nos. 1, 7, 8, 9, 11, 15, 16, 17, 18, 19, 20 (and Index to Nos. 1-20), 21, 22, 23, 24, 25, 26, 27, 28, 29 and 30.

CHRISTMAS 1969

Once again the Compiler has pleasure in sending Seasonal Greetings and Good Wishes to every reader of the Newsletter.

The various articles, reports and notes which contributors have sent in during

this year have been gratefully received and it is hoped that the flow of interesting and varied items will be maintained, or even increased, in 1970.

ADDITIONAL ITEMS

CYPRAEA. Send s.a.e. for stocklist of collector's cowries and other rare shells. Shellcraft Supplies, Melrose Place, Bristol. BS8 2NG

COWRIES. The following species of Cypraeidae are wanted in exchange for other species: annulus, arabica, caurica, eglantina, felina, grayana, helvola, lynx, moneta. Accurate localities essential. R. J. Griffiths, [REDACTED], Beechmont, Queensland 4211, Australia.

SOCIÉTÉ FRANÇAISE DE MALACOLOGIE. This new society was founded on 8 January 1969 to develop the study of molluscs, to facilitate relations between malacologists and to ensure the spread of current knowledge in malacology. In February the Society numbered 100 members amongst ecologists, biologists and palaeontologists. Foreign members are welcome. Annual subscription: 25 NF. Address: Laboratoire de Malacologie, 55 rue de Buffon, Paris 5ème.

PLEASE NOTE: Members who wish to receive field meeting circulars in 1970 are reminded that a fee of 5/- is payable in January to cover cost and postage. Payment should be made direct to the Field Meetings Organiser, and NOT to the Hon. Treasurer. This service is free to Juniors. T. Pain, Field Meetings Organiser, [REDACTED], Millbank, London, S.W.1.

INFORMATION REQUIRED ON THE LITTLE COCKLE. Dr. Peter J. C. Russell writes that he is undertaking some ecological and taxonomic research on the Little Cockle, Parvicardium exiguum Gmelin in Great Britain and Denmark. He would be glad of any records accompanied by as much data as possible. Any information he receives will be made available for the Marine Census: meantime a copy of the records so far compiled for this species in the Census files has been forwarded to Dr. Russell. It has in fact been found in only 18 of the 40 Areas (in 4 instances, not in the present century): curiously it is so far absent from lists compiled for four of the more well-worked Areas, viz. C.A.19, Scilly Isles: C.A.24, Liverpool Bay, C.A.25, Solway and C.A.26, Isle of Man. A summary of the records is as follows:- C.A.1, Shetland (aR): C.A.3, Orkney (AR): C.A.7, Firth of Forth (BR): C.A.13, Thames (AR): C.A.15, Wight (AR): C.A.16, Portland (aR): C.A.17, Channel Isles (bR): C.A.18, West Channel (ARV): C.A.20, North Cornwall (AR): C.A.21, Bristol Channel (AR): C.A.28, Belfast (bR): C.A.29, Clyde and Argyll (AR): C.A.30, Minch (CR): C.A.35, Mayo (AR): C.A.36, Galway Bay (AR): C.A.38, Cork (BR): C.A.39, Nympe Bank (CR).

Reports resulting from collecting or published sources in those Areas so far blank are obviously particularly important to show the overall distribution pattern, but further information from any Area, especially of an ecological nature would be very welcome.

Please contact Dr. Russell at the Marine Laboratory, Ferry Road, Hayling Island, Hants. PO11 ODG

Stella M. Turk

ANNUAL SUBSCRIPTIONS

All Members are reminded that the Annual Subscription of £2 for 1970 falls due on 1st. January. Overseas Members should allow for conversion charges if they do not pay in Sterling.

Twenty Members are still in arrears with 1969 Subscriptions, and if these remain unpaid it will be necessary to remove their names from the Society's mailing lists.

To date, twenty-six Members have joined the scheme for payment of Annual Subscription by Seven Year Covenant, but there must be many other Members who could assist the Society in this way. The Subscription costs no more, but the Society can reclaim £1. 8. 1 from the Inland Revenue. Please bear in mind that the tax cannot be reclaimed in the case of a Member who is already claiming tax allowance on his Subscription as a professional expense. This means that the Society must here call upon its amateur Members, and, as the Conchological Society has always been known as one which helps the amateur, surely it will not call in vain.

Forms of Covenant with explanatory notes are obtainable from the Hon. Treasurer. There is still time to sign for the 1970 Annual Subscription.

MARJORIE FOGAN (Hon. Treasurer), [REDACTED], Atherton, Manchester.