MEETINGS

The next meeting of the SOCIETY will be held on Tuesday, 24th February, 1970 in the Lecture Hall of the S.A. Museum, at 8.15 p.m. The shells for display will be the family VOLUTIDAE. Mr Simon from the University has been invited to talk on Seaweeds.

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The next meeting of the BORDER GROUP will be held on Sunday, 22nd February, 1970 in the Lecture Room of the East London Museum, at 3 p.m.

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The next meeting of the TRANSVAAL GROUP will be held in the Theatre Hall of Shell House at 8 p.m. on Friday 27th February 1970. The family chosen this month fro discussion and display is Cassididae. Will members please bring their specimens along.

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During the last week in November, 1969 a meeting was held at Tervuren (Musée Royal de l'Afrique Centrale) attended by various persons interested in the study of land and freshwater molluscs of Africa south of the Tropic of Cancer including Madagascar and adjacent islands, and part of Arabia. It is proposed to issue a newsletter once a year as from Spring 1970 giving names and addresses of persons interested in this area, lists of their papers and current research, also notes on location of types, proposed expeditions to Africa, specialized bibliographies and queries. This will be called "ACHATINA" and copies will be available to bona fide workers prepared to co-operate in the scheme. A long term project is an annotated bibliography of all papers dealing with the non-marine molluscs of this area. The terms of reference are restricted to taxonomy and zoogeography; medical aspects are considered to be outside this field. Those interested should contact Dr. J.J. van Mol, Musée de l'Afrique Central, Tervuren, Belguim.

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THANK HEAVEN FOR BEACHWORN SHELLS

by Steve Fenwick

Every so often we read in the Circular a heartfelt appeal to all conchologists, urging them to bring home only living or fresh material, and to leave the worn and faded material on the beach, where they belong. Similar advice is to be found in the introductory pages of almost every popular book on molluscs. While nobody would deny that shell containing its animal is of the utmost importance in fixing its true identity, I should just like to mention the case for the other side.

I have spent the last two months examoning the type material of a wide range of South African species in the British Museum and the Oxford University Museum collections, where I was surprised to find a large number of the type specimens to be in appallingly poor condition. Much mud has been slung at Turton for giving new names to battered shells, but it seems such eminent authorities as Reeve and Sowerby where equally guilty of the same fault.

I was unable to recognise several of these nondescript holotypes until, by digging in forgotten corners of my own collection, I managed to assemble a sadly weather-beaten array of related species, most of which, but for sheer laziness, would have been thrown out long ago. Comparison of these series with the unsolved holotypes resulted in conclusive identification of nearly all the problem-species: in the genus Clavatula, for example, as many as five names were relegated to synonymy.

My greatest regret now is that I didn't keep a series from best to worst to represent every species under investigation, with which the first phase of the work might already have been completed. My advice to everyone interested in sorting out the reamining confusion of our molluscan fauna, is to hold on to those beachworn shells.

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CONCHOLOGICAL PROBLEMS

by D.H. Kennelly

Occasionally when out collecting, members will - if observanr - come across some unusual aspect on the beach visited. When considering such cases it is

not easy to find a suitable reason that has caused the matter.
The writer has in mind two occasions when an unusual aspect has appeared. The first was a visit with other members to a beach in the Gonubie area, when an area of less than 100 yards was found to be strewn with dozens and dozens of perfect fresh dead shells of Patella longicosta. A Border member- Mrs M. Rix- was present and also commented on this aspect.
The second occasion was when the writer spent a week-end at Kidd's Beach. This locality did not prove to be a success from a collecting point of view, but attention was drawn to a small stretch of sandy beach about 100 yards in extent. Within this area there were dozens and dozens of perfect fresh dead shells of Helcion pectunculus.
Both species are very common and it is easy to find a few each in suitable conditions for a collection on any beach visited, but seldom do you find evidence of what may be termed wholesale destruction of these species.
Just recently the writer was fortunate enough to have a visit from Mrs C. Connolly, a member of wide experience in field work on beaches and the matter was discussed.
Mrs Connolly was of the opinion that the descruction of such a quantity of P. longicosta and H. pectunculus could well be attributed to predatory Starfish and gave some particulars of what Starfish were able to do when searching for food.
The writer is in agreement with Mrs Connolly's opinion, though it may not be the complete answer to the problem. There are probable other unknown factors, which would give further enlightment.
In support of the opinion cited, the following points are noted:
First:
Starfish are very mobile, and are able to travel up and down reefs in searching for food. Also they are very voraceus.
Second:
The Patellidae are known to occur in groups or colonies and the destruction mentioned may have been caused by an invasion of Starfish in the localities recorded.

The discovery of so many dead specimens within small areas, may be attributed to the fact that the writer found them before the next high tide had removed or scattered the shells.
There is in reality very little recorded about Marine Biology and a great deal awaits investigation. The inusual aspect attracted attention and observant members and collectors will probably come across other aspects, the answer to which would take some finding.

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Phenacovolva labroguttata, a new South African semi-cowrie by F.A. Schilder

The species of the family Ovulidae (formerly Amphiperatidae) are rather rare in South African waters: several species come from the Indo-pacific, but three species (beckeri, gracillima, aurantia)seem to be endemic (see Barnard 1963, Ann. South Afr. Mus. 47:54-57).
Recently, I have established a further species which seems to be endemic in South Africa too: Phenacovolva labroguttata, Schilder 1969 (Arch. f. Mulluskenk. 99:209). The shell is 20-28 mm. long, fusiform like Barnard's drawing on sowerbyana (l.c.p.43,fig.5e), but it differs by the shell being smooth (excepted the finely striated extremities), by the absence of a fossula, and by the posterior funiculum being rather obsolete, thus approaching the Indo-pacific Phenacovolva birostris Linnaeus, which has often been called brevirostris Schumacher (see Schilder 1966, Veliger 9:98) or nectarea Iredale. The shell is mostly orange, but it varies to pink and even to dark red; its chief distinctive character consists in the spotted outer lip which is plain in all other species of the subfamily Ovulinae and spotted only in the survivor of the subfamily Eocypraeinae, Pseudocypraea adamsonii(see Circular 113:1) Like in adamsonii(but contrary to Cypraeidae) the 7-14 lateral spots of labroguttata are not round, but irregularly square: these spots are pink even in orange shells, and alternate rather regularly with the white interstices on the lip; moreover, they are not restricted to the dorsal part of the lip but they pass also to the base becoming obsolete along the aperture. Two specimens of labroguttata have been figured in Arch. f. Molluskenk 99:210 figs. 1 and 2, and a third shell-still nameless- in Hawaiian Shell News No. 117:6 (September 1969)

The holotype of labroguttata has been collected at Haga Haga (Kei Mouth) by Mrs Hazel Jefferies and presented to the Museum of East London (it has been erroneously thought to belong to Pellasimnia aurantia in a letter published in Circular 107:3, May, 1969). One Paratype from Port Alfred is preserved in coll. Posonby in the British Museum (Natural History). The two paratypes have been collected by Mrs Peggy Faulkner at Gonubie, East London, they are preserved in her collection, as well as some more specimens of labroguttata collected at Gonubie later on: one of these shells has been presented by Mrs Faulkner to the writer (coll. Schilder, No 23,563).
When collecting on the beaches, South African conchologists should look for the easily recogniseable Phenacovolva labroguttata and publish further localities so that area of distribution of the evidently endemic species could be defined.

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Boring and Burrowing Marine Animals.

by (Mrs) J. Day

A large number of worms, prawns crabs and molluscs spend their lives buried i under the sand in burrows which they have made. Other animals, however, have exploited their ability to burrow and by one means or another can now bore int wood, rock, coral and mollusc shells. Basically they can do this in one of two ways: either by chemically dissolving the hard material, or by eroding it mechanically. Their reasons for doing so are also two-fold. Either they make burrows which form a permanent shelter, or else they drill into shells in order to feed on the animal living inside.
Although many marine animals have the ability to bore, only a few are commonly known, because they cause eocomic damage. The U.S. Navy has a large project concerning the control of the ship-worm Teredo. A strange little isopod, the gribble, which looks like the "armadillo" found in compost, also causes thousands of Rands' damage to ships and wooden pilings, although it is only found in more tropical waters.
The oyster industry annually looses thousands of spat and adults due to attack by many different pests. A small boring sponge, Cliona, makes numerous tunnels within each valve of the oyster, until the shell is soft and easily broken. A minute bristle worm, Polydora, may also do this if the infestation is large enough. Boring barnacles of various sorts are also found throughout the world, in many different shells, but because of their size cause little damage. All three pests may be found in most South African shells. A species which is beginning to cause considerable damage in Australia is a sea urchin, which can burrow not only into rock, but also into concrete and reputedly steel, by rotating its hard, pointed spines. The cavity formed is a made-to-measure home.
The group which contains by far the most efficient borers is the Mollusca. Bivalves such as Pholas bore mechanically into soft rock. Teredo secretes a chemical wood softener. Fungiacava, a new Pacific mytilid, bores into coral as a larva and lives there throughout its life. Among the gastropods, we are all familiar with the "home scars" left by various Patella on the rocks, although nobody knows how they are formed. Three groups of gastropods regularly bore into the shells of bivalves, barnacles and other gastropods to obtain food. The Muricidae and Naticidae have evolved an almost identical drilling habit quite separately. A small gland situated in the tip of the proboscis in muricids and in the sloe of the foot in naticids is placed on the shell to be drilled. An enzyme from the gland softens the shell, which is scraped by the radula. After 24 hours of softening and rasping, the shell is penetrated and the animal can be eaten. The Tonnacea produce sulphuric acid in a gland situated internally behind the proboscis. The acid rapidly dissolves mollusc and sea-urchin shells and the tonnid, cassid or cymatid can eat the soft parts thus exposed.

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Minutes of the meeting held at the S.A. Museum 27.1.1970

A near record attendance of members and visitors was welcomed by our Vice-President, Mr Freeman.
The minutes of the previous meeting as published in Circular No.114 were taken as read and adopted.
Apologies were received from Mr G. Ivy, Mrs Pugsley, Mrs Prior and Mr & Mrs Ackermann

The following were elected to membership:

Mrs J. Balfour, 24 Moreland Rd., Clarendon, Pietermaritzburg
Mr P.A. Hughes, P.O. Box 541, Manzini, Swaziland
Mr R.T.H. Titterton, 140 Woodgate Rd., Plumstead, Cape

The following were proposed as new members:

Mrs N.E. Cumming	proposed by	K. Eastwood	Seconded by	V. Neill
Mrs G. Steele-Boe	"	D.H. Kennelly	"	R.O. Carls
Mr T.J. Pienaar	"	R. Carlsson	"	T. Carlsso
Mr M.H. Wright	"	A.A. Wright	"	L. Kerr
Mr R.B.C. Le Maitre	"	G. Ivy	D. Freeman	

The Chairman mentioned that the Secretary had a supply of postcards of Afrivolute pringlei for sale at 5 cents each in aid of Society funds. He also reminded those present that they, and not the Society had to bear the cost of tea and the wages of the Museum staff. The tea kitty had been running at a loss for some months and funds were low.
It was reported that the late Dr. Cohen's collection of shell figurines was housed at the King Williams Town Museum and that this display ws well worth a visit.
It was with regret that the death of Mrs Mason on 5th January, 1970 was recorded.
The auction by Jock Dichmont of a parcel of shells from Mr Rossack of Australia produced the sum of R24.60 towards Society funds. Our grateful thanks to Mr Rossack and Jock.
After Tea Jock Dichmont entertained the meeting with a description of his expieriences with an American film unit and his shelling exploits which took him as far as Europa Island and lasted a month. He illustrated his talk with some excellent slides and a display of six month old, uncleaned shells!!

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Border Group Notes by D.H. Kennelly

The first meeting in 1970 was held on the 25th January and well attended. Apologies for non-attendace for various reasons were received from six members.
A hearty welcome was extended to Mrs Vowles and son, Gerald, who have transferred from Transvaal group and are now resident in East London.
We were very pleased at having with us Miss D. Smailes and her mother from Kentani, Transkei. This visit entailed a round trip of some 200 miles.
The Chairman with great regret announced the passing of Mrs Jesse Mason in Natal on the 5th January. Prior to leaving for Natal some three years ago, Jesse Mason lived at Kei Mouth and was a keen member of Border group.
During the Festive Season the following members visited East London: Prof. and Mrs Mallory, Cape Town, and Mrs Clarice Connolly, Cape Town.
Clarice was here on one of her periodic raids for mollusca from the Ciskei coast.
A feature of the meeting was the exhibition of specimens obtained by members though collecting or exchange since the November meeting.
Miss Jackson showed a lovely perfect specimen of Cyprara arabica immanis (bulla stage) from Gonubie. Mrs Armstrong produced two perfect specimens of Argo nauto hians and a good beach example of Sylvanocochlis ancilla, all taken at Bulugha.
Mrs Gillmer stole the limelight with her display of foreign marine shells, obtained by exchange, mostly from the Fiji Islands and South America. Adeline further delighted those present by generously distributing duplicates, of whic the E.L. Museum also acknowledges a share.
During the meeting the Chairman gave a short account of the latest scientific findings relative to the Family Conidae.

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SECRETARY/LIBRARIAN
Mrs R.O. Carlsson
18 Tecoma Way,
Pinelands Cape
Phone 53-1536

TREASURER/EDITOR
Mr R.O. Carlsson
18 Tecoma Way,
Pinelands Cape
Phone 53-1536

THE CONCHOLOGICAL SOCIETY OF SOUTHERN AFRICA

Circular 115 ADDENDUM February, 1970

FRESH-WATER MOLLUSCS

Part I by C.C. Appleton

A seemingly neglected section of our molluscan fauna is that from fresh-water lakes, ponds, rivers etc. During the past year I have been involved in Bilharzia research and in the course of this, have come into contact with many fresh-water molluscs. I suppose that few members will have many, if any, in their collections, so a few remarks may helf to recognise some of them. Generally fresh-water molluscs are a dull group, but alittle research shows them up to be more interesting tha at first presumed. Firstly it is essential to bear in mind that, owing to considerable reproductive isolation (Breeding in isoloted lakes, etc.) many molluscs have developed along their own lines and thus produced different "races" which create very wide morphological variation within a species. Now, because several snails are of great medical and vetinary importance, these have been subject to intensive research both in South Africa and elsewhere in the world. This research has shown that morphological shell characters alone are not at all r reliable and thus radular, anatomical and even chromosonial characteristics are used to define some species.

Neverthe less many genera are recognizeable by their shell morphology, and with the help of a few anatomical features, a reasonably accurate identification can be made, except perhaps within the family Bulinidae. Bivalves are not as common in fresh-water as Gastropods, but I include the most common genera found in South Africa.

I wou ld warn any member searching for these molluscs, of the danger of Bilharzia. This disease exists in many waters in the Transvaal, Natal, Mocambique and the N.E. Cape (Transkei) as far south as Uitenhage. Simple precautions such as the use of forceps for handling live snails and general care to avoid direct contact with water should be sufficient. If you do get wet - dry off immediately.

A shallow, long-handled net is useful for collecting amongst reeds etc. which are usually the best hunting places for snails and for scooping up mud which harbours bivalves and often Melanoides but of course there may be other kinds there too.

Measurements accompanying the drawings relate to the largest shell dimension.

Classification of those molluscs illustrated:

Phylum Mollusca
- Class Gastropoda
  - Order I Prosobranchia
    - Family Viviparidae
      - *Bellamya*
    - Family Pilidae
      - *Pila*, *Lanistes*
    - Family Melaniidae (Thiaridae)
      - *Cleopatra*, *Thiara*, *Melanoides*
  - Order 2 Pulmonata
    - Suborder Stylommatophora
    - Family Succineidae
      - *Succinea*
    - Suborder Basommatophora
    - Family Physidae
      - *Physa*
    - Family Lymnaeidae
      - *Lymnaea*
    - Family Planorbidae
      - *Biomphalaria*, *Gyraulus*, *Anisus*, *Heliosoma*, *Lenameria*
    - Family Bulinidae
      - *Bulinus*
    - Family Ancylidae
      - *Ferrissia*, *Burnupia*

The class Pelecypoda will be dealt with in a later article.

Notes of the Species.

1. BULINUS (B) TROPICUS (Krauss)
Distributed throughout Southern Africa. Like many Bulinidae it shows great polymorphism and often has radial ribs on all whols.

2. BULINUS (B) FORSKALI (Ehrenberg)
Has a wide distribution over Africa, and is common in temporary pools. It is readily recognised by its turnipform shape, but juveniles may be confused with juvenile B. tropicus.

3. BULINUS (PHYSOPSIS) AFRICANUS (Krauss)
Found from E. Cape northwards to Central Africa. It is the intermediate host to Schistosoma heamatobium (uninary Bilharzia in man), and S. matthei (a common Bilharzia in cattle, sheep and antelope but less so in man).

4. PHYSA ACUTA (Draparnaud)
This species occ urs in Natal and the Transvaal and may have been introduced from S. Europe and N. Africa. It is distinguished from Bulinids by a sharp spire, almost translicent shell and characteristic columella.

5. LYMNAEA NATALENSIS (Krauss)
Distributed all over Africa. It is the intermediate host to Fasciola gigantica (great liver fluke in sheep).

6. LYMNAEA (PSEUDOSUCCINEA) COLUMELLA (Say)
This snail can be distinguished from the preceding one by the presence of reticulate sculpture all over the shell. It was probably introduced from N. or Central America, but has spread, chiefly along the South and Eastern coastal belt, in the Cape and Natal. It is found in the Vaal and Incomati River systems, and is often out of water on emergent plant stems or on soft, damp mud.

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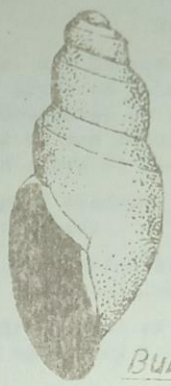
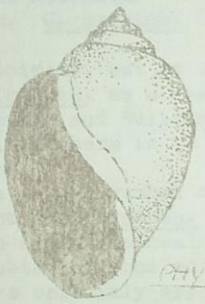
TO BE CONTINUED.

BULINUS (B.)
TROPICUS 15 mm



BULINUS (B.)
FORSKALI 11mm.

BULINUS
(PHYSOPSIS) AFRICANUS
13 mm



PHYSA ACUTA
8 mm

LIMNAEA NATALENSIS
23 mm

LYMNAEA
COLUMELLA
13 mm.