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

MORE STRAND SHELLS AFTER CORNISH GALES

Although the North Coast of Cornwall was sheltered from the direct force of the severe South Easterly gale of March 7th. 1962, the 70 mile an hour wind combined with Spring tides flooded the lower part of Padstow and left tell-tale strand lines of thousands of shells on the adjacent beaches, as on the South coast. A visit to Harlyn Bay soon afterwards produced a large number of species but of those species which characterised the strand lines in St. Austell Bay during the same period (see 'C.N.' No. 6 pp. 31-32), Otter shells, Lutraria lutraria L., Banded Wedge shells, Donax vittatus (da C.) and Razor shells, Ensis sp. were completely absent and Rayed Trough shells, Mactra corallina (L.) and Thin Tellins, Tellina tenuis da C. only scantily represented. The dominant species was the Common Mussel, Mytilus edulis L. which covers so much of the exposed rock face on the North coast of Cornwall.

Many minute species and juvenile forms of shells were cast ashore and about 36 species were collected. Of the more unusual ones for Marine Census Area 20 were Alvania crassa (Kanmacher), Clathrus clathratulus (Kanmacher), Trophon muricatus (Mont.), Haedropleura septangularis (Mont.) and Chauvetia brunnea (Donovan).

I have often noticed that there is a time lag between an actual gale and the appearance of a strand line, and the dominant species in a strand line may change after a day or two. A friend visiting Harlyn Bay on March 12th. found a strand line of tiny shells of which by far the commonest type were Saddle Oysters (Anomia sp.). Also not all winds bring in shells. For instance a strong North West gale on December 9th. 1962 brought in tons of seaweed, about 4 feet deep along much of the line and apparently from deep water as there were many Red Algae covered with Bryozoa, Sponges, Tunicates and Coelenterates - but no shells. By December 19th. the seaweed had all gone and there was a thin scatter of shells, mixed with Cuttle fish bone. In all I have found some 70 species of shells since I started strand shell spotting in January, 1962.

Enid I. Harvey

NOTES ON THE PHOLADIDAE, WITH A KEY TO THE BRITISH SPECIES

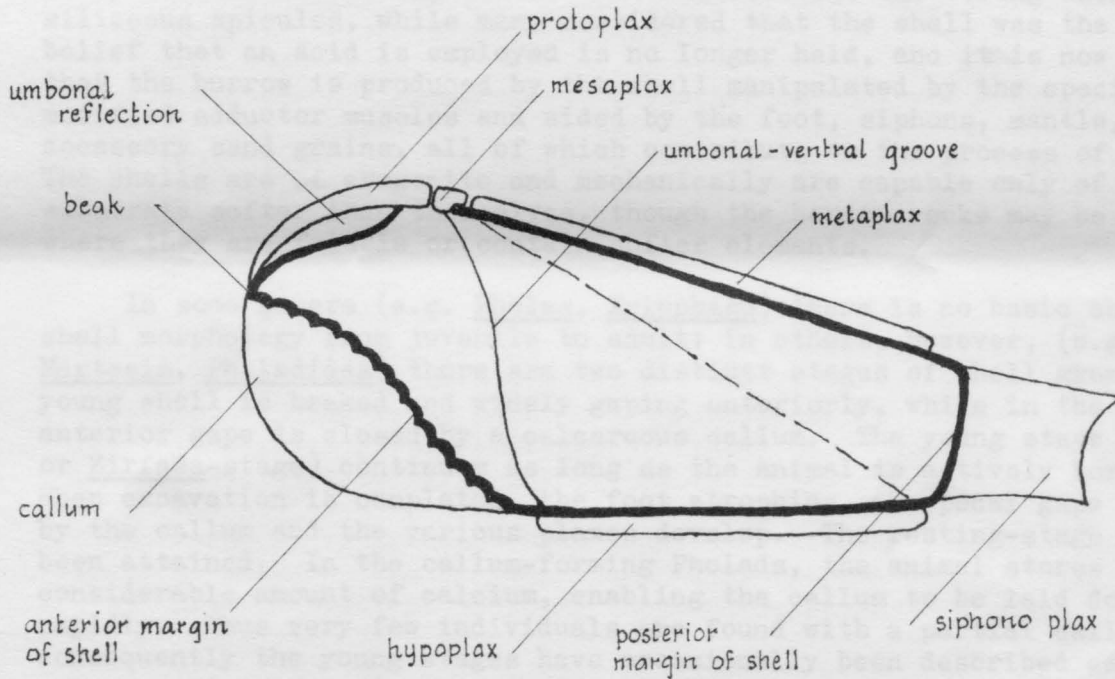
The Pholadidae are a family of marine bivalves adapted for boring. They have neither hinge-teeth nor external ligament, and are characterised by having externally placed anterior adductor muscles, and accessory plates (plaxes) in addition to the normal bivalve shell; for this reason, some early authors classed them with the Multivalves. The family is almost entirely marine, and is closely related to the ship-worms (Family Teredinidae). Like them, they are without hinge-teeth but have a blade-like apophysis, for the attachment of the pedal muscles, projecting inwards from the umbo.

Few Pholads are of economic importance, though Martesia striata, a wood-borer, is more destructive than Teredo in the Philippines, and Xylophaga, another wood-boring genus, occasionally attacks submarine cables. Diplothyra smithii and Penitella conradi are both shell-borers, in oysters and Haliotis respectively, but neither appears to do any harm to the host. A few species have occasionally been used for food, but none is of commercial importance as most are too difficult to remove from their burrows, and are too full of sand to be palatable. Pholas dactylus was used for food by the Romans, and the large Cyrtopleura costata was formerly sold in Cuban markets, one specimen making a meal for two people.

DIAGRAMS TO ILLUSTRATE THE TERMS USED IN DESCRIBING A PHOLAD SHELL

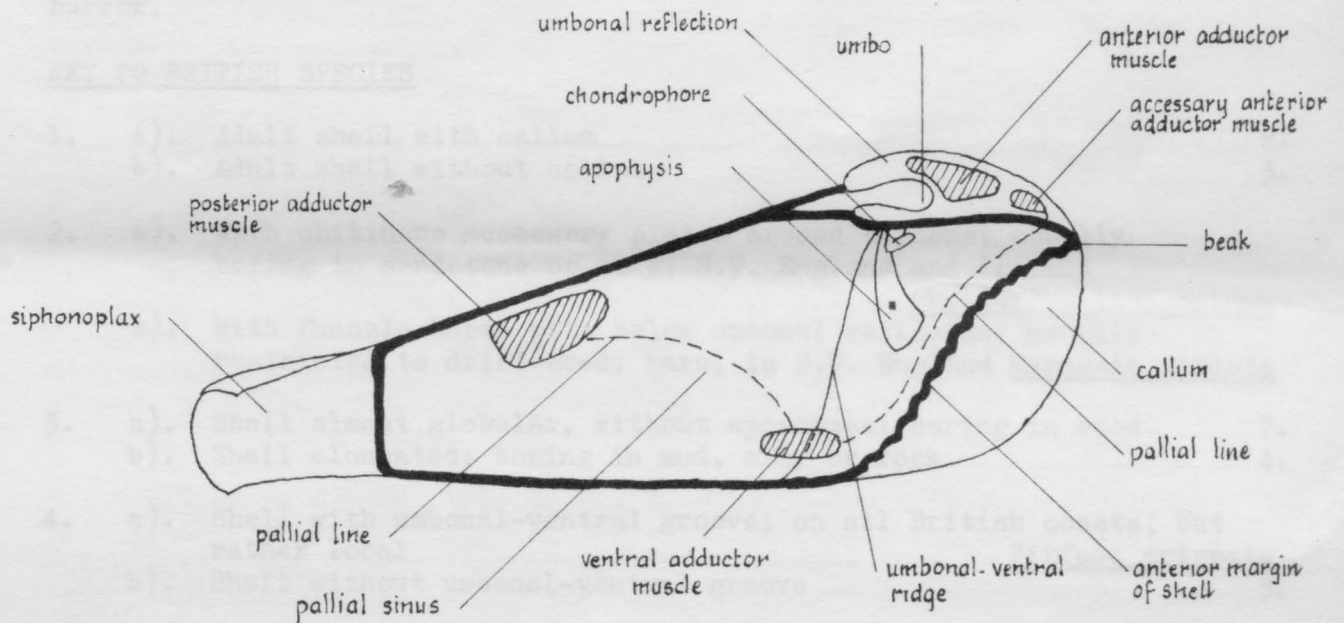
del. D. Heppell. i 1963

(These are composite drawings, and not all the features shown will be found in any one Genus)



EXTERNAL VIEW OF LEFT VALVE TO SHOW THE ARRANGEMENT OF THE ACCESSORY PLATES

after R.D. Turner, 1954



INTERNAL VIEW OF LEFT VALVE, TO SHOW THE ARRANGEMENT OF THE MUSCLE SCARS, &c

after R.D. Turner, 1954

The family is world-wide in distribution, attaining its maximum development in the East Pacific. The vertical range is mainly less than 250 fm., though a few abyssal species have been recorded. Others are pelagic, being found in floating wood. The genera are locally restricted by their specialised habitat requirements. Martesia and Xylophaga are generally limited to wood, Zirfaea prefers salt marsh peat and stiff mud, Barnea and Pholadidea bore into clays and sandstones, while Pholas may attack gneiss. Stunted specimens (stenomorphs) are produced in overcrowded conditions and in very hard substrates.

At one time there was considerable speculation about the mechanics of the boring process. Some malacologists believed that boring was accomplished by an acid secretion, others that the foot did the boring using embedded siliceous spicules, while many considered that the shell was the tool. The belief that an acid is employed is no longer held, and it is now recognised that the burrow is produced by the shell manipulated by the specially modified adductor muscles and aided by the foot, siphons, mantle, water and accessory sand grains, all of which contribute to the process of abrasion. The shells are of aragonite and mechanically are capable only of boring substrata softer than themselves, though the harder rocks may be bored where they are friable or contain softer elements.

In some genera (e.g. Pholas, Xylophaga) there is no basic change in shell morphology from juvenile to adult; in others, however, (e.g. Martesia, Pholadidea) there are two distinct stages of shell growth. The young shell is beaked and widely gaping anteriorly, while in the adult the anterior gape is closed by a calcareous callum. The young stage (working-, or Zirfaea-stage) continues as long as the animal is actively boring. When excavation is completed, the foot atrophies, the pedal gape is closed by the callum and the various plaxes develop. The resting-stage has then been attained. In the callum-forming Pholads, the animal stores a considerable amount of calcium, enabling the callum to be laid down very rapidly. Thus very few individuals are found with a partial callum, and consequently the young stages have occasionally been described as separate genera. Since the adults with complete callum vary considerably in size, depending on the hardness of the substrate, it was formerly thought that resorption could occur, followed by further active growth with eventual re-formation of the callum. This is not so, for the foot atrophies when the callum is produced and can no longer contribute to the enlargement of the burrow. The muscles used in boring do not atrophy as a slight movement of the valves is maintained to permit a circulation of water within the burrow.

KEY TO BRITISH SPECIES

1. a). Adult shell with callum 2.
b). Adult shell without callum 3.
2. a). With chitinous accessory plates around siphons; usually boring in sandstone or clay; S.W. England and Ireland Pholadidea loscombiana
b). With funnel-shaped pits below umbonal reflexion; usually restricted to drift-wood; rare, in S.W. England Martesia striata
3. a). Shell almost globular, without apophyses; boring in wood 7.
b). Shell elongated; boring in mud, clay or rock 4.
4. a). Shell with umbonal-ventral groove; on all British coasts, but rather local Zirfaea crispata
b). Shell without umbonal-ventral groove 5.
5. a). Umbonal reflexion septate; shell up to 5" or more in length; S. and W. coasts Pholas dactylus
b). Umbonal reflexion simple; shell generally less than 3" long 6.
6. a). Anterior end beaked and gaping Barnea parva
b). Anterior end rounded Barnea candida
7. a). Shell up to 1" in length, with conspicuous furrow from umbo to anterior angle; rare Xylophaga praestans

Acknowledgement: The author, Dr. J. Bowden of Glasgow University, and the publishers, Oliver and Boyd Ltd., are thanked for permission to use the key, based on one due to appear in 'British Bivalvia'.

D. Heppell

BRIEF NOTES

1. Since No. 1 of 'The Conchologists' Newsletter' is out of print and several members have enquired for it, it is being reprinted. Members who require copies should notify M. GOODCHILD as soon as possible enclosing 1/- per copy to cover purchase and postage.
2. Members may be wondering as to the best method for binding their copies of 'The Conchologists' Newsletter'. A foolscap size clutch file is one of the best methods to use. To facilitate this, all future issues (like this one) will be offset to the right hand margin. It is hoped later to issue a special title page and sticky label for the front cover. There will also be an index at the end of Volume 1.
3. Members are reminded that specimens are still required for the Non-marine Vice-County Voucher Collection. If anyone can help with any material will they please contact THE CURATOR, MR. F. H. COZENS, 57 Greencourt Road, Petts Wood, Kent. A list of the vice-counties for which any material at all will be especially welcomed is given in 'The Conchologists' Newsletter', No. 2., p. 6.
4. Members may be interested to read the following article 'Use of the Tentacles, Swimming and Buoyancy Control in the Pearly Nautilus' by Dr. Ann Bidder (Dept. of Zoology, Cambridge), in 'Nature', 190 (No. 4853), Nov. 3, 1962, pp. 451-454.
5. The following bookseller has just issued a list of books on Mollusca for sale:- Otto Koetz, Antiquariat, P.O. Box 129, Hermwaldstrasse 6, Koenigstein, Taunus, West Germany. Ask for Liste 78, (Feb. 1963).
6. DR. R. D. TURNER, Museum of Comparative Zoology, Harvard College, Cambridge 38, Mass., U.S.A., would like to obtain material of Petricola and Musculus from Great Britain or any European locality. Other European marine shells are also required - will people please contact Dr. Turner before despatching shells.
7. Members who are in arrears with their subscriptions are reminded that they cannot receive the 'Journal of Conchology' and after this issue 'The Conchologists' Newsletter' as well.
8. Mr. Petitjean, [REDACTED] Paris (V^e), France, requests NON-RETURNABLE specimens of Muricacea for X-ray diffraction studies (this involves making slices out of the shells). He is working on the systematics of this group and requires material from Mediterranean, Japanese and Pacific-American areas. Further details of species required, etc., may be obtained from him or Mr. F. R. Woodward, Dept. of Natural History, City Museum and Art Gallery, Birmingham 3.
9. WANTED: J. Conch., Vol. 4, No. 7, Vol. 5, No. 6 to end of volume; Vol. 1, No. 5, 9-15. Part 5 of Alder and Hancock's Monograph British Nudibranchiate Mollusca (Ray. Soc.); S. V. Wood's Crag Mollusca complete or any parts. Mrs. McMillan, [REDACTED] Cheshire.
10. FOR SALE: The Natal Museum, Loop Street, Pietermaritzburg, Natal, South Africa, wishes to sell duplicate books on Molluscs. Among these are copies of Fischer's (1880-1887) Manual de Conchyliologie (binding Loose); Krauss's book (1848) on South African Shells (handsomely bound); Pilbry's paper on Congo land Molluscs (1919); Sowerby's Marine Shells of South Africa (1892, with appendix; 3 copies); and Woodward's Manual (1890, gilt-edged); also Journal of Malacology, Vol. 3 (1894, bound) and a reprint (Sowerby, 1903, Molluscs of South Africa, Mar. Inv. S. Africa, Vol. 2). Interested persons are requested to contact The Curator of Molluscs (Dr. A. C. van

Bruggen) at the above address; exchanges will also be considered.

11. FOR SALE: Two specimens of Cypraea friendi, collected live. One perfect specimen £4; the other (slightly damaged lip) £3. Apply to Mr. R. M. Howlett, [REDACTED] Middlesex.

12. Mr. M. J. H. LIVERSIDGE, [REDACTED] Berkshire, would be pleased to hear from any persons who have any Cypraeidae from the coasts of South Africa, no matter what condition. Lists of species found, with exact localities (if possible); also sizes (length and breadth) and any ecological data would be very gratefully received.

13. WANTED: All species of Cardium (English or European) except C. edule for exchange with New Zealand conchologists. Also all species of Venus. Will pay for good shells, or exchange. Mr. L. C. Prebble, [REDACTED] Ryde, Isle of Wight.

14. Anyone interested in purchasing Shells from the Gulf of Mexico should write for a list to Mr. Jim Moore, [REDACTED] Florida.

15. Anyone interested in purchasing or selling shells should contact Brookman's, [REDACTED] Queensland, Australia.

16. Members are reminded that Mr. & Mrs. Prebble [REDACTED] Ryde, Isle of Wight, let during the holiday season. Terms: B. and B. £3. 3. Od. weekly (or 12/6d. per night). Sandwiches and evening dinner extra (terms arranged). Conchologists and their families are especially welcomed (Note: Homely fare, no fuss, made very welcome, personally recommended - THE COMPILER).

17. A new journal, MALACOLOGIA has just started publication (Sept. 1962). Subscription price is 5.00 dollars/year (covering one volume of 450 pages) - contact J. B. Burch, Managing Editor, Malacologia, Museum of Zoology, The University of Michigan, Ann Arbor, Michigan, U.S.A.

18. WANTED: Volume 4 of J. W. Taylor's 'Monograph of the Land and Fresh-water Mollusca of the British Isles'. Alternatively will consider purchasing a complete set. Details (price, binding, etc. to M. GOODCHILD, [REDACTED] Redhill, Surrey).

(SEE ALSO P. 40)

Members may be interested to know of the following privately owned

NATURAL HISTORY MUSEUM AT CRASTER

The Natural History Museum is part of a road-house restaurant at 'THE CHOUGHS', CRASTER, ALNWICK, NORTHUMBERLAND. The museum is set off in a private room and was started after the owner, Mr. C. St. M. DAWSON (one of our members) had visited and collected in Australia and New Zealand and other islands on a world-wide trip in 1958. The accent is on mollusca and corals in illuminated display cases, all accurately named. Some shells are made up for table decorations and as shell jewellery and ornaments for sale as souvenirs.

The public is admitted free to the museum without obligation to use the restaurant which serves morning coffees, light luncheons, teas and suppers.

'The Choughs' is six miles from the A1 at Alnwick, close to Dunstanburgh Castle and Embleton Bay (at which over 40 species of marine shells have been found).

Buses: United Bus No. 51 four times daily from Alnwick to the coast. In summer, United Bus No. 29 to Craster from Newcastle-on-Tyne.

Members of the Conchological Society are invited to call if in the vicinity and make themselves known to the proprietor, Mr. C. St. M. Dawson.

M. Goodchild

Director: Mr. A. W. Jones

White Downs is a part of the chalk escarpment facing south midway between Dorking and Shere. The party of about a dozen members and friends first made for a small overgrown chalkpit where such species as Marpessa laminata, Clausilia rolfii, C. bidentata, Oxychilus cellarius, and O. helveticus were found. On the nearby open ground (part of a firing range now being invaded by scrub containing Helix pomatia locally) members found Helicella caperata, H. itala, H. virgata and Pomatias elegans and on kneeling (or lying) down and attacking the turf with penknives, brought forth Vallonia costata, Vertigo pygmaea, Pupilla muscorum and Caeciliodes acicula. Thence to a beech copse for Helicigona lapicida, Ena obscura, Retinella pura and, for those who took a bundle of leaves home, Punctum pygmaeum, and Acanthinula aculeata.

Off the chalk, a small pond at the foot of the hill yielded only Planorbis albus, hymnaea peregra and Pisidium sp. A marshy copse added Azeca goodalli (one shell), Euconulus fulvus and Arianta arbustorum. Altogether 45 species were noted.

A few enthusiasts paid a flying visit after tea to the well-known 'crater' at Box Hill. Despite failing light 22 species were noted including Azeca goodalli (in abundance), and, by the sharp-eyed, Acme fusca, but the leader had to wait till his Lepidopterist wife at home produced it from the bag of moss that had been hastily taken in despair.

A. W. Jones

FIELD MEETING AT EPPING FOREST, ESSEX

Director: Dr. M. P. Kerney

On 21st. October 1962, the Society visited part of Epping Forest. The soils hereabouts are mostly neutral or acid, developed on a variety of Tertiary and Pleistocene deposits and the district is not therefore a very favourable one for Mollusca. Nevertheless, the fauna of such areas can be of much interest, and must be studied if a balanced picture of snail distributions and ecologies is to be obtained. Much of Epping Forest consists of 'old woodland', largely of oak, beech and hornbeam, although probably no part of it can be regarded as unmodified by man. Two species have been found which are very local in the south of England, probably relicts from former wider distributions: Vertigo substriata (Kew, 'The Dispersal of Shells', 1893, p. 147) and Limax tenellus (Taylor, 'Monograph', Vol. 2, 1906, p. 270). Neither was however refound on this excursion.

The party of about 10 members met at the Wake Arms. Here we were joined by Mr. R. M. Payne of the London Natural History Society, who has a wide knowledge of the natural history of the area and very kindly guided us during the day to suitable habitats. To the north-east of the Wake Arms, there is a small wooded stream valley, in its lower part cut into the London clay. Mollusca were sparse, but the following were found mainly under logs: Discus rotundatus, Arion intermedius, A. subfuscus, A. ater (agg.), Euconulus fulvus, Oxychilus alliarius and Limax maximus.

After lunch the Lower Forest was visited, a triangular detached portion of woodland north of Epping. First, we examined the large pond near the southern apex of the triangle, finding the following: Lymnaea truncatula, Planorbarius corneus, Planorbis vortex, P. albus and Acroloxus lacustris.

The woodland contains areas of rather damp neutral oak wood, which yielded the following species: Carychium tridentatum, Cochlicopa lubrica, Helix nemoralis (in a clearing), Discus rotundatus, Arion intermedius, A. circumscriptus, A. subfuscus, A. ater (agg.), Euconulus fulvus, Vitrea crystallina, V. contracta, Oxychilus alliarius, O. helveticus, Retinella radiatula, R. nitidula, Limax maximus and Agriolimax agrestis (agg., probably A. reticulatus). A very small stream in the middle of the woodland yielded, rather unexpectedly, Potamopyrgus jenkinsi.

laevis; and in a roadside verge, Monacha cantiana. The party then returned across the woodland, collecting on the way, and dispersed at Epping.

M. P. Kerney

35 YEARS COLLECTING

It was in 1923 whilst serving with the Royal Sussex in Singapore that first started me on the hunt for shells. One afternoon with nothing much to do, I decided to amble along the shore near our barracks, when, aimlessly kicking over a piece of stone, I noticed a needle shaped shell which I now know was a Terebra. This hunt for shells went on until I was due for discharge, and I had got together quite a nice little collection mostly of worn shells, it is true, but representing many species. Alas, on arriving at Southampton I found I had no kit bag. Whilst unloading the boat my kit found its way into other hands - not only shells but other things of interest went with it. All I had left were two Cowries and two Bullmouth Helmets, but at that time they were just pretty shells to me as I didn't even know they had names. My wife was also collecting very small shells unbeknown to me then.

After discharge, I joined the Prison Service in October 1931 and came to the Isle of Wight, went down to the shore and started collecting English shells.

For the next 25 years I collected any shells I could from junk shops, old collections and in furniture sales. Many had bits of paper tucked in them, but Florida 1928 or Jim or John Mills never meant anything to me or the number on the shell; they were thrown away! One vivid memory I have, a friend gave me a Carrier shell, I saw bits of shell stuck to it, and decided to clean it up, carefully taking off every bit until the shell was clean. I wonder now how many more shells I have ruined through my lack of knowledge.

However, to cut a long story short, a press photographer visited my house in 1957, became very interested, and though he really came to see my daughter, finished up by writing an article and taking photos of the shells. About 10 days after the publication of the paper, a letter arrived from Nottingham from Mr. G. W. Pitchford saying "I have seen your article in the 'Lincolnshire Standard'. Why don't you join the Conchological Society?" Well, that started me off, and since then I have made many contacts; shells now do not get bits knocked off; nor do little pieces of paper get thrown away when they arrive with the shells. As new shells come into my collection they replace old worn ones. Although it may mean years of work, no doubt in time to come I shall be able to say just where each shell comes from; 30 years collecting will need some catching up on, believe me.

So start the right way if you can, it saves time in the end!

L. C. Prebble

FIELD MEETINGS 1963

Sunday April 21st. 1963. Seaview, Isle of Wight, Director Mr. L. C. Prebble, Albert Cottage, Binstead Hill, Ryde, Isle of Wight. Meet Ryde Pier entrance 12.30 p.m.; depart London (Waterloo) 9.40 a.m. (Day return to Ryde, I.o.W.). Bus from Ryde to Seaview. Low tide approx. 3.45 p.m. Return from Ryde 8.00 p.m., arrive Waterloo 9.55 p.m. 27 species of marine mollusca have been taken at this locality. (Mrs. Prebble can accommodate 4 members in 1 double and 2 single beds for any members wishing to make a weekend of the trip. Anyone wishing to do so should write at once).

Sunday May 5th. Camber Sands, near Rye, Sussex. Director Mr. R. Fresco-Corbu. Meet Rye Station entrance 11.50 a.m. Depart Charing Cross Station 10.10 a.m. Waterloo (High Level) 10.13 a.m.; Rye 11.48 a.m. (Day return to Rye). Bus from Rye to Camber (4 miles). Return

trains from Rye 59 mins. past each hour to Waterloo or Victoria. Low tide at Camber approx. 4.00 p.m.

June. Capons Wood, Wyddial, North Herts (for Ena montana, Clausilia rolphii and other wood land fauna). Director Dr. L. Lloyd-Evans. Date and details to be announced.

Details of further meetings will be announced at a later date.

[REDACTED]
London, S.W.1.

T. Pain

Hon. Sec. Field Meetings

ADDITIONAL BRIEF NOTES

19. Miss M. A. Muirhead, [REDACTED] Kingston 6, Jamaica (one of our latest members) is willing to exchange Jamaican shells for English or world-wide shells (address applicable only after April).

20. The Society holds a large stock of back numbers of the 'Journal of Conchology' (about 10,000 copies in all). The following list shows which are available, of some the stocks are small (*).
EACH VOLUME HAS TWELVE PARTS UNLESS STATED

Vol. 13 *	Parts 1 - 4, 6 - 12	
Vol. 14 *	Parts 2 - 12	
Vol. 15	Parts 1 - 10	(only 10 parts of this volume issued)
Vol. 16	Parts 1 - 10	{ " " " " " " " }
Vol. 17	Parts 1 - 9	{ " " " " " " " }
Vol. 18	Parts 1 - 12	} Plenty, except for missing parts
Vol. 19	Parts 1 - 11	
Vol. 20	Parts 1 - 12	
Vol. 21	Parts 1 - 11	} Reasonable, except for missing parts
Vol. 22	Parts 1 - 12	
Vol. 23	Parts 1 - 12	
Vol. 24	Parts 1 - 4, 8 - 12	
Vol. 25	Parts up to date	

Prices (including postage and packing)

Vol 25: 10/- per part
Vol 24: 7/6 " "
Vol 13 to 10/- " volume

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Orders to the Hon. Secretary, or the Hon. Treasurer.

21. The Hon. Secretary would be very pleased to hear from any members who have surplus copies of any of the following issues of the 'Journal of Conchology'. The Society will pay 7/6d. for each number received:-

Vol. 12 or before - any numbers
Vol. 13 No. 5
Vol. 14 No. 1, 2
Vol. 24 No. 5, 6, 7

These are required to fulfil requests from overseas libraries to complete their sets.