



Afrivoluta pringlei Tomlin 1947

THE STRANDLOPER

BULLETIN OF THE
CONCHOLOGICAL SOCIETY
OF SOUTHERN AFRICA

NO. 153.

JULY, 1973.

THE BIOLOGY OF SOME ESTUARINE BIVALVES

by A. McLachlan.

Part 3. Psammotellina capensis and Pitaria kochii

Psammotellina capensis Sowerby, 1889, as its name suggests, is a psammophilic or sand-loving bivalve which is commonly encountered near the low tide mark on sandbanks in sheltered lagoons and estuaries. It is an attractive little bivalve, with an elongate shape and seldom exceeds a centimetre and a half in length. It occurs in two colour varieties, one pink to light purple and the other a dark violet colour. Both colour varieties usually have a few radiating white rays.

Psammotellina passes all of its adult life a few centimetres below the surface of the sand, from which position it extends its siphons to the surface to feed. As it does not have very long siphons (which are characteristic of deposit feeders) it is most probably a suspension feeder. The sandy environment in which it lives usually contains relatively little food and can therefore not support large numbers of animals. For this reason Psammotellina is seldom found in very high numbers at any particular locality.

Like most bivalves it spawns in summer and by winter the spat are just large enough to be noticeable to the naked eye. They are, however, so small that for purposes of collection they have to be sieved from the sand with a sieve of fine mesh. At this stage they are about 4-5 mm in greatest length. To what age Psammotellina lives is uncertain, but it is unlikely to be more than three or four years.

Although Psammotellina usually only occurs on sandbanks covered by seawater, it appears to be able to survive in water only half as saline as seawater. This is no doubt an adaptation arising from its colonisation of estuaries.

Psammotellina has one very interesting predator, the gastropod Natica genuana Reeve. Natica, also known as a necklace-shell or drill, is often common on sandbanks inhabited by Psammotellina. By means of its large foot, which it swells by taking in seawater, Natica ploughs along just below the sand surface in search of Psammotellina or other small bivalves. This ploughing action of Natica leaves a characteristic trail which resembles the furrow made when one drags a sharp stick through the sand. On locating a bivalve, Natica envelopes it with its foot and then proceeds to bore through the shell by means of its radula which is also aided

by acid secretions. After boring a neat round hole, Natica sucks the trapped bivalve out of its shell with its proboscis, which is inserted through the hole. Such "drilled" or "bored" shells of various bivalves, and sometimes also of small gastropods, the work of Natica genuana and its relatives, are well known to most shell collectors.

I was once treated to an interesting sight in the Knysna lagoon, where, on a sandbank at Leisure Isle, I watched a small Tellina gilchristi zig-zagging awkwardly over the sand by flapping movements of its foot. A few centimetres behind the apparently "terrified" bivalve was a Natica genuana, ploughing along determinedly, no doubt following the chemical trail left by the bivalve. Being a student of bivalves I naturally rescued the Natica's would be lunch.

Pitaria kochii (Philippi, 1843) is familiar to shell collectors. It has a stout shell with a greyish fawn background covered with darker markings. I have, however, also found white specimens which had similar markings to the normal form. Pitaria colonises estuarine mudbanks and living specimens are found lying just beneath the surface near low tide. From this position it suspension feeds in the same manner as Dosinia hepatica (described in part 2 of this series).

Pitaria is slightly larger than most of the bivalves described in this series and grows to more than 3 cm in length. Because of its relatively large size and the fact that it lies very shallow in the mud, it falls easy prey to wading birds, especially oyster-catchers (Haematopus moquini Bonaparte). This is evidenced by the numerous fresh, yet broken valves of this species which one finds scattered over the mudbanks. Such broken valves, with the hinge often still pliable, are thus the work of birds and not fishermen.

* * * * *

COLLECTING ON THE WEST COAST

by James and Maureen Watt.

Although the main interest for South African shell collecting lies in the warm waters of the Indian Ocean, we decided, during April and May, to try our luck in the cold waters of the Atlantic Ocean of the west coast.

We made our base at Langebaan and, after exploring the lagoon for several days, we discovered the locations of a number of species of molluscs.

In the sands of the lagoon we found live Marginella capensis Krauss and in the zostera (eel-grass) beds, Nassa kraussiana (Dunker) and nearby Turritella capensis Krauss. Nassa seemed to be well represented and in four places we found live N. plicatella Adams. Nassa speciosa Adams is plentiful on the village beach. Bullia are also well represented by B. digitalis Meuschen, B. laevissima (Gmelin) and B. annulata (Lamarck). Tellina trilatara are also abundant.

From Langebaan we made our first sortie to Paternoster. Here we were lucky in striking a good patch of loose boulders, bedded in sandy mud, under which we found excellent specimens of Marginella rosea Lamarck, M. biannulata Fabricius (these in such abundance that we didn't bother to collect them after a while) and M. neglecta Sowerby. The half a dozen Conus mozambicus mozambicus Hwass in Bruguiere we found were mostly on the small side. We also found two Conus scitulus algoensis Sowerby. Mitra aerumnosa Melvill and Pusia patula Reeve were along with the marginella and cones.

Africomina capensis Dunker was almost as abundant as the Marginella biannulata. The Patella granatina Linn. were very nice and the P. oculus Born, although there, were not so plentiful. We were also pleased with two Thais wahlbergi Krauss. Chitons were well represented too but we didn't concentrate on these. We did, however, bag a fair number of Fasciolaria lugubris Reeve.

The weather was extremely kind to us and next we moved on to Stompneusbaai where, when we saw the heap of mussels 5 to 6 foot high and 30 yards long (particularly Mytilis crenatus), we hunted for Thais. We found a fair number of T. cingulata Linn. of various sizes and numbers of rings. Here we also obtained Thais squamosa Lamarck, T. dubia Krauss and another T. wahlbergi Krauss. The rocks were carpeted with Patella, the most we have seen in any place, but they were badly corroded. P. granatina Linné were in such numbers that they were double and triple storeyed! These rocks were a hive of interesting sea life, for example a large pink octopus with tentacles about 2½ feet long and a head like a melon, as well as a number of eel-like creatures of about 20 inches in length, fat and writhing like snakes. It was here, too, that we found a large chiton - still to be identified.

By the time we came to rocks we could lift, under which were the Marginella biannulata Fabricius, we had been collecting for three hours, the tide was coming in, our bags were full, our backs were broken and we were forced to stop.

Another day we spent at Elandsbaai. Here low tide exposed a large mussel bed, mainly Mytilis meridionalis, on which there was a thriving colony of sea life. Argobuccinum argus Gmelin were large and very common, as well as Tapes corrugata Gmelin. Patella were scarce and we did not see any P. oculus Born at all. We again collected Thais cingulata Linné and found a form without rings and rather resembling T. dubia but with the lighter coloured cingulata operculum. Thais squamosa Lamarck were more plentiful here and again there were T. wahlbergi Krauss.

We have mentioned some of the shells we collected. We found the West Coast rich in shell life with many interesting areas still to be explored.

* * * * *

NOTES ON THE FAMILY NASSARIIDAE IN SOUTH AFRICA

by E.H. Ralph.

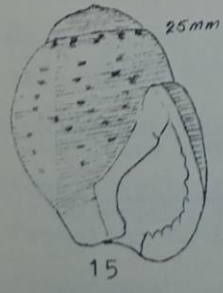
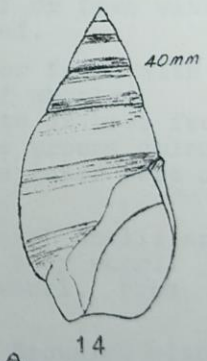
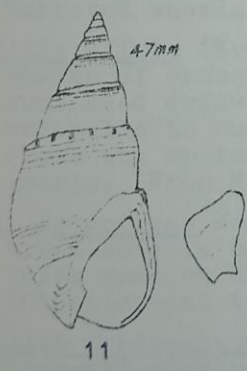
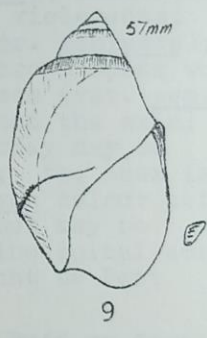
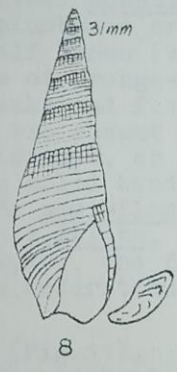
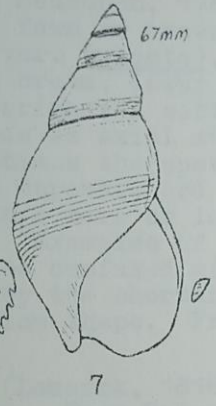
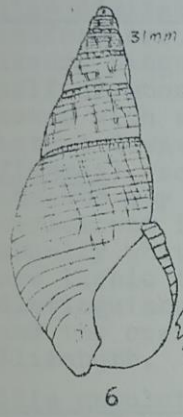
Bullia pura Melville, 1855 (Fig 1). Cream or buff, sometimes with a white band below the suture, sometimes with irregular faint brown marks around periphery of last whorl or last two whorls. From False Bay to Transkei.

Bullia ancillaeformis (E.A. Smith, 1906) (Fig 2). Milkwhite sometimes with a pale orange-brown band below suture, callus opaque white. From Jeffreys Bay to Port Shepstone.

Bullia osculata (Sowerby, 1900) (Fig 3). Cream with flamelike markings below suture and around base, also with axial undulate lines. From East London to Zululand.

Bullia rhodostoma Reeve, 1847. (Fig 4). Cream or flesh coloured lower parts of whorls sometimes darker, sometimes paler, due to the parietal callus. Costa on base orange, aperture deep orange within but paler at margin of outer lip. Varices (if present) yellow or orange. From False Bay to Durban.

NASSARIIDAE



Handwritten signature and date: 6/2/73

- Bullia natalensis (Krauss, 1848) (Fig 5). Cream or flesh coloured, sometimes livid in middle of whorl; basal costa yellowish; aperture orange within, pale at margin of outer lip. From Durban to Zululand.
- Bullia similis Sowerby, 1897 (Fig 6). Cream or buff, with very faint orange or fawn undulate, arcuate or zig-zag axial flames. From East London to Zululand.
- Bullia tenuis Gray, 1839 (Fig 7). Cream or yellowish. Body whorl rather expanded with spiral lines. Apex often tinged with violet. From False Bay to Transkei.
- Bullia mozambicensis Smith, 1877 (Fig 8). Cream or flesh coloured, sometimes slightly livid on middle of whorls, aperture orange within but pale at margin of outer lip. From Port Shepstone northwards.
- Bullia laevisissima (Gmelin, 1791) (Fig 9). Cream with two or three faint spiral bands. Columella slightly suffused with pink or light brown. From Saldanha Bay to Pondoland.
- Bullia digitalis Meuschen, 1787 (Fig 10). Variously coloured: uniform cream, fawn or brown (var. achatina), sometimes with livery tinge (var. sulcata), plumbeous or violaceous; upper half of whorls cream, lower half brown (var. semiusta); cream with a peripheral series of orange-brown spots which extend downwards as axial streaks and flames (var. semi-flammea), sometimes the spots are absent and the axial streaks may be separate and distinct, or they may be coalescent into a more or less solid band; the apex is usually white. Examples of the semi-flammea colour pattern are liable to be confused with B. diluta, but may be distinguished by the shorter spire, the fine spiral striae and the operculum shape. From Luderitzbucht to Port Elizabeth.
- Bullia annulata (Lamarck, 1816) (Fig 11). Buff or fawn with turreted whorls. From False Bay to Port Alfred.
- Bullia diluta (Krauss, 1848) (Fig 12). Cream or fawn, with a series of orange-brown spots in upper third of whorls, continued downwards as axial streaks, the costa on base from columella to end of aperture orange-brown, the ground colour above the spots often paler (whitish) than the lower part of whorls. From False Bay to Tongaat.
- Bullia callosa Reeve, 1828 (Fig 13). Brown (beach shells are cream or pale brown). Brown patch at base of body whorl. Thick reddish or brown callus at top of each whorl. From Luderitzbucht to Tongaat.
- Bullia trifasciata E.Ä. Smith, 1904 (Fig 14). Brownish with turreted whorls. Three darker spiral bands round whorls. From Still Bay to Port Alfred.
- Demoulia ventricosa ventricosa (Lamarck, 1816). (Fig 15). (Syn. Demoulia retusa Lamarck, 1822). Variously blotched with brown to chestnut and white. From False Bay to Zululand.
- Demoulia abbreviata (Gmelin, 1791) (Fig 16). Yellowish white. From False Bay to Natal.
- Demoulia ventricosa nataliae Kilburn, 1972 (Fig 17). Usually orange-pink, the mottled brown form being rare. From Pondoland to Durban.

References:-

- Barnard, K.H., 1959. Ann.S.A.Mus., Vol.XLV, Pt.1, Cont. to Knowledge S.A.Marine Mollusca, Pt.II.

Kilburn, R.N., 1972. Ann.Natal.Mus., Vol 21(2) Taxonomic Notes
on S.A. Marine Mollusca, with descriptions of new species and
subspecies of Conus, Nassarius, Vexillum and Demoulia.

* * * * *

EXCHANGE WANTED:-

Mr J.R. Kahlagen, 2132 So Madison, Tacoma, Wash. 98405 U.S.A.
Would like to contact members with view to exchange.

* * * * *

Changes of Address:-

Mrs Y. Cannon, 73 Railway Residence, Klipplaat, Cape.

Mrs S.C. Vowles, c/o Mr & Mrs Huckle, "One Acre", Whiteleaf,
Princes Risborough, Bucks, England.

Mrs A. Stansfield, P.O. Box 17, Pennington. Natal.

* * * * *

New Members:-

Mr D.B. Cook, 15 Raymond Road, Scottsville, Pietermaritzburg.

Master Philip Lawson, 39 Hillside Road, Fish Hoek, Cape.

* * * * *

Around the Groups:-

Transvaal Group, Johannesburg. Our meeting on the 22nd June was
attended by forty-five members and visitors. The Chairman, Dr. E.
H. van Hoepen, gave a brief outline of three proposed shelling trips
to Porto Amelia later this year, details of which he has sent
to the Secretary. Dr. van Hoepen suggested that all members
report on any interesting observations relating to conchology as
well as all aspects of life in the sea, and that these be recorded.
Three extremely interesting films loaned by the Alliance Francaise
were shown. "The Coral Reef" contained magnificent photography of
life in the reefs off Madagascar; "The Starfish", much of which
was filmed in slow motion, portrayed this predator and the reactions
of its prey - in particular Pecten and Chlamys. The third film
dealt with oceanographic research in the Mediterranean.
All three are highly recommended.

* * * * *

Natal Midlands Group, Pietermaritzburg. Fourteen members attended
our meeting of 9th June which was our Annual General Meeting.
The following office bearers were elected: Chairman, Mr Kilburn,
Vice-Chairman, Mr Eastwood and Secretary, Mrs Webber. The business
side of the meeting being disposed of, Mr Kilburn again held
our attention with his talk, this time on the genera Turretilla
- their characteristics and biology. Some really fine specimens
were handed around for us to see. One could not help but wish
perfect shells of this kind were not so difficult to find.
Mr J. Marais brought some specimens of Planaxis nigra Quoy &
Gaimard, which he had found at Scotsborough on the Natal South
Coast. Mr Kilburn was delighted as he said these were the first
of this species taken alive in South Africa. To help raise funds
towards our own library we had a "Rand raffle", i.e. each member
had been asked to contribute one or more good shells to this
worthy cause - the raffle then cost a rand a ticket and every
ticket won a prize. We were all very delighted as several good
specimens changed hands.

* * * * *

Durban and Natal Coast Group, Durban. With apologies from ten, ten members and four visitors attended our May meeting. The Secretary read letters written to the Parks Board regarding the issuing of shell permits for 1973, and the reply received from the Board. It was agreed that the forms sent to the Parks Board had been mislaid by them and members were asked to fill in new forms for forwarding. The Secretary also read a letter from our Vice-President regarding the bye-laws which our Group wish to have amended. Mr Young, who was conducting the meeting in the absence of the Chairman who was ill, explained to the members present the circumstances leading to the proposed amendments. He threw the matter open for discussion so that all members could fully understand the reasons for our proposed amendments.

Our Annual General Meeting was held on 30th June with only eight members present. Apologies were recorded from another six. In his report the Chairman said that he was disappointed in the small attendance at the meeting, especially as our membership had increased by eight during the year. There were no resignations but we had lost two old members, namely Mrs Kemper and Mrs Hanbury, who passed away during the year. We had had many well-attended meetings and field outings during the year. Our shelling week-end at Port Edward saw nearly 40 members and their families together and the Christmas social nearly 30 people. A field trip to Thompsons Bay two weeks ago saw 12 members. The Chairman mentioned that he had recently been to the Orange Free State where he was fortunate in meeting one of that Province's three members. He said the spirit and enthusiasm shown by this member, Mrs Desfontain, who has to follow her hobby so far from the sea and other members, and with no reference books to assist her, puts most of our members who have the sea and shells on their doorstep, to shame. During the year we were fortunate in having two visits from Mr Dick Kilburn from the Natal Museum at Pietermaritzburg. It is a pity that when we are privileged to have Mr Kilburn with us we have such poorly attended meetings. In thanking the Committee Members for their assistance during the year, as well as the Director of the Durban Museum for the use of the Lecture Theatre, the Chairman mentioned that special thanks must be given to Justice Muller, who, although not a member of the Society, has shown much interest and support in our work, and has at all times shown such willingness to offer help in whatever way he can. The following office bearers were elected: Chairman, Mr J. Scheepers; Vice-Chairman Mr D.S. Smith; Secretary, Mrs M.P. Smith; Treasurer, Mrs V. Neill and Mr B.J. Young was elected as a member of the Committee.

* * * * *

Border Group, East London. With apologies from two there were fourteen present at our Annual General Meeting held on 2nd July. The Chairman, Mrs Latigan, welcomed all present, especially Mr and Mrs Carlsson from Cape Town. In her Annual Report Mrs Latigan said that it had been an interrupted year for the Group and that the collective contribution to conchology was not as great as it might have been. This was mainly due to A) an interim committee having to be formed in December upon the resignation from office of Mrs Faulkner. In this new committee the absenteeism rate was too high for sufficient communication for the smooth running of the Group; B) the loss of some members and C) the average attendance at monthly meetings of only about 25% of members, excluding country members. Specific subjects covered were the families Olividae, Cymatiidae and Patellidae as well as ecology, conservation and general collecting. Despite such relatively small coverage of subject

matter, the standard of individual knowledge gained was considerable and the quality and scope of many members' collections improved. During October a recruiting drive was launched. The Society gained some publicity, but could have got even more if the local press and publicity association had co-operated. However, an impressive display of various members' shells was set up in the French Bank window, pamphlets distributed, one school lectured and two more have expressed interest. The acting director of the Museum had passed a message of thanks to members who had donated shells to the Museum. The finding of Mrs Faulkner's live Cypraea capensis had been given world-wide recognition in The Veliger, Vol 15, No. 2. Field days have been few and far between owing to the difficulty of organising them with only a few members at each meeting. Two short but successful Shell Quizzes were held. The nucleus of a Group Library was formed and would shortly become available to members.

Mrs Latigan then thanked the members for their support during her half year of office. She also thanked Mr and Mrs Carlsson for all their help and guidance. The meeting then elected Mr Carlsson to the Chair. He explained the election procedure and scrutinized the voting papers. The results were: Chairwoman, Mrs Latigan; Secretary, Mrs Leslie; three Committee Members: Miss Eva, Mrs Faulkner and Mrs P. Palmer.

Mrs Carlsson then brought greetings from Cape Town and news from Council. After Tea Mr Carlsson spoke on Marginella. This was a superbly presented and obviously well researched lecture, illustrated by specimens.

* * * * *

Eastern Cape Group, Port Elizabeth. With apologies from four members, seventeen attended our Annual General Meeting, held on 9th June. Mrs Watters opened the meeting with a special word of welcome to Mrs Fuller from Cape Town and Mr E. Peinke from East London. In her annual report Mrs Watters said that the past year had been a very encouraging one. From 22 members in January, 1972, the number had risen to 34 in January, this year, and that more had been registered since. Among the activities mention was made of the very successful stand at the Hobbies Exhibition. From August 1972 there had been 7 meetings at the P.E. Museum and three at the University of P.E. Three field days had been held of which two were well attended. Two informal mid-week meetings had been arranged but these had since been discontinued. Two Committee Meetings were held - the Committee only being formed in October, 1972. A successful Christmas party had taken place. At the various meetings the following families had been discussed: Tonnidae, Cassididae, Harpidae, Neritidae, Patellidae, Muricidae (Thais only), Muricidae (Murex only), Naticidae, Janthinidae, Fissurellidae, Haliotidae and Turbinidae. The Group was engaged in sorting out the Museum's reference collection (and the one at the University) but this still required a tremendous amount of work.

The following Committee was elected: Chairman, Mrs Watters; Vice-chairman, Mrs Farrell; Secretary, Mr Graeve and Members, Mr White and Mesdames Carstens, Lewis and du Preez.

The families Haliotidae and Turbinidae were then discussed. Once again the question arose whether Turbo cidaris and Turbo natalensis are indeed two different species. The Eastern Cape seems to yield many shells that are difficult to classify under either species as they are faintly ribbed. Mrs Hoogenhout had collected a beach rolled specimen of Astraea tayloriana at Jeffrey's Bay and Mrs

Krige the largest Cancellaria semidisjuncta (27.2 x 21.8) seen by us.
* * * * *

Minutes of a meeting of the Society held on 26th June, 1973.

The Chairman, Mr Freeman, welcomed members and visitors. Apologies were recorded from two members. The minutes of the previous meeting were taken as read, and adopted.

Mr Freeman said that in the absence of the Treasurer, Mr Giles would take in any subscriptions now due which members may have brought, but receipts would be issued in due course when Mr Carlsson returned. He also stated that nominations for Council Members had been received by the Secretary within the required time before the A.G.M.

As there was a suitable tide on Sunday, 1st July, it was decided to hold a Field Day at Cape Hangklip. Mr Freeman also mentioned that there would be good tides on 15th and 29th July. It was explained that in the matter of shells for display at the monthly meetings we were choosing those species illustrated in Kensley's "Sea Shells of Southern Africa" and it was agreed that this pattern would continue to be followed. For the next meeting, therefore, the shells for display would be Neritidae and Epitonidae, pages 54-55 and 60-63 of this book. Members were asked for suggestions for the shells to be displayed at the A.G.M. and the popular choice was Cypraeidae.

There was much interested discussion on the shells on view, particularly the Phasianellidae, as the names of these have not yet been settled, due to the variability of the species tricola. There was also much interest shown in the two large Haliotis midae brought by Mr Kapp. These had a most peculiar growth of considerable size from the side of the shells towards the interior, penetrating the animal. This had not previously been seen. The suggestion was made that members bring shells to swop at meetings, and another suggestion was that those with surplus shells should bring lists of these. It was decided to try both ideas. Mr Freeman reminded members that the next meeting would be on 31st July.

* * * * *

Shelling Tour to Port Amelia and the Quirimba Archipelago.

The Quirimba Archipelago starts at Port Amelia and runs up the coast for some 200 miles. It consists of about 32 islands and over 40 low tide shallows all of which are surrounded by massive coral expanses. Massassari is one of these shallows. This area is one of the richest shell areas in the world, and is reached by plane from Lourenco Marques at a price of about R110 return to Port Amelia, and from there a large 32 ton cabin cruiser is hired at R80 per day. This accommodates 8 to 10 people, some sleeping on deck. The boat is hired for 7 days and is completely at the disposal of the group. Shelling, fishing, trawling, dredging, photography and, of course, a continuous party! Food works out at about R1 per day.

It is intended to organise three tours of 8 to 10 people each to correspond with the spring tides in August and September:

1. Fly from L.Marques on 25.8.73. Shelling from 26th, on board till 1.9.73 and return 2.9.73.
2. Fly from L.Marques on 8.9.73. On board from 11th for good tides until 17th, return 18th September.
3. Fly from L.Marques on 23.9.73. On board from 25th to 30th. Return 1st October.

To obtain the concession on the air lines, 8 or more people must leave simultaneously, but they do not have to come back as a group. One may like to stay on longer.

Costs: Air fare about R100. Boat for 7 days R70 if 8 people in group, less with more people. Overnight stay at L.M. about R4, and stay in Port Amelia R5,50 for bed and breakfast per day. Food on board about R7 for the whole week, often including crayfish! With pocket money, we think that R250 per person should be adequate.

The tours are organised by: Dr. H.E. van Hoepen,
1003 Lancet Hall,
Jeppe Street,
JOHANNESBURG. Transvaal,

to whom please address all enquiries.

ADVERTISEMENTS.

Please note that the Conchological Society of Southern Africa accepts no responsibility for anything stated in any advertisement published in good faith nor for any transaction arising therefrom.

WANTED TO BUY

"A Beginner's Guide to S.A. Shells" by K.H. Barnard
(prepared to pay), and
"The Scallop" by The Shell Company.

Write: Dr. H.J. Wessels,
P.O. Box 225,
HARRISMITH O.F.S.

WESTERN ATLANTIC SPECIMENS

deep water dredged,
by our own trawler

for Trade or Sale.

Our interest: Cypraeidae, Marginellidae, Volutidae, Muricidae,
Conidae, Latiaxis, Pleurotomaria, etc.

Please write for free lists.

For Trade please include in first letter species you have, price,
and species you would like to trade.

NOTE: All of my specimens are live collected.

Write: Ted Yocius,
321 Ribault Street,
St. Augustine,
Florida 32084. U.S.A.
