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

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### DISTRIBUTION OF THE ACAVIDAE

It is generally believed that millions of years ago a great southern continent stretched westward from S. Africa as far as the Andes and eastward through Madagascar and Southern India to the Australian region. The climate of this continent was very cold towards the end of the Carboniferous period; but later it became warmer, and the snails that dwelt there flourished exceedingly, several new families being evolved; and one of these families seems to have been the Acavidae.

Now it is not difficult to form some idea as to what the first members of the Acavidae were like; for it is reasonable to suppose that they would possess any primitive characters that are still retained by some of their descendants, as well as such other features as are found in all modern members of the family, or at least in all the more archaic genera. We may suppose, therefore, that the eggs of these snails would be larger than usual and that the animals themselves would be above the average size. The shell would have a pointed spire and laterally compressed whorls; that is to say, both the shell and its aperture would be higher than broad. This is the form of shell found in the most primitive Euthyneura, such as the Actaeonidae, the Chilinidae, and the Auriculidae, as well as in many of the more ancient families of the Stylommatophora, and it is still retained by several members of the Acavidae.

Such we may suppose to have been the main characters of the earliest members of the Acavidae. It will be seen that they were more primitive than many modern snails, but probably at the beginning of the Mesozoic era they were both larger and more highly organised than most other families then living. As the family increased and spread far and wide through the ancient southern continent, individuals increased in numbers and competition between them would become more severe. This would lead to evolution of higher types; unfavourable varieties would be eliminated; progressive mutations would alone survive. Thus the eggs grew larger, the adult also became larger and broader, the whorls very much wider, and the apex more and more obtuse, until the form of the shell became globular and finally depressed. The lip also became more expanded.

Until about the middle of the Mesozoic era the distribution of the family was probably continuous. And then came the sea. First in one region and then in another, partly by denudation but chiefly by subsidence, that ancient continent gradually disappeared beneath the encroaching waves. The region extending from the south of India to Madagascar was cut off from Australia on the one hand and from South Africa on the other, and, later, Africa was separated from Brazil. Thus the old home of the Acavidae was divided into four large islands. Henceforth each of the divisions of the family would develop independently, their separation accentuating their differences, until the Acavidae were divided into four subfamilies, each inhabiting a different area.

The subfamily inhabiting the most westerly region, which included Brazil and the adjacent parts of South America, would be on the whole the most primitive as it was farthest from the centre of evolution.

But although these snails retain many primitive characters, they have undergone a considerable development under the favourable climatic conditions of Brazil. Many of the forms attain a great size and have very big eggs. A large number of species have arisen, and they have spread over the greater part of S. America, mainly east of the Andes. To this subfamily Pilsbry has given the name of Strophocheilinae.

The subfamily which inhabits Australia and some of the neighbouring islands contains far fewer species; but so diverse are these that they are assigned to at least twice as many genera as the South American forms.

The south of Australia is nearly as far from the centre of evolution as is Brazil, and, with the exception of Anoglypta launcestonensis, all the species from this region are more or less Bulimiform. Further north, however, we find the greatly depressed genus Pedinogyra in Queensland and New South Wales; while in the most northerly species Hedleyella, instead of the spire having been flattened, the entire shell has become reduced, so that it can no longer contain the animal.

Charles Hedley, to whom we owe most of our knowledge of these snails, was the first to demonstrate that the Australian genera Hedleyella, Caryodes, Anoglypta and Pedinogyra, were related to one another, notwithstanding their striking external differences. The Australian region has long been cut off from the other three areas in which the Acavidae are found and it contains a separate branch of the family. This subfamily was named by Connolly and Watson, the Caryodinae.

The region extending from the south of Madagascar to the south western part of the peninsula of India remained a single large island, or a closely connected chain of islands, long after it was separated from the Australian region on the east and South Africa on the west; and it was probably not until Tertiary times that a series of faults, accompanied by subsidence, sent the greater part of that land beneath the Indian Ocean. The genera Acavus found in Ceylon, Stylodonta in the Seychelles, and Helicophanta and Ampelita in Madagascar, must therefore be regarded as the surviving remnants of a group which formerly also inhabited the intervening areas.

This group is that which lies nearest to the original centre of evolution of the family, and accordingly it includes the most highly organised members of the Acavidae. As in the Caryodinae, the most primitive forms are found in the south of the region amongst the Madagascan species. Some of these have Bulimiform shells, while in the genus Ampelita the egg is only moderately large; but in all the genera of this subfamily, excepting Ampelita, the embryo attains a relatively enormous size before it is hatched or born (for Stylodonta is viviparous), and most of the Madagascan species, and all those from Ceylon and the Seychelles, have Heliciform or depressed shells. Some species of the genus Acavus have acquired arboreal habits, and in these the spire is rather high, but in the two species which are not arboreal the spire is nearly flat. The shell is often highly coloured, and the lip, unlike that in the Caryodinae, is usually broadly expanded. This subfamily was named the Acavinae by Pilsbry, although he originally included under this title the Australian genera also.

As the land on which this subfamily arose extended as far as Southern India, one might perhaps have expected to find some members of the group in the peninsula. Possibly they may have once existed there; but, if so, they were probably unable to survive the competition of the more highly organised snails, belonging to the Helicidae, Zonitidae, and other families which abound there.

We have now seen what happened to three of the four subfamilies into which the Acavidae became divided, when their original home broke up into four large islands. Only the African division remains to be dealt with.

The descendants of this branch of the family are now living in the west of Cape Province and in the neighbouring part of South-West Africa. As might be expected these snails are much more primitive than the Acavinae, being further from the centre of evolution. Nor is it surprising to find that they have greater affinities with the Strophocheilinae than with the Acavinae, for recent researches have shown that the connection between Africa and Brazil probably remained long after the formation of the Mozambique Channel, although it is possible that Madagascar was re-united with Africa for a short period during Tertiary times, after the transatlantic connection had broken down.

As a whole, however, the South African subfamily is probably not quite so primitive as the Strophocheilinae, though here again we find that the southern genus Trigonephrus retains more primitive characters than Dorcasia, which is found further north. The shell in this genus is depressed, with a widely

expanded lip and has quite lost that resemblance to the Bulimiform members of the family which can still be traced in many of the species of Trigonephrus.

The climate of the Cape is much more like that of Europe than that of Brazil and the South African Acavidae differ from the Strophocheilinae in that they have a strong resemblance in their external features to the true Helices of Europe. Indeed Trigonephrus globulus was once regarded as a variety of Helix pomatia and species of both Dorcasia and Trigonephrus were placed in the genus Helix. Not until 1905 was it discovered that these South African snails belonged to the Acavidae, and this is one of the many important discoveries which we owe to the wide researches of the late Dr. H. A. Pilsbry. This South African subfamily of the Acavidae was named the Dorcasiinae by Connolly and Watson.

It is perhaps surprising that this ancient family of land snails has been able to survive at all, especially in view of heavy competition it has had to face through the ages. This may be due however to the care which they bestow upon their young: some have very big eggs like Acavus, others are viviparous like Stylodonta, but, in both cases, the young grow to a very large size before they make their appearance in the world.

T. Pain

Notice is given of the possible use by the International Commission of its plenary powers in connection with the following applications, particulars of which are published in the Bulletin of Zoological Nomenclature, vol.22, parts 5/6, 31 Jan.1966.

Suppression of the following specific names of Conus, all of Gmelin, 1791: americanus, guineensis, surinamensis, medusa, coffeae, costatus, niveus, oculatus. Case number, 1719.

Either, declaration of Voluta mitra L., 1758, as a junior objective synonym of V.episcopalis L., 1758, or suppression of V.mitra. Case number, 1728.

Validation of Praeradiolites Douville, 1902 (Bivalvia). Case number, 1729.

Any comments should be sent in duplicate, citing the case number, to The Secretary, International Commission on Zoological Nomenclature, c/o British Museum (Natural History), Cromwell Road, London, S.W.7.

PUBLICATIONS RECEIVED

'Poireiria' Vol. 3, Part 1.

Published by the Conchology Section of the Auckland Institute and Museum, this number contains a most useful article by M. C. Miller on the feeding mechanisms and gut structure of Sea-slugs, well illustrated; a description of the Marine Circulation Room, established for biological research at Auckland University; a reprint of a short article by J. Rosenbaum on molluscs as intermediate hosts of human parasites; and a number of collecting notes and reviews.

T. E. Crowley

FIELD MEETING, WORDEN PARK

Five members and two friends met at Preston Station on 2nd. October 1965, and went by car to Worden Park. This is a large park of 150 acres containing a small nature reserve, and is the property of the Leyland U.D.C. who very kindly gave permission for the expedition and provided a very helpful guide.

A number of sites were examined and the following species taken:

Wood in bird sanctuary

Cochlicopa lubrica (Muller)  
Arion circumscriptus, Johnston

Pond A

Lymnaea peregra (Muller) one only.

(This pond was much swollen due to heavy rainfall, and the water level was excessively high).

Pond B

Lymnaea peregra  
Planorbis albus, Muller  
P. crista (L.)  
Pisidium milium, Held  
P. subtruncatum, Malm

Under logs in parkland

Oxychilus alliarius (Miller)  
Agriolimax agrestis agg.  
Eggs of Arion ater

Cow pocks near stream

Lymnaea truncatula (Muller)  
Pisidium casertanum, Poli  
P. personatum, Malm  
P. subtruncatum

Among dead leaves in wood

Oxychilus alliarius  
Arion circumscriptus

All Pisidia were determined by Mr. Stelfox.

19th. JUNE 1965

Ashton Canal, near Droylsden Station:

Pisidium milium Held  
P. subtruncatum Malm  
P. hibernicum Westerlund  
P. nitidum Jenyns

Canal near Fairfield Locks:

P. milium

All Pisidia determined by Mr. Stelfox.

FIELD MEETING, 23rd. OCTOBER 1965

Six members and one visitor met at Beeston Castle Station on this date with a view to examining the mollusca of the Shropshire Union Canal. The visit was timed to conform to the schedule of stoppages issued by the canal authorities, which showed that the part of the canal in the vicinity of the nearby Beeston Iron Lock was due for repair work, involving partial drainage. On a previous occasion when this had been carried out, one of us (J.O'N.M.) had obtained a rich haul of shells (over 20 species) from the exposed mud and it was hoped that this would be repeated. Unfortunately, through staff illness the repair work had had to be postponed so that no drainage had occurred.

As a result both the number of species and the number of specimens obtained (by scoop) was less than expected, particularly as regards the large bivalves. Whilst in the district some attention was paid to the fauna of the hedgerow bordering the towpath and a few land species were recorded.

The complete list for the day was as follows:-

Canal

Viviparus viviparus (L.)  
Potamopyrgus jenkinsi (Smith)  
Bythinia tentaculata (L.)  
Lymnaea palustris (Müller)  
Lymnaea auricularia (L.)  
Lymnaea peregra (Müller)  
Physa fontinalis (L.)  
Planorbis vortex (L.)  
Planorbis leucostoma Millet  
Planorbis albus Müller  
Planorbis contortus (L.)  
Unio pictorum (L.)  
Anodonta anatina (L.)  
Sphaerium rivicola (Lam.)  
Pisidium amnicum (Müller)  
Pisidium sp.  
Dreissena polymorpha Pallas

Arion subfuscus, juveniles  
A. circumscriptus, all very young.

Towpath

Cochlicopa lubrica (Müller)  
Vallonia costata (Müller)  
Helix nemoralis L.  
Hygromia hispida (L.)  
Punctum pygmaeum (Draparnaud)  
Arion intermedius Normand  
Oxychilus alliarius (Miller)  
Retinella nitidula (Draparnaud)  
Vitrina pellucida (Müller)  
Agriolimax agrestis agg.  
(both plain cream-coloured specimens  
and vividly-blotched ones were  
taken).



FIELD MEETING TO CLEEVE HILL, CHELTENHAM, GLOUCESTERSHIRE

HELD ON SUNDAY MARCH 13th. 1966

Director: T. Pain

The Inferior Oolite in the neighbourhood of Cheltenham attains the great thickness of about 300 ft. and constitutes the summit of the Cotswolds over a considerable area. These culminate in Cleeve Cloud (1,070 ft.) where the Inferior Oolite is exposed in a series of disused quarries. Two of the subdivisions into which these beds are divided, the Pea Grit and the Oolite Marl, are particularly fossiliferous, and from these numerous fossil mollusca and brachiopods were obtained.

A party of 12 members and friends visited several of these quarries and enjoyed the benefit of fine weather, and good collecting. Bivalves of the genera, Trigonia, Pholadomya and Pleuromya were common, together with the Brachiopod Zeilleria witchelli (S. Buckman). A small specimen of the large Gastropod Bourguetia striata (Sow) proved an interesting find.

Ammonites, so common in the Inferior Oolite of the Dorset coast, are however extremely rare in the Cotswolds and the discovery of one (Witchellia sp.) by M. Willing, in the Upper Pea Grit, was the crowning success to a generally successful and enjoyable day.

FIELD MEETING

BOX HILL, SURREY, 2nd. APRIL 1966: Km. squares TQ17/50 & 51

Seven members present. The area investigated lies on both sides of the river Mole where it flows close to the S.W. corner of Box Hill, near the stepping stones, and includes some ground which has only recently become accessible to the public - or conchologists. Most attention was paid to the rather marshy plain, which is sometimes flooded, between the river and the foot of the hill (TQ175510). Specimens of Acicula fusca (Montagu) were collected in the well known chalk-pit near the base of the escarpment, and numerous other woodland and paludal species were found, of which the most

interesting were some slugs of the Arion circumscriptus group. There were two distinct forms of these: one with yellow sides, found chiefly amongst long grass and under fallen branches and driftwood, the other slightly smaller and without any yellow tint, which occurred on the wooded slopes but not in marshy places. The former resembles fig. 14 on plate 24, vol. 2 (1907) of Taylor's Monograph, and the latter fig. 12 on the same plate. Living examples of both kinds were sent to Intendent Henrik W. Walden, Naturhistoriska Museet, Goteborg, Sweden, who replied as follows (6.iv.1966): "The specimens with yellow tint represent very typically Arion fasciatus Nilsson, a taxonomically and nomenclatorially unequivocal species. The other, distinctly bluish grey and white-sided specimen belongs to a species which, with regard to a number of subtle but distinct and constant differences, is clearly distinguished from the former, but regrettably is not yet a nomenclatorially unambiguous species. Most probably it was included in Johnston's Arion circumscriptus which, however, seems to have been based on aggregate material. Judging from data in literature, and my own very modest experience from Britain, it seems to be the prevalent form in your country, together with A. fasciatus. However, Lohmander (1937) delimited the name circumscriptus s.s. for a darker, somewhat smaller 'variety', which is the prevalent form in large areas in eastern Europe, but so far as I know very rare in your country. For the common British form Lohmander proposed the name silvaticus. Though this name will perhaps not stand the final nomenclatorial examination, it has the advantage of being fixed to an unequivocally described form and therefore I prefer to use it provisionally. Later research has made it evident that this form is actually specifically distinct from the easterly circumscriptus in sensu Lohmander." Walden goes on to say that as a result of a very large amount of anatomical and general morphological data, field observations, etc., which he has accumulated, he thinks one must not hesitate any longer to regard the three forms as specifically distinct, although it "still remains to work out all these data in a stringent way and present the results in a convincing form, with unmistakable examination data." He promises when time permits to write a determination guide for the Arion circumscriptus group for the Journal of Conchology, and in the meantime is willing to receive samples for identification. In the light of these comments, data on the distribution and ecology of the 'circumscriptus complex' will eventually need to be revised.

A. E. Ellis

Journal Back Numbers

Members are reminded that many back-numbers of the Journal are still available; present prices to members, which are half of those to the public, are 3/9 per number for Vols. 13 to 24 and 10/- each for numbers in Vol. 25. Stock includes the following:

Vol. 13 nos. 1-4 and 12; Vol. 14, nos. 5-12; Vol. 15 nos. 2-10; Vol. 16 complete in 10 numbers; Vol. 17 in nine; Vol. 18 in 12; Vol. 19 in 11; Vol. 20 in 12; Vol. 21 in 11; Vol. 22 in 12; Vol. 23 nos. 1-5 and 8-12 (nos. 6-7, non-marine Census, reprinting); Vol. 24 nos. 1-4 and 7-12; and Vol. 25 nos. 1, 3-6 and 8.

The Keeper of Biology, City of Leicester Museums & Art Gallery, has informed us that his department recently acquired the collection of British land, freshwater and marine molluscs made by the late Arthur Smith of York. It consists of some three thousand sets, from all over the British Isles but with a preponderance of Yorkshire material. The collection will be amalgamated with others to form a British reference collection, but will not lose its identity in this process and is always available for study by anyone with a genuine interest.

Request for exchange correspondents

Frank Bernard, [REDACTED]  
[REDACTED] British Columbia, Canada.

To quote from his letter: "I have a fairly large mollusc collection, as I have the run of a ship now and again that is capable of dredging down to 2000 fathoms. I am now branching out to exotic fauna and am looking for somebody to exchange with in England."

ADVERTISEMENTS

LAND & FRESHWATER SHELLS, Britain & Ireland, mostly mounted on cardboard, late 19th. century. Nearly all labelled. £4 post free (very difficult to pack), or £3 buyer collects; could bring them to Glasgow. Catalogue on request. Would exchange for Clyde shells I can't get, or a copy of "Excursions to Arran, Ailsa Craig, and the Two Cumbraes", D. Landsborough, 1852 (Not the 1847 edition or the 1875 by father and son). If anyone has any books on the early Clyde dredgers, Alder, Landsborough and Smith, I would very much like to hear about them.

Alison Rutherford, [REDACTED] Dunbartonshire.

Needed to complete a run, the following parts of the Journal of Conchology:  
Vol. 13, nos. 8, 10 and 11; Vol. 14, nos. 3 and 4.  
Reasonable price paid.  
I. M. Evans, City of Leicester Museums & Art Gallery, New Walk, Leicester.

MARINE CENSUS RECORDING

A Marine Census Subcommittee was appointed by the Conchological Society in 1961. The members of this Subcommittee, Mrs. N. F. McMillan, Mr. L. W. Stratton and Mr. D. Heppell expressed dissatisfaction at the quality and quantity of the records of marine molluscs. They found: (1) there was a decrease in record submissions; (2) a lack of evidence whether records were based on living animals or only dead shells; (3) that many records had been unchecked personally by the Recorders or Referees; (4) vagueness of certain of the boundaries used by Winckworth (1921).

Various means of stimulating interest and of ensuring a more rigorous method of recording were suggested and a new British Marine Census Area (1961) was mapped; this has 40 precisely defined Census Areas as compared with the 20 used by Winckworth.

\*HEPPELL, D., 1962 'A Census of the distribution of the British marine Mollusca' 7 pp., circulated in duplicated form by the Conchological Society in 1962.

HEPPELL, D., 1964. The British Marine Census Areas. J.Conch. 25:299-303 with map.

WINCKWORTH, R., 1921. Scheme for the division of the British Marine Area into Census Areas. J.Conch. 21:152-155.

Production of a Census. No marine Census of British molluscs has ever been produced and the present Recorder feels that production of a tentative duplicated list of Census records as soon as possible is essential. The speed and efficiency with which this can be done depends on the enthusiasm of members: the Census is entirely a co-operative venture and insofar as nothing can be circulated until there is a nucleus of reliable records and that members cannot help to the best advantage until they know what is recorded from where, and which areas and species are most in need of investigation, there is a tendency to stalemate. To overcome this members are asked to submit all records of all live molluscs (not forgetting the very small species and nudibranchs) or shells from any Area at any time. The accompanying form has been designed to include basic data and to ensure some uniformity of recording. Mr. Stratton has suggested the Society should work towards the eventual production of an Atlas of British marine molluscs, a stimulating goal.

Authentication of specimens. Specimens checked by the Recorder or Referees have a special status value, indicated by a status symbol. This in no way reflects on the ability of those who submit records, but it does ensure a uniformity and focuses responsibility. The Recorder would like each 'new' species for any Census Area to be treated like a new Vice-county record for the non-marine Census: this system of personal verification and centralisation has resulted in knowledge of the distribution and ecology of our land and freshwater molluscs unparalleled in any other country, and has paved the way for the 10 km. square recording. To save time and money it is suggested that the Marine Recorder will indicate which specimens on the submitted lists would be most usefully 'authenticated' and which would be desirable for inclusion in the Voucher Collections to be housed at the British Museum, if the collector is willing to part with them. (As a rule only A material will be accepted for the Voucher Collections).

Identification of specimens. The Recorder will be pleased to give whatever assistance is practicable to help build up regional collections, private and public.

Preservation of specimens. Notes on this are given by Heppell (1962) and Woodward, F.R. 1965 'Mollusca in the museum'. Conchologists Newsletter 12 & 13. Another excellent method for relaxing molluscs is to place them when active and extended in the deep freeze compartment of the 'fridge in a covered container; when the liquid is frozen solid, remove container, add a suitable quantity of formalin or industrial spirit to iced surface and allow to melt slowly.

\*If any members can dispense with their copies of these Census notes, the Recorder would be pleased to receive them for eventual re-circulation among new members wishing to help with marine survey work.

Packing. To avoid sending excess liquid through the post, use cotton wool soaked in the preservative, place each specimen or group of specimens in polythene bags with appropriate labels and put in tin. Nudibranchs and small gastropods such as pyramidellids which are more easily identified from examination of the living specimens should be sent alive if possible: they travel well if placed in polythene or glass tubes half-filled with sea-water and, in very hot weather, a cooling system can be arranged by placing the tubes inside a larger container with a small amount of water. Screw top aluminium tins are very useful for packing any wet specimens, and polystyrene boxes for dry specimens; such tins and boxes are often available from chemists and doctors.

Postage. The Recorder wishes to keep postage refunds by the Society as low as possible: funds must be conserved for the growing publication programme. Please therefore enclose postage when specimens are to be returned.

Specimens sent to the British Museum (Natural History) by the Recorder for inclusion in the Voucher Collections must be labelled with similar data to that on the Recording Form, each batch of any one species from any one Area having its own label. This is a time-consuming task, and one with which help would be welcomed. Labels should be written on non-pulpy paper (i.e. typing paper) preferably with fixed Indian ink, but dark lead pencil will serve.

To ensure that anyone sending records and/or specimens will receive prompt reports, a form of acknowledgement with space for relevant comment is being designed. This will not only keep helpers in immediate touch but will guarantee the maximum available time of the Recorder being devoted to the production of the Society's Marine Census by lessening lengthy correspondence commitments.

Stella M. Turk

PROTOTYPE RECORDING FORM FOR MARINE MOLLUSCS  
with selection of records

1	2	3	4	5	6	7	8	9
Winckworth no.	Identification	Locality	Census area	Nat. Grid ref.	Habitat and micro-habitat	Shore zone or depth	Collected by	Estimation of numbers, behaviour any other obs. R = specimens submitted to Re V = specimens submitted for V Col
			Census category	Date			Identified by (Checked by)	
Lo8	<u>Callochiton</u> <u>achatinus</u> (Brown)	Castle Beach Falmouth, Cornwall	18 A	10/8131 26.3.1963	Rocky shore		Bristol Univ. (SMT: D.H.)	Four specimens
G71	<u>Rissoa parva</u> (da Costa)	Torcross, S. Devon	16 A	20/84 11.10.1965	Rocks. On algae (Plocamium etc.)		M.R. Block S.M.T.	Abundant: mostly var. <u>interru</u>
G185	<u>Simnia patula</u> (Penn.)	Off Black Head, Lizard, Cornwall	18 A	10/71 May & June '64	In vicinity of <u>Eunicella</u> <u>vernica</u>	15-30 fms.	B. Bolitho S.M.T.(D.H.)	Usually present in small number area
G294	<u>Onchidoris</u> <u>fusca</u> (Muller)	Fowey, Cornwall	18 A	20/12/50 27.1.1963	Under stone	Shallow water ELWS	G. Way S.M.T.(D.H.)	Enormous numbers, forming a spawning. Temp. just above 1
L79	<u>Montacuta</u> <u>ferruginosa</u> (Mont.)	St. Anthony- in-Meneage, Cornwall	18 A	10/785255 16.9.1962	On spines of <u>Echinocardium</u> <u>caudatum</u> , burrowing in sand	ELWS	B.D.Stephens B.D.S.(S.M.T.)	The echinoderms were numerous most had a few specimens on t
L145a	<u>Lutraria</u> <u>angustior</u> Philippi	Alderney Point Channel Isles	40 B	3s9/82 8.8.1963	Strand line		G.H. Pitchford G.H.P.(N.A. Holme)	Several dead shells

To make copies of this form, rule lines as above and simply number the columns. It is suggested that collectors make a carbon copy, for the retention, of any records they submit. Please endeavour to keep records from any one Census Area separate from one another; if there are one records from any one Area, the Recording Form can be cut accordingly. Where there is more data than will fit in spaces provided, number entries continue on back of Form; please avoid including such relevant information in a letter where it is not so easily filed for reference. The detail the better, but it is not always possible to complete all the columns. However, please be sure to complete second half of column 4 - ing A, B or C (A = alive; B = dead shells; C = very worn or sub-fossil shells). If in doubt, do NOT record as A.



PROTOTYPE RECORDING FORM FOR MARINE MOLLUSCS  
with selection of records

2	3	4	5	6	7	8	9
Identification	Locality	Census area	Nat. Grid ref.	Habitat and micro-habitat	Shore zone or depth	Collected by	Estimation of numbers, behaviour and any other obs. R = specimens submitted to Recorder V = specimens submitted for Voucher Collection
		Census category	Date			Identified by (Checked by)	
<u>Callochiton</u> <u>achatinus</u> (Brown)	Castle Beach Falmouth, Cornwall	18 A	10/8131 26.3.1963	Rocky shore		Bristol Univ. (SMT: D.H.)	Four specimens RV
<u>Rissoa parva</u> (da Costa)	Torcross, S. Devon	16 A	20/84 11.10.1965	Rocks. On algae (Plocamium etc.)		M.R. Block S.M.T.	Abundant: mostly var. <u>interrupta</u> R
<u>Gimnia patula</u> (Penn.)	Off Black Head, Lizard, Cornwall	18 A	10/71 May & June '64	In vicinity of <u>Eunicella</u> <u>vernucosa</u>	15-30 fms.	B. Bolitho S.M.T.(D.H.)	Usually present in small numbers in area RV
<u>Onchidoris</u> <u>fusca</u> (Muller)	Fowey, Cornwall	18 A	20/12/50 27.1.1963	Under stone	Shallow water ELWS	G. Way S.M.T.(D.H.)	Enormous numbers, forming a mat and spawning. Temp. just above freezing RV
<u>Montacuta</u> <u>ferruginosa</u> (Mont.)	St. Anthony- in-Meneage, Cornwall	18 A	10/785255 16.9.1962	On spines of <u>Echinocardium</u> <u>caudatum</u> , burrowing in sand	ELWS	B.D.Stephens B.D.S.(S.M.T.)	The echinoderms were numerous and most had a few specimens on them. RV
<u>Lutraria</u> <u>angustior</u> Philippi	Alderney Point Channel Isles	40 B	389/82 8.8.1963	Strand line		G.H. Pitchford G.H.P.(N.A. Holme)	Several dead shells

copies of this form, rule lines as above and simply number the columns. It is suggested that collectors make a carbon copy, for their own use, of any records they submit. Please endeavour to keep records from any one Census Area separate from one another; if there are only a few from any one Area, the Recording Form can be cut accordingly. Where there is more data than will fit in spaces provided, number entry and on back of Form; please avoid including such relevant information in a letter where it is not so easily filed for reference. The more the better, but it is not always possible to complete all the columns. However, please be sure to complete second half of column 4 - indicator C (A = alive; B = dead shells; C = very worn or sub-fossil shells). If in doubt, do NOT record as A.