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Biographical Note

Probably few conchologists can pin-point the exact time and place at which they first became interested in their hobby. On the afternoon of 20 May 1919, when a sixteen year old boy at Kingswood, I set out to cycle from Bath to Trowbridge, but never reached there. The reason was not an accident or breakdown (such as frequently happened), but the fact that the road ran close to the Kennet and Avon canal near Claverton. Water always exercising an irresistible attraction, I chained up my bicycle (a superfluous precaution) and inspected the canal. The water was shallow and perfectly clear and full of life: a letter I wrote to my sister records swarms of roach, also newts, tadpoles, water rats, water shrews, water beetles, caddis and dragonfly larvae, "and also a great variety of freshwater shellfish." The dry mud along the banks was also full of empty shells of all sorts; "what surprised me most, however, was the great number of large bivalves, like big mussels." I had never seen anything like these before, the only freshwater shells I had previously collected being two Lymnaea glabra casually picked out of an old tin in a pond at Sennen in Cornwall.

I took away as many shells as I could accommodate and returned later for more. A copy of Rimmer in the school reference library enabled the specimens to be identified. My life-long interest in non-marine Mollusca therefore began at about 3 p.m. on 20 May 1919, where the Bradford-on-Avon road runs by the canal just north of Claverton near Bath. No memorial yet marks the spot.

A. E. Ellis

Mollusca on Liverpool bomb-sites

Mollusks do not seem to be common on bomb-sites, and the only records known to me are those of Lt.-Col. Bensley (London Nat. for 1951, pp. 83-4). My own rather casual searches on many Liverpool bomb-sites from 1946 onwards only yielded mollusca on two sites which may be worth noting. The first site was quite small, at the corner of Hanover St. and Seel St., near Central Station. There were many plants; eighteen species of flowering plants and two ferns were recognised on my one visit (11.10.1957). No garden escapes were present. Woodlice, centipedes, spiders, and harvestmen (apparently Liobunum sp.) were all fairly frequent, and a small colony of Oxychilus cellarius (Mull.) included both adult and young examples.

The second site was much larger, a much trampled area between Islington and Daulby St.. Only six species of flowering plants were seen (17.10.1961), but there was a large colony of Limax flavus L. under old flagstones and lumps of tarmac, together with two specimens of Milax sowerbii (Fer.). Both are probably relics of the old houses and gardens of the area.

All three species are probably survivors of the blitz and not recent immigrants.

N. F. McMillan

The Strombidae

Though lacking the striking colour ornamentation exhibited by such families as the Volutidae and Cypraeidae, the Strombidae are well worthy of examination for their beautiful and unique architecture. Who has not at some time held and gazed with wonder at the family's most well known member, the Giant (or Queen) Conch of the Carribean? (Strombus gigas). As we examine this wonderful traveller, who has made his way, with the help of man, to such remote spots as the prairies of the Middle West and the parlours of Bermondsey, we see indeed a shell of great beauty.

The Strombs inhabit the Carribean area in great numbers, and there exhibit, as well as their characteristic wing lips, many beautiful colour forms such as the brown and orange-reds of the Fighting Stromb (Strombus pugilis), the genotype of the family, or the orange, chestnut and lilac of the Cockwing Conch (Strombus costatus).

However, we must not think that the West Indian theatre has a monopoly of the Strombs. They are almost world wide in their distribution in tropical and subtropical waters. The Pacific, particularly the East Indian-Australian waters, yield a large number of species. The Partridge Wing Stromb (Strombus canarium) with its brightly painted shell, the Diana's Ear, (Strombus auris-dianae) with its finely sculptured wing, the Silver Lip (Strombus lentiginosus) with its only slightly dilated, but extremely thickened outer lip and beautiful mouth colouring, and the Hunchback Stromb (Strombus gibberulus) with its peculiar distorted appearance, are typical examples from the area.

In the Indo-Pacific we meet another branch of this great family, the Spider or Scorpion Shells. These start life as shells somewhat resembling the typical conus; however, as they grow older the outer lip enlarges and dilates, but instead of the wing-like shape, the shell forms a number of finger-like processes. The Gouty Spider Shell (Lambis chiragra) and the smooth Spider Shell (Lambis lambis) are typical in form and display some of the beautiful colouring met with in this sub-group.

Another small but interesting sub-group are the Beak Shells of the Indo-Pacific and China Seas, typified by Tibia martinii. In these the spire is long and graceful, the outer lip only slightly dilated and shallowly notched, the posterior and anterior canals being well developed.

The Little Auger shells of the same habitat (genotype Terebellum subulatum) are smooth sub-cylindrical with a long narrow aperture and a thin undilated outer lip. In life, however, the animal displays many Strombidian characteristics - good sight, the ability to throw itself by a lunging action, and the usual gargantuan appetite.

What else of this strange family? They may yield pearls as does Strombus gigas, or again as is the case with Strombus gigas, the flesh may be eaten, though one is not usually told that it is a carrion feeder until one has enjoyed a good meal made from its large body. Then again Strombus raninus, in its early life, mimics the poisonous cone shells, thereby, it is thought, keeping many of its foes at a respectful distance. In adult specimens this form is lost and the characteristic wing lip appears.

One cannot close the Strombidae without a few words about two close relations. The Ostrich Foot Shells (Struthiolaria) of New Zealand and Australia have a handsome spire and an almost square mouth, due to outer lip dilation and deformation. Lastly, the Pelican Foot Shells, represented in the British Isles by Aporrhais pes-pellicani, a truly delightful little shell with slender spire and an extremely dilated and thickened outer lip with short finger-like processes, reminiscent of the Spider Shells - an exotic stranger in the midst of our rather sombre molluscan fauna and a fitting specimen with which to close this short survey.

Learning in Nucella lapillus?

Among the best known of our native carnivorous Molluscs is the Common Dog Whelk, Nucella lapillus. It is interesting to speculate what governs a young specimen and how it learns to bore the shells of its victims - remembering that the hole bored must be in an advantageous position to allow the insertion of the radula to cause fatal damage to the bored animal.

Recently I observed a young specimen of Nucella lapillus - about 1 cm. in length - on the shell of a common Acorn Barnacle (Balanus balanoides). On removing the mollusc I noticed the commencement of a bore hole on one of the lateral plates, far down near the outer edge, where, if the line of bore were continued as started, no part of the body of the Barnacle would be met. Apparently the mollusc was not yet perfect in its hunting technique.

L. S. Atkins

(If any reader can throw light on this subject, perhaps they would write a short note - Compiler)

BRIEF NOTES

1. Subscriptions. Will the 13 members who have not paid their subscription for 1961 please do so without further delay. They will perhaps also remit their 1962 subscription at the same time.

Commencing on the 1st. January 1962 receipts for subscriptions, paid by cheque on a British Bank or by a Banker's Order, will not be sent unless a request is received. This is due to the last increase in postage rates. Cheques should be made payable to 'The Conchological Society of Great Britain and Ireland' and not to the Treasurer by name.

2. Will all members sending monies for insertions in the Conchologists' Newsletter please make cheques and postal orders payable to 'The Conchological Society of Great Britain and Ireland' and not to the Compiler or to 'The Conchologists' Newsletter'.

3. WANTED. Taylor (J. W.) Monograph of the L. & F. W. Mollusca of the British Isles, Parts 22, 23 and 24. G. W. Pitchford, [REDACTED] Southwell, Notts.

4. Mr. C. Paul would like to hear from members who have found LIVING examples of British Unionacea under 50 mm. in length, with a view to studying their ecology and early development. Specimens (which will be returned), and information, especially exact locality, type of locality and time of year, should be sent to: Mr. C. Paul, [REDACTED] North Harrow, Middx..

5. WANTED. Volumes of Rossmassler's "Iconographie..." and volumes of Theile "Handbuch..." not in library. Will purchase or exchange. H. E. J. Biggs, [REDACTED] Bromley, Kent.

6. The Journal of Conchology. The Society has decided to make substantial reductions in the prices of past issues of the Journal. For the time being, these reductions will be available to members only; the following new prices are nett.

Volumes 15 (1916) to 23 (1954) inclusive at 2s.6d. per number or £1 per volume.

Volumes 13 (1910) and 14 (1913) are incomplete but certain numbers are available at 2s.6d. each.

No earlier volumes can be supplied.

The Winckworth Marine List is now offered free to members on request; postage in this case 3d. per copy with order.

The price of Volumes 24 is now reduced to 7s.6d. per number; some numbers are not available. This is the general price and members' discount of 25% will operate.

All requests for publications should be made to the Hon. Secretary.

The Cardiacea

The Cardiacea consists of two families only, the Cardiidae and the Tridacnidae. According to Theile, the former comprises eleven genera, and is of world-wide distribution. There are well over 200 species, of which ten can be claimed as British. Oddly enough, New Zealand, about the same size as Britain but with nearly five times as many molluscs, has but one member of the Family.

The Common Cockle, Cardium edule Linne, is one of the best known 'shellfish' in this country, and is consumed in large quantities in all parts of the British Isles, as it has been from time immemorial. It is the type species of Cerastoderma, a sub-genus of Cardium, of which Jeffreys writes, "This genus is redolent of the good old times. It carries with it a smack of true conservatism - progressive improvement without innovation. Every sound conchologist must rejoice at seeing the name Cardium preserved, with a few others, and to know that they have survived the extensive and often injudicious changes which systematists have been continually proposing since the death of the much-honoured Swede". Jeffreys may rest content that, after nearly a hundred years, the name Cardium is still with us, although many species once included in that genus now have other generic names, but are still included in the family Cardiidae.

Cockles are almost invariably sand dwellers, though a few species live in sandy mud. They bury themselves in the sand, using a large and powerful foot to do so. When the tide is in they often come to the surface of the sand and, using this foot, are able to propel themselves along in a series of hops, though the size of these hops has probably been exaggerated. In some cases it is more in the nature of a marine 'rock and roll'. In two of our own larger species, Cardium aculeatum and Cardium tuberculatum the foot is very large and bright red in colour, which has given rise to their Devonshire name of 'Red Nose'. Cockles are mainly sea dwellers, though some will live in estuaries. Cardium edule lamarcki will live in brackish water cut off from the sea, and two genera, Didacna and Adacna live in fresh water in the Caspian Sea and the Danube.

Cockles are suspension feeders: that is, they feed on plankton floating in the water. The two short syphons, which are united throughout most of their length, project just above the surface of the sand when the tide is in. Water enters the gill chamber through the lower syphon, is there strained through the meshwork of the gills, and leaves through the upper syphon. An interesting feature is the presence of pigment spots on the mantle and syphons, which may be sensory organs of sight, somewhat similar to the 'eyes' in the Pectinidae. These are not eyes in the true sense of the word. They are merely sensitive to light, and should a shadow pass across, the animal immediately closes its shell.

While some species of Cardium have smooth shells, e.g. the British Cardium (Laevicardium) crassum Gmelin, the majority are more or less strongly ribbed. These radial ribs, with their intervening furrows, continue right to the edge of the shell so that the two valves interlock. Even the smooth forms have a sort of milled edge, making a close fit. An unusual species is Cardium lyratum Sowerby, from Madagascar, in which half the ribs are radial, the other half almost concentric, giving the shell a most strange appearance. This interlocking of the valves is even more greatly emphasised in the Tridacnidae, which contains but two genera, Tridacna, which includes the Giant Clam of Australia, and Hippopus.

(3) The Genus

The genus is a collective taxonomic unit consisting of a number of similar or related species. It is distinguished from all other higher categories by being recognised in the scientific names of a group of species. Whilst the scientific trivial name signifies singularity and differentiation, the generic name calls attention to the existence of a group of similar or related species - it relieves the memory.

An objective criterion for generic rank does not exist equivalent, let us say, to that of reproductive isolation for a species criterion. It is therefore impossible to give an objective definition of the genus. A convenient definition is as follows: A genus is a systematic category including one species or a group of species of presumably common phylogenetic origin, which is separated from other similar units by a decided gap.

Genera are tied down by type species and although no one species can be 'typical' of a group of species assigned to a genus, the generic type serves as a fixed point for the generic concept. This situation has been likened to a flat piece of rubber nailed to a table at a single point on its surface. The rubber (generic contents) may be stretched in one direction or another by adding or subtracting species, but it always includes the nail (type species). The species which serves as the type of a genus is, in turn, tied to type specimens, so that the genus is firmly anchored. It is only the extent or limits of the genus that are arbitrary. The type system provides another aid in delimiting genera, i.e. all the species in a genus must resemble the type of that genus more closely than they resemble the types of other genera.

Because species are not evenly distinct from one another, but are arranged in smaller or larger groups, the genus becomes a logical taxonomic category as the next highest grouping above that of the species. Taxonomic characters that prove generic distinctions do not exist. Literature would have been spared many unnecessary generic names if Linne's (1737) warning: "The characters do not make the genus, rather it is the genus that give the characters", had more frequently been kept in mind.

The Meaning of the Genus. The genus, as seen by the evolutionist, is a group of species that has descended from a common ancestor. It is a phylogenetic unit. The characters of the genus are thus either the critical characters of the ancestral species or such characters as have been jointly acquired by all the species.

The genus, however, has a deeper significance. Upon closer examination it is usually found that all the species of a genus occupy a more or less well-defined ecological niche. The genus is thus a group of species adapted for a particular mode of life and it is probable that all generic characters are either adapted or correlated with adaptive characters.

It should be remembered that the essential property of a species is reproductive isolation, the essential property of a genus is morphological distinctness usually correlated with the occupation of distinctly different ecological niches.

Further reading. Mayor, E., Linsley, E.G., & Usinger, R. K. *Methods and Principles of Systematic Zoology*, McGraw-Hill, New York (1953).