

PALLIDULA

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COLLECTORS' CLUB**



COVER PAGE

A fantastic selection of variations of *Aequipecten opercularis* Linnaeus, 1758.
Collection John Fisher. More details on Page 4.

Shells in Unusual Places

This is a picture of a giant clam *Tridacna gigas* (Linnaeus, 1758) which is situated in the middle of a pond and set up as a fountain. The pond is in a small public garden / park in Old Catton, on the outskirts of Norwich. The Old Catton Society, (a group of people who look after the village) had invited me to give my talk on "The World of Shells" and told me about it. No one seems to know the history of it and how it came to be put there, but it does make a lovely feature and focal point there.

Daphne Howlett



Aequipecten opercularis by John Fisher

First named by Linnaeus in 1758 this species of scallop subsequently acquired numerous synonyms over the following years, *Pecten subrufus* Pennant, 1777 and *Pecten pictus* da Costa, 1778, to name but two. Then in later years names were given to the various colour forms such as *lutens* and *albopurpurescens* Lamarck, 1819. Later still in 1888 the single colour forms were given the name *concolor* and the mottled forms became *maculata* (Locard, 1888). This nomenclature has largely disappeared now except for the unicoloured form with reddish ribs *Aequipecten lineatus* da Costa, 1778. This form usually has a white background but very occasionally a yellow form is found as illustrated.

The shell itself is fan shaped with between 19 and 22 rounded ribs. The upper valve is more convex than the lower valve and there are small corrugations on the ribs. The shells measure up to 9 cm in diameter. Its colour varies enormously and in my own collection I have well over 50 colour variations, some of which appear on the front cover. In its juvenile state it attaches itself by a byssus to oysters or rocks and may occasionally be found attached to rocks in the littoral zone. However by adulthood it is free swimming and capable of avoiding the starfish *Asterias rubens* which is its main predator.

Aequipecten opercularis occurs all round the British Isles and from Norway in the north to the Canary Isles and even into the Mediterranean in the south. Although it is an extremely common shell complete shells are seldom found on our beaches due to the weakness of the hinge line.

Also known as Quins or Queen Scallops these molluscs form part of the shellfish industry and are today still collected for this purpose both in the British Isles and France. Recently however there was a ban imposed off the west coast and islands of Scotland due to the accumulation of toxins in the flesh of the scallops. This toxin is said to cause loss of memory, vomiting and even death in some cases.



RECENT / SUB FOSSIL MOLLUSCS FROM ROSKILDE FJORD, NEAR FREDERIKSSUND, DENMARK

by **Adrian Brokenshire**

In the past 18 months I have been lucky to receive shell material, shell grit and sands from the Roskilde Fjord sent by my friends in Copenhagen, Palle Gravesen and Dorthe Freitag.

All the material has come from the Ota Company Quarry, Ostersvej, Marback, near Fredrikssund, not a true quarry but more a storage area for material dredged from the fjord. The company screen the material and process the shells particularly the larger oysters as calcium supplements in animal feed.

The Roskilde Fjord is part of the Isefjord complex and second largest Danish fjord after Limfjord in northern Jutland. It covers approximately 400 km² and connects with the Kattegat. Water depth is variable and ranges from 6 to 15 metres.

The fjord system was formed in the glacial period 13-14 000 years ago. The shell deposits are several metres thick in some areas and range in age from post glacial (sub fossil) to recent. The age of material collected at the Ota Company is mixed due to dredging and storage techniques but recent and sub fossil shells are easily separated by their type of preservation. Shells are cold water, northern species and many can be encountered around the Northern British Isles; some are more Artic and some from more temperate waters as in the Southern British Isles.

The fjord system has had much marine biological work/studies carried out over many years and has a permanent all year round marine station laboratory with dozens of monitoring stations scattered around the fjord system.

The following shell list is by no means that comprehensive as there must have been many shell lists produced for the fjord system over the years. Dorthe has her own collection from the area and her own list. I have not tried to incorporate other lists here but only use material observed in samples sent to me.

Unfortunately the Ota Company site has closed down and no longer exists, but I'm sure that if Palle and Dorthe hear of any new excavations or dredging I shall get to hear of it also.



Collecting *Littorina littorea* along the Yorkshire Coast

by David Hutchinson

Littorina littorea is described in most shell books as very common between tidemarks almost everywhere and does not vary a great deal in size or colour. The shell is usually grey or brown around 26 mm high and 20 mm wide.



My first collecting trip was to Robin Hoods Bay (pictured left and below) near Whitby where the species occurs in large numbers. At low tide the very rocky beach is exposed and one can see *Littorina littorea* in thousands sharing rocks with *Patella vulgata* and *Nucella lapillus*. The shells are all a light brown and very uniform in size all around 20 mm high and 14 mm wide and no larger shells could be found. In the distance I could see people collecting *Littorina littorea* by the bucket full for the seafood trade. After a careful search I managed to collect one totally red shell; this is quite a rare form. Moving down the coast I next

visited Flamborough beach near the lighthouse. It was low tide and the very rocky beach was fully exposed. Many large *Patella vulgata* were on all the rocks but no *Littorina littorea* could be found anywhere. I spotted a number of lobster baskets washed up by the tide along with a number of fishing nets and assumed the area is widely used by fishing boats.

At Bridlington beach I could find no trace of *Littorina littorea*. I then moved on to the Humber estuary where a totally different picture emerged. In the estuary *Littorina littorea* occurs with *Littorina saxatilis* and *Littorina littoralis*; the latter two species are normal size but *Littorina littorea* is very small, shells 20 mm high and 14 mm wide are not common, many shells are only 10mm high and 10 mm wide. The estuary is constantly used by ships and the water appears dirty and muddy. I collected a number of very strange colour forms of *Littorina littorea*, some shells variegated, others nearly white, some with white lips, banded shells and some almost black. From these observations along the coast of Yorkshire I would say *Littorina littorea* is in rapid decline. Shell size is in general very small for the species, colour is not constant from one location to another and on some beaches *Littorina littorea* is totally absent where one would expect to find them. I believe this is due to over collecting, pollution and little rejuvenation of stocks.



Along the coast of Wales near Barmouth and Harlech I have collected shells 30 mm high and 20 mm wide and a lovely deep black in colour. From these observations it can be seen that *Littorina littorea* is far from a uniform shell, many colour forms occur from deep red to almost white with size range from 10 mm to 30 mm in height, and the keen collector can make a lovely collection of shells from such a common species and also learn a lot about the state of the coastline.

THE IMPORTANCE OF NAMING FORMS AND VARIATIONS

by John Batt

For many years I have been interested in the collection of specimen shells, and for a long while now just in the collection of the Cypraeidae, and the desire to understand the immense diversity in species variation, with size, pattern, shape, colour, and differences in populations being of great interest and importance.

For me it was an exciting breakthrough when Dr Felix Lorenz & Dr Alex Hubert brought out the magnificent Guide To Worldwide Cowries, and finally collectors of this incredible family could see and understand all species, subspecies and important named varieties, as well as viewing a great array of other variants set against more typical specimens, so no longer do we have to rely upon dated literature written by those who seem to show very little interest in the variation within species, tend to disregard many subspecies and totally disagree with the naming of forms. However it is important that we as specialist collectors of certain families take into consideration intergrades between similar species or between species and subspecies and not be seen to be splitting in an unnecessary way.

Taxonomic nomenclature is just a human tool for recognition of species and subspecies and will of course never always provide us with lasting names, as due to further findings in our world's oceans the linking up of certain species with other similar species or their subspecies will inevitably reduce many species to synonyms, so to be able to discuss these population variations and recognise them in the future we will have to use form names.

If scientists opt to ignore forms, variations and intergrades within their species and so-called subspecies we will never fully understand if their taxonomically valid species or subspecies are truly valid or not.

Recently I have had the opportunity to thoroughly read through the fantastic World Shells publications by Dr Luigi Raybaudi Massilia, thanks to my good friend Jean Paul Van-Weert. These publications concentrate on many shell families with expert collectors the world over submitting articles, but I would like to concentrate on the approach of Dr. L. R. Massilia himself. As one of the world's, if not the world's most experienced and enthusiastic collectors of the Cypraeidae, Raybaudi as he is well known, always adopted form names to describe his shells and distinguish between shells from different localities, colour or pattern differences, as well as using such names as "*maxima*" or "*minima*" to describe differences in size, although I do not think that the latter is important unless you are trying to sell specimens that differ in size from a mailing list. His use of variety names worked perfectly well although he always maintained himself that these names have no taxonomic validity, but they are very helpful for ensuring that other collectors know the particular variety that you are trying to discuss i.e. *Zoila venusta* "*dorata*" for the high margined golden form of *Z. venusta episema* from Geographe Bay, a very rare and desirable form. It would surely be a great shame if collectors were unaware of its existence, as well as using the name *Umbilia hesitata* "*capricornica*" today known as a separate species although many would disagree with its scientific validity. If we do not know of these important variations through naming and discussion, how will we ever truly understand species diversity or more importantly name new valid species. On the other hand a new species could be named as valid only to find out at a later date that it ends up on the ever increasing list of synonyms as the author quite unscientifically ignored or plainly knew nothing of any specimens intermediate between their new species and another closely related already named species.

Looking at this matter from a different perspective it would be impossible to give variety names to all specimens that vary as with many species there are far too many variations i.e. *Cypraea tigris*, *Zoila venusta roseopunctata* or perhaps the Volute *Cymbiola aulica*. So it seems that there are different levels of importance for the naming of varieties. *Cypraea tigris*, for example, is a very widespread species and you will find in any population many colour forms and different shaped variants, but in Hawaii you get the form "*schilderiana*".

These Hawaiian shells are always much more inflated than large specimens from other localities so I think that they deserve their forma name, whereas naming colour variants that appear together in a single locality is not so justified. If a certain colour form occurred in a separate locality as with *Zoila venusta episema* “*dorata*” then I think that it is an important variation and deserved of a forma name. Even though typical *episema* are found close by, these golden forms with the high margins live only in this locality, their own population. After all is said and done, a collection of Cowries containing just valid species and subspecies will only be around ten percent of a complete thoroughly thought out collection with the most stunning, rare and desirable specimens missing, such as *Barycypraea fultoni* “*miniatra*”, *Zoila thersites* “*eburnea*”, *Zoila rosselli* “*edingeri*”, *Umbilia armeniaca* “*brunnea*”, *Lyncina broderipii* “*somalica*” and *Nesiocypraea hirasei* “*queenslandica*” to name but a few very important forms.

Barycypraea fultoni is a species that both Lorenz and Raybaudi had many discussions and disagreements over. *Barycypraea fultoni* was named as a new South African species by Sowerby III in 1903. Since then many specimens have been trawled by Russian fishermen off Quissico, Mozambique, as well as other areas further south in this country. Raybaudi originally named this northern variety as *B. fultoni* “*mozambicana*” for the shallower water specimens that were inflated and not rhomboidal and callused in shape. He gave the name *B. fultoni amorimi* as a subspecies of *fultoni* for rhomboidal shaped shells from deeper water and used the variety name “*triangularis*” for extremely heavily callused triangular shaped exceptional specimens. Later Lorenz & Hubert disregarded the forma name “*mozambicana*” in favour of their new subspecies *B. fultoni massieri* although in the second edition of their Guide they admit that this move was incorrect, obviously after studying a large number of these shells and seeing how they intergrade fully into the deeper water earlier named subspecies *B. fultoni amorimi*., although they continue to use the name “*massieri*” at forma level only. Their mistake renders the name *massieri* a synonym and the name “*mozambicana*” the correct name to use for this variety, still at form level as Raybaudi had originally suggested.

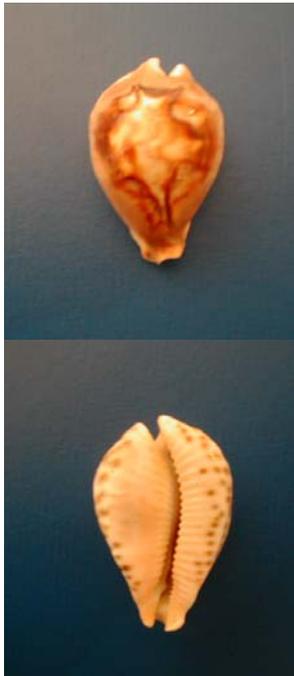
In World Shells No. 13 on page 101 Dr Alex Hubert writes (after reading Raybaudi’s article on *fultoni* in W.S. No. 9 where he displays 58 specimens including intergrades running from Quissico, Mozambique to Transkei, S. Africa) “that if these intergrades exist then Raybaudi’s subspecies *amorimi* should also be dropped along with the name “*massieri*””. Raybaudi does however state in W.S. No. 14 on page 90 that he no longer agrees with his own subspecies *amorimi* , so we now have no subspecies at all of *Barycypraea fultoni*, just important variations.

Within Raybaudi’s article in W.S. No. 9 he introduces another important variation from Transkei, S. Africa. This is the very dark small form, by far the most sought after and rarest form of *fultoni* that he names as *B. fultoni* “*miniatra*”, certainly in my opinion a name that deserves to be in use.

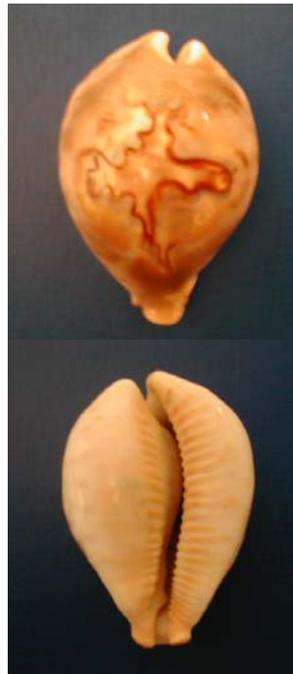
Specimens found further north around Durban are already becoming more flanged on the margins nearing the posterior, are less dark and larger in size. Very similar shells to these Durban shells occur off Maputo in Southern Mozambique. Below is a photograph of my own specimen from Maputo. Note the more depressed less inflated shape in comparison with the other two specimens from Quissico further north, although this Maputo specimens teeth are not as dark as specimens from Durban, who’s in turn are not as dark as in specimens from Transkei.

The largest specimen pictured below centre is the northern form “*mozambicana*” in superb condition for this usually granulose form, and a whopping size of 82 mm. The third specimen pictured is an intergrade between “*mozambicana*” and the callused heavy squat form from deeper water “*triangularis*”; note the beginning of callosity on the margins. The following is a list of the important variations of *B. fultoni* that would be necessary for collectors to obtain for a thorough collection, although many intergrades occur between these four varieties.

- Barycypraea fultoni* Sowerby III, 1903—specimens from Durban, Natal, S. Africa.
- B. fultoni* “*miniatra*” Raybaudi –Transkei, S. Africa, Dark, small, Less flanged margins.
- B. fultoni* “*mozambicana*” Raybaudi - Moz, Quissico area, inflated northern form.
- B. fultoni* “*triangularis*” Raybaudi – Moz, Quissico area, callus margined, deeper water.



B. fultoni – Moz, Maputo – 64 mm
Trawled at 80-100 m



B. fultoni "mozambicana" Moz, Quissico – 82 mm
Trawled at 100-120 m



B. fultoni – intergrade between
"mozambicana" and
"triangularis" trawled- 150 m

This is a classic example of why scientists and collectors should take forms and variations seriously, as this is the only truly, thorough scientific approach one can take when studying shells and putting together a comprehensive collection. The understanding of the existence of variations is so important as they can either make or break a valid species or subspecies.

Another example is that of the so-called subspecies *Zoila jeaniana aurata*. We have for a long time known of many intergrades linking up these deep water shells with shallow water dived specimens of typical *jeaniana* at all intermediate depths, but as Lorenz states in the Guide To Worldwide Cowries, its sub-specific status is quite uncertain but popular with collectors. I believe that this taxon must be dropped to form level only, just as the already named forms *Z. friendii vercoi* "lentiginosa" and *Z. friendii vercoi* "candida". At this time I will not delve further into the Genus *Zoila* as it would probably take up the next three issues of Pallidula, but I am sure that many of the valid species and subspecies known today will, as more integral populations are discovered and the missing pieces of that huge jigsaw puzzle found, be reduced to form level only. So to those lucky collectors out there that choose to collect only so-called valid taxon, you may in the future only have to shell out for seven or eight specimens to complete this spectacular genus – won't that be an interesting collection!



Top row – four variations of *Z. jeaniana* "aurata"; note specimen four is an orange based intergrade with darker dorsal pattern.

Bottom row – four variations of *Z. jeaniana*; note first two specimens were trawled by Taiwanese fisherman in deep water in the late 1970's, the other two were dived from 40-50m None are variation "sherylae"

BOOK REVIEW by Kevin Brown

“OUT OF MY SHELL” by S.P. Dance. Pub. C – Shells – 3 2005. 212 pp
ISBN 0 – 9769567 -1 – 3 Paperback Price £15.00

Many Victorians compiled “Commonplace Books” – scrapbooks which they filled with quotations from favourite novels or poems, excerpts from books or newspapers which interested or amused them, recipes, prints or if they were skilful at art, their own drawings. “Out of my shell” may perhaps be described as a Conchological commonplace book containing a highly personal selection of extracts and press cuttings collected by Peter Dance over many years, often fugitive pieces which may otherwise be lost or forgotten, together with original writing by Peter on subjects which have caught his interest as well as personal anecdotes of his experiences as a Conchologist.

Some of the pieces here are familiar, some new, and sometimes the author sheds a new light on a familiar subject. The result is a collection which is in turn informative, amusing and entertaining.

Where else would you find a discussion on exotic shells found in the ruins of Pompeii; an account of book plates depicting shells; details of shell sculptures on Gaudi’s Cathedral of the Holy Family in Barcelona; comments on the Queen Mother as an honorary member of the Winkle Club and information on the use of the crystalline lenses from Squid eyes as substitute eyes in Peruvian Mummies.

I was amused by the book reviewer quoted as writing “This book has very beautiful pictures of shells, the text is all in Japanese but fortunately all the Latin names are in English”. Intrigued by ‘The Sea Shell Mission’ and the cheque drawn on the inside of a shell. Fascinated at the thought of a scientist eating the animals from several different species of Slit-Shell in the cause of research – all distasteful.

The text is accompanied by a judicious selection of illustrations, mixing photographs, old prints and original drawings by the author and others. All are chosen to illustrate the text to maximum advantage. There is a good index and a list of full scientific names – which are quoted without authors in the text for brevity.

This book may be treated as a bedside book, to be dipped into again and again, or read straight through as a fascinating collection by one of Conchology ‘s most renowned authors. However you choose to read this, the book can be thoroughly recommended.

A hard back, limited edition, is also available at the higher price of US\$75, for the ardent bibliophile.

This book review first appeared in “Mollusc World” – November 2005 and is reproduced with permission.



SHELL MONEY

by Tom Walker



Have you ever looked at a £10 note? I mean really looked at it? Looked to see what all the patterns on it are?

I hadn’t until one of my sons sent me a picture of such a note to demonstrate the abilities of a new camera lens he had bought. And when the image come up on my computer screen I was amazed to see shells! They had, of course been there all the time, but I suppose that we just take money so much for granted that we don’t look at the detail.



There in the lower left part of the note was a line of shells. To me they look like rather stylised *Spirula spirula*, but I suppose they could just be an “ammonite shape”. Any suggestions?