

# The Strandloper

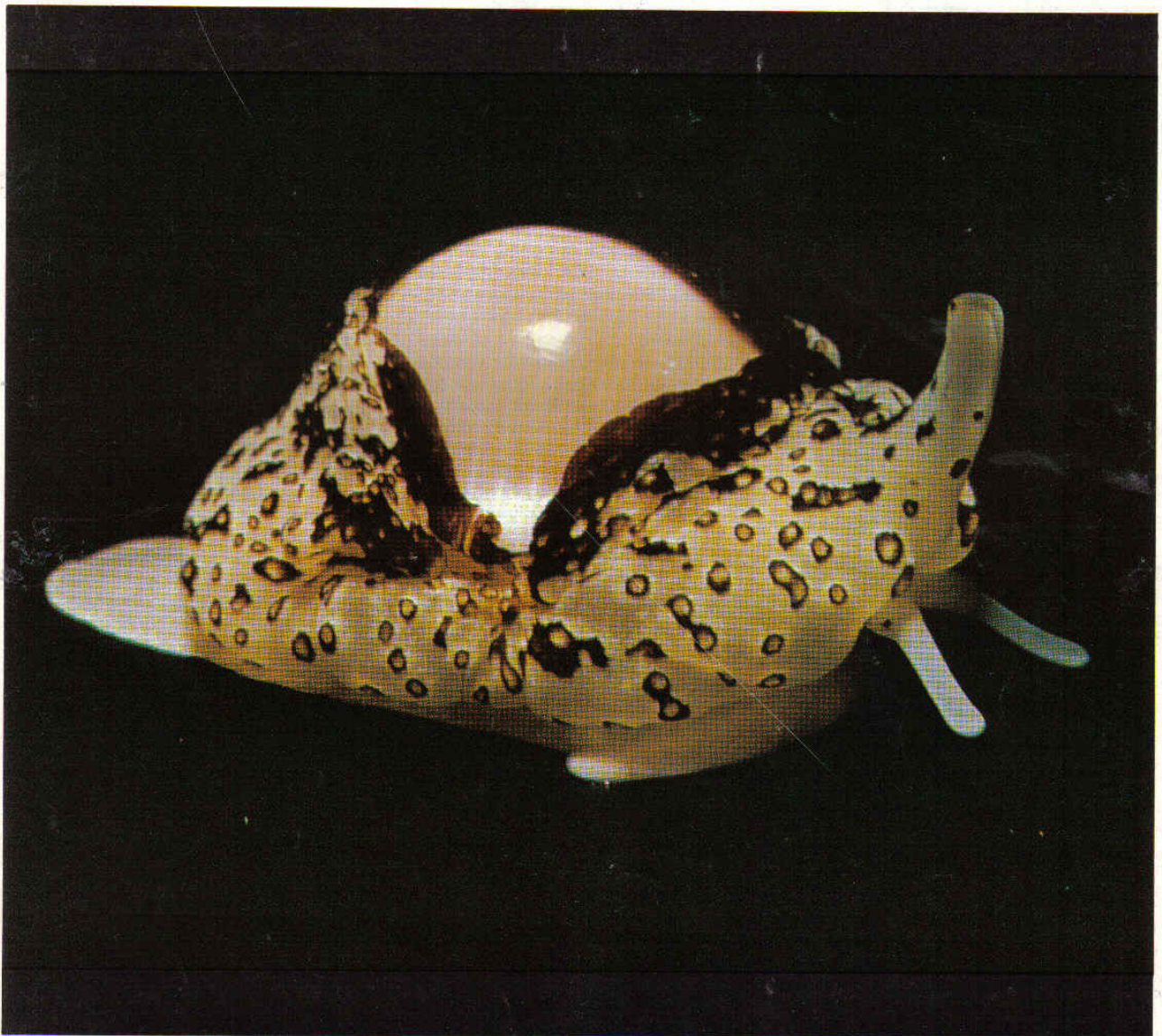
BULLETIN OF THE CONCHOLOGICAL SOCIETY OF SOUTHERN AFRICA



No. 214

JUNE 1985

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**Trivia rubra (Shaw, 1909) by W.R. Liltved**

*Trivia rubra*, thought previously to be a subspecies of *Trivia ovulata* (Lamarck, 1811). Since the collection of living animals it has proved to be a distinct species. It inhabits fairly deep water, where it may be observed feeding on compound tunicates. Its known distribution is between Cape Agulhas and East London. The animal when fully extended may reach 38mm in length.





### A MESSAGE FROM THE VICE PRESIDENT

It happens in the best regulated families! There you are sitting quietly at home with your feet on the mantelpiece and your mind in neutral when your eldest daughter strolls in – you could say 'saunters' – and says "Dad" (and when I get called that and not "Papa" then I think I know that I am looking at TROUBLE – eyeball to eyeball!). "Dad" she says again "I'm afraid I've been and gone and done it...."

"Aw Gee" I say – fighting for time – "It's just one of those things.... Honey-child they happen in the best regulated families!" But she comes right back at me wearing that smile that converts me but every time – and she knows it! – into a quivering jelloid mass and says "But Papa you know Tony and I love him and we want to get engaged to be married....!"

The rest doesn't matter. After all, it's only a make-believe parable of a kind.

What is not make-believe is that here in our Society our most patient critic would be hard put not to agree that we have been sitting with our feet neither on the mantelpiece nor on the ground... not letting the grass grow under them mark you, but allowing it hardly to grow at all. Truth to tell we've been in sore need in these recent times of enough pairs of eager hands of the right size and shape to help us run a 'tight ship' as Navy men say.

But now for the Good News! Before the next edition of STRANDLOPER is published (Sept. 85) we will have re-located our Headquarters in Natal and we'll be under new Management. Our three active Groups of Members in that Province confidently expect to be able to provide those eager hands and my thanks go to them in full measure for their most noble offer. Also on your behalf I extend full appreciation to those, previously and presently, in Cape Town, who through these recent difficult years have been able to keep our heads above water. And finally thank you for your continued support.

Better times are NOT ahead! They're HERE already!

Noggs Newman

## THE CONCHOLOGICAL SOCIETY OF SOUTHERN AFRICA

Notice is hereby given that a Special General Meeting of the enfranchised Members of the Society will be held in the Lecture Theatre of the Natal Museum, Loop Street, Pietermaritzburg, at 3.30 pm on Saturday 27th July 1985, for the purpose of dealing with the following Agenda:

1. To receive a report from Mr N.E.M. Newman – Vice President in Office – on matters relating
  - (a) to the transfer of the Headquarters of the Society from Cape Town to Pietermaritzburg.
  - (b) to the decisions taken in consequence by the appointed Steering Committee, among which is the need to amend the Constitution of the Society as it relates particularly to the location of its Headquarters and to the structure of its Governing Body. (A schedule of these Amendments will be available at the Meeting.)
  - (c) to the condition of the Society's finances as at 30th June 1985. (An audited Statement of Revenue and Expenditure up to that date will be available.)
2. To elect the President, Vice President, and Executive Office Bearers of the Society for periods of service as prescribed in the Constitution as amended. (The names of persons who will have accepted Nomination will be announced at the Meeting where further Nominations will be invited).
3. To appoint an Honorary Auditor.

#### Note:

A Special General Meeting is limited to debating and deciding on only such items as appear on it's Agenda. However in view of the significance of this occasion Members, whether able to attend or not, are invited to submit relevant written queries or suggestions which, provided they are received at P.O. Box 8054, East London – 5241 NOT later than Thursday 18th July 1985, will, at the discretion of the Steering Committee, be dealt with under the appropriate item of the above Agenda.

At the conclusion of the Meeting light refreshments will be served.

30th June 1985.

N.E.M. NEWMAN  
Vice President

#### New Members

Miss E. Liebenberg  
101 Le-Ann  
75 Dorothy Road  
Norwood  
2192 Johannesburg

Mr Kobus Dreyer  
P.O. Box 298  
Jeffreys Bay  
6330

## BOOK REVIEW

by David Freeman, Cape Town

### WAGNER & ABBOTT'S STANDARD CATALOG OF SHELLS

#### Supplement No. 3: World Size Records

Published by American Malacologists, Inc., P.O. Box 2255, Melbourne, Florida 32902, U.S.A.

Price US\$7.00

Existing owners of the very useful Standard Catalog will welcome this new supplement, consisting of a 32-page list of about 1 000 maximum sizes recorded from among the collections in museums and private hands around the world. This supplement is bound in its own wrapper so that it need not necessarily be fitted into the master binder of the main catalogue.

The editors explain that the records are now maintained in a computer system, allowing up-dating on a daily basis, and the list will be issued annually in future.

The accuracy and completeness of such a list depends on the input of up-to-date information from conchologists everywhere. The editors will accept size records established and confirmed by professional malacologists and the procedures are specified in the text. Although the intervention of some responsible referee is essential, this will deter the owners of some record-breaking shells from submitting their entries. Your reviewer, for instance, has a *Cypraea algoensis* and an *Afrivoluta pringlei* that are larger than the reported records but he is reluctant to pester the hardworking malacologists at the S.A. Museum to go through the measuring and confirmation procedures required for official recognition.

Some collectors are so obsessed by the urge to possess the largest specimens of all shells that they are prepared to pay premium prices for such items. This commercial approach to collecting is quite legitimate although I personally deplore it. The list therefore has some commercial value, but it also serves a scientific purpose in answering the inevitable question of an enquiring mind: 'How big does it grow?' and for this reason it deserves support.

There are a few (less than a dozen) minor misprints in the names of shells, which makes one wonder if there are perhaps some errors in the size figures also. The list of shell books at the end of the supplement would be more useful if it were up to date with information about current South African literature that has been available for the past three or four years.

Apart from the new supplement, the entire Standard Catalog is also available at a cost of \$60.00 including all supplements. It is a useful item to have in your library.



## ABERRATION IN CYPRAEIDAE IN CENTRAL QUEENSLAND: MELANISM & ROSTRATION

by Noel I. Trevor

These two words are not entirely accurate for describing the aberrations that occur in the family Cypraeidae in various parts of the world.

MELANISM refers to the melanin which is present in the mollusc and is deposited in the nacre of the shell in various shades of brown or black. Melanin is a brownish-black pigment contained in animal tissues, e.g. in the skin and hair of mammals.

ROSTRATION is elongation of the shell, from the Latin *rostrum*, which was originally the ornamental beak-like prow of a war galley.

(The change of meaning to a place from which a public speaker addresses an audience, which is the common meaning of *rostrum* today, began in the time of pre-imperial Rome. It was the custom to display the prows of captured warships as trophies in the Roman forum, and speakers addressed the Senate from the platform where these rostra were displayed. It must have been an impressive sight, and a grim warning too. — Ed.)

Apart from these two aberrations, there can also be depigmentation in which normal shell colour is lacking. This is not necessarily the same as albinism in which the animal itself, and not just the shell, lacks pigment and is a true albino. A further aberration is variation or intensification of colour in a shell, beyond what is considered to be "normal" for a particular species.

When melanism occurs, melanin is deposited in the nacre or surface enamel of the shell in an opaque overlay, ranging in varying shades from purplish-brown in *Cypraea poraria* to black in *Cypraea arabica*. At the same time, those parts of the shell enamel that are not affected by the melanin show an excessive build-up of enamel. This is usually in the white or pale parts of the surface. *Cypraea vitellus* is one example of this, where the white spots on the dorsum become excessively raised above the dark melanistic black surrounding area. In other cases, the white base of the shell may be built up until the aperture appears sunken and the extremities are extended and twisted.

This excessive build-up, as well as the opaque melanin overlay, is superimposed over the normal shell and is brittle. If chipped away, the original normal shell can be seen.

Various theories have been advanced to explain the reason for the phenomenon. Disease, food, water temperature, are some of the factors proposed. Whatever the cause, it certainly stimulates excessive growth and the secretion of excessive melanin in certain individuals. Melanism and rostration occur only in a very few specimens of a species and then only in mature specimens. Never have

juveniles been seen to be affected. Also, aberrant *Cypraea* have not been seen on eggs. Certain species of Cypraeidae seem not to be susceptible to melanism, e.g. *Cypraea rhinoceros* Souverbie, 1865, which shows only more colour. (Burgess mentions that this variety of *Cypraea pallidula* Gaskoin, 1849, varies from milky white to a dark greenish-brown. — Ed.)

In Queensland, the zone in which the aberration occurs extends from approximately 20° 40' S, to the southern end of Facing Island at 23° 42' S. The Capricorn Group of reefs is included in this area, with the heaviest density of melanism being in the Keppel Bay area.

Black specimens of *Cypraea* occur outside of this zone. *Cypraea mauritiana* from North Queensland and *Zoila friendi ther-sites* from South Australia come to mind. Although called "melanistic" I do not think that the cause is the same as that which occurs in the zone mentioned.

Cypraeidae known to be aberrant in Queensland include: *arabica*, *asellus*, *an-nulus*, *caputserpentis*, *clandestina*, *caurica*, *cylindrica*, *cribraria*, *erosa*, *felina*, *hammondae*, *humphreysi*, *hirundo*, *isabella*, *kieneri*, *lynx*, *macula*, *moneta*, *minoridens*, *punctata*, *pyriformis*, *poraria*, *quadrifaculata*, *rhinoceros*, *sub-iridis*, *talpa*, *vitellus*. *Calpurnus ver-rucosus* also becomes rostrated in this area.

### HOLIDAY TO AUSTRALIA, NEW CALEDONIA AND FIJI

by Nan Watt

The highlight of the trip was naturally the Great Barrier Reef. This magnificent structure was started a million years ago by minute coral coelenterate polyps which resemble coloured blossoms as they wave hither and thither in the water currents. They secrete a protective shroud of calcium carbonate around themselves and in their countless millions have built the Great Barrier Reef which is now 1 200 miles (2 000 Km) long. Its walls can withstand the pounding waves from Pacific ocean storms and so protect the Queensland coast and offshore islands.

At high tide one cannot get onto the reef unless one dives. At low water, however, the reef bares its wonderful head and then one can see the living coral. Coral on the surface is affected by wave action and exposure to the sun, and it hardens into a platform of limestone. Here and there are pools of clear water in which small fish dart about.

Two marine parks have already been declared and the reef is protected and is one

of the wonders of the World Heritage List, but it is a very fragile thing where the balance of life supported by the coral could so easily be damaged beyond repair. In the Parks one can dive and study nature but action that is harmful to the ecology is forbidden. It is therefore up to all who visit this lovely place to treat it with respect. When we were on Green Island we were warned that not even dead shells should be removed, for these eventually break down to assist the ecology of the reef. I am heartily in agreement with this for, having seen how many hundreds of people from all over the world go to the reef, if each one took one live shell, they would soon be extinct.

We went in a glass-bottomed boat to see the underwater world of corals and fish around the reef, but the finest spectacle of all was in the underwater observatories. We went to two: one at Hook Island in the Hinchinbrook Passage and the other at Green Island near Cairns. Here, in approximately three fathoms of water, through windows of plate glass one and one eighth inches thick (i.e. about 3 cm) we gazed in wonder at hundreds of fish and other marine creatures living in their natural environment. There was an enormous *Tridacna gigas* with its lovely mantle extended. They live buried in the sand with their scalloped edges uppermost. It is one of the wonders of nature that these bivalves, being vegetarians, "farm" their own algal food in their mantles. *Zooxanthella*, a symbiotic alga, lives in the mollusc's surface blood cells. These single-celled "seaweeds" multiply in the sunlight and are, as it were, "food on tap".

We saw gorgeous sea anemones waving their tentacles which are equipped with microscopic poisonous hair-like darts and are deadly to all fish except the little Clown Fish which are always swimming among the tentacles. There seems to be a reciprocal agreement between the Clown Fish and the anemones, because the Clown Fish attack much larger fish about to prey on the anemones and so save them from destruction. The Clown Fish of course also receive protection among the tendrils of their host.

Shoals of large fish such as the Mackerel, Trevally and Barracuda which attack smaller fish, find it difficult to pursue them as they instinctively hide among the corals.

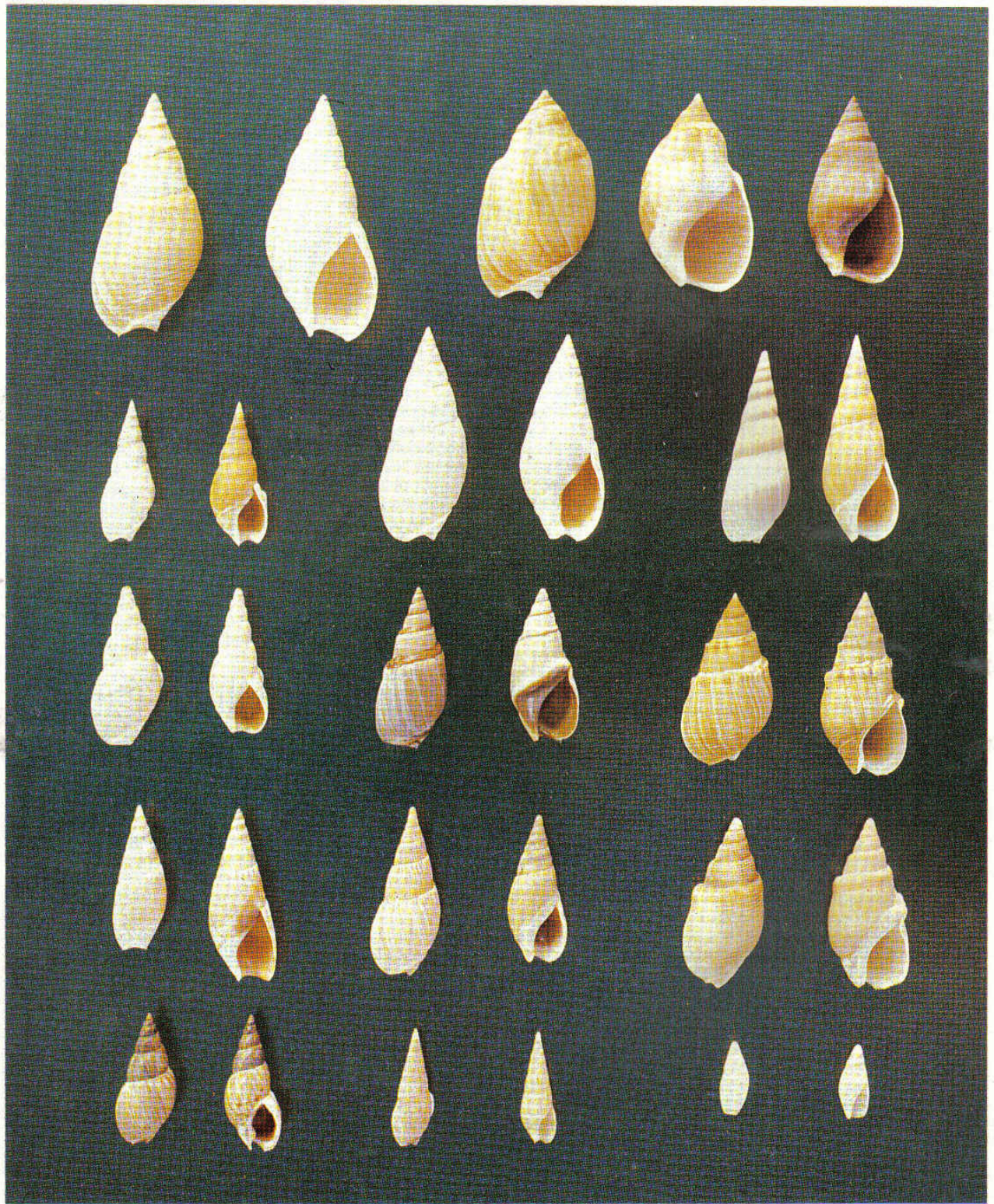
We thought the Crinoids, or Feather Stars, in brilliant colours a picture, and the Lion Fish were beautiful with their sharp and toxic spines which they use for protection only and not for attack. A most curious Sea Cucumber which was not cucumber-shaped but round, had a sandy skin with bright red lines in patterns over its body, and lovely blue antennae. Apparently when the sun shines the antennae reach out to four inches in length.

This kaleidoscope of colour looked like a box filled with jewels.

I was quite overwhelmed when I actually stood on the Great Barrier Reef at Low Island to the North of Cairns when the tide

continued on page 11







# BULLIA SPECIES IN SOUTH AFRICA

by David Freeman

The genus **Bullia** Gray, 1834 (family **Nassariidae**) is quite well covered in South African literature but one needs a finger in each of several books to get all the text and pictures together, and even then they are not all illustrated. The genus was last featured in the STRANDLOPER in Dr Anton McLaghlan's article in 1979.

As the various **Bullia** species tend to be the most 'visible' living molluscs on our long open sandy beaches, they are possibly the very first shells that attract a budding conchologist on that first magical visit to the seaside. Studies by Professor A.C. Brown of the University of Cape Town have revealed the remarkable sense of taste/smell of these molluscs in response to minute quantities of decaying marine animal matter on which they feed, and which stimulates them to emerge from the sand on a rising tide and converge on a food source. The littoral species use their wide feet as surfboards as well as shovels to move about.

Our photograph shows the best available specimens that we have been able to get together of those species that have been reported from our shores and offshore waters. We would be glad to feature further or better specimens in subsequent articles, with any information that readers can supply.

My thanks to Mrs Connolly for access to reference material, to fill gaps in the photograph. I am also grateful for gifts of shells received over the years from Mrs Connolly, Mrs Quickelberge and Mrs Val van der Walt.

In attempting to describe the South African species in the genus **Bullia**, one finds several characteristics shared by these arenicolous molluscs (that is a beautiful word meaning that they live in sand):

- They live submerged, or partly submerged, in sand.
  - They have a strongly developed sense of smell/taste, enabling them to detect small concentrations of dead animal matter which appears to form their main food source.
  - They have no eyes.
  - They have a wide foot, well adapted to their habitat.
  - There is no periostracum.
- The operculum is much smaller than the aperture.
  - The outer lip is simply curved, with no thickened edge.
  - The anterior siphonal notch is wide, and is strengthened by a well-developed fasciole.
  - In most species the animal spreads a layer of glaze over the parietal area in a characteristic pattern that is peculiar to each species. In two or three of the species this glaze forms a prominent callus that extends high enough on the previous whorls to show as a ridge above the suture line.
  - Except for **Bullia laevis** with its inflated body whorl, they all have high, tapering spires, no varices, and little or no shell sculpture apart from fine spiral striae and minor creasing at the sutures.
- The species vary somewhat:
- In size, from the large **tenuis**, **digitalis**, **laevis** in excess of 55mm, to the small **ancillaeformis** at 20mm.
  - In shape, from the slender **diluta** to the much inflated **laevis** and the heavily callused **callosa**.
  - In habitat, from the surf zone and shallow sand-banks, down to about 120 metres depth.
- Variations within species have given rise to a number of synonyms, notably by the Turton/Bartsch "partnership" in 1915 and 1932. I have listed as many of these as I could find. Much of the earlier identification and classification was based on beach shells and this does tend to increase the risk of creating invalid species, especially if the taxonomist lacks the resources to study a wide range of material. These earlier indiscretions will continue to provide employment for taxonomists for many years to come. Even the use of live material, however, does not prevent errors of judgement. Moreover, the criteria for deciding what constitutes a species and the generally accepted procedure for getting a proposed new species recognised, tend to encourage rather than to restrict the multiplication of new names.
- The species are listed below in alphabetical order, but the specimens are arranged on the plate so that the differences between similar species can be most easily seen.

## BULLIA ANCILLAEFORMIS

E.A. Smith, 1906

(No synonyms)

Locality: Kwelera, Transkei

Range: Jeffreys Bay to Natal South coast

Size: Up to 18mm (Figured: 17mm)

Very little is known about this small species apart from its being washed up in beach drift. It is white (through wear and tear?) and resembles an **Ancillid** in general outline, although the features of the columella and aperture appear to be those of a **Bullia**. Much more information is required.

## BULLIA ANNULATA (Lamarck, 1816)

**annulatum** Lamarck, 1816

**annulata** Reeve, 1846

**annulata** Sowerby, 1902

**annulata** Von Martens, 1903

Locality: Table Bay

Range: Saldanha Bay to Park Rynie, Natal

Size: Up to 60mm (Figured: 40mm)

Occasionally found living in shallow water but mostly found at depths down to 100 metres. The ridged angular suture is more prominent in shells from colder waters, i.e. the western end of the range. The parietal glaze is not very thick or spread very widely but it extends above the suture line as an irregular excrescence, adding to the stepped appearance of the spire. The shell is often covered with a rust-brown deposit.

## BULLIA CALLOSA (Gray in Wood, 1828)

**callosum** Wood, 1828

**semiplicata** Gray, 1839

**callosa** Reeve, 1847

**semiplicata** (Gray) Fischer, 1884

**callosa**, var. **sulcata** Sowerby, 1889

(non Reeve, 1847)

**callosa** Von Martens, 1903

**callosa** Dautzenberg, 1912

**callosa** Gevers, 1932

Locality: East London

Range: Luderitzbucht, Namibia, and then

from Still Bay to Tongaat

Size: Up to 52mm (Figured: 36mm)

Lives at depths between 7 and 36 metres. Good beach specimens are not common. The heavy parietal callus extends well above the suture, forming a rounded shoulder on subsequent whorls. Dark chocolate brown, or grey-brown with a darker callus.

### Bullia Species in South Africa: key to photograph

Top row: 1,2: **tenuis**; 3,4: **laevis**; 5: **laevis** (Namibia)  
 2nd row: 1,2: **pura**; 3,4: **rhodostoma**; 5,6: **digitalis**  
 3rd row: 1,2: **lara?**; 3,4: **callosa**; 5,6: **annulata**  
 4th row: 1,2: **natalensis**; 3,4: **mazambicensis**; 5,6: **trifasciata**  
 5th row: 1,2: **similis**; 3,4: **diluta**; 5,6: **ancillaeformis**

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**BULLIA DIGITALIS** (Dillwyn, 1817)

**digitalis** Meuschen, 1787  
**achatinum** Lamarck, 1816 (non Müller, 1774)  
**digitalis** Dillwyn, 1817  
**digitale** Reeve, 1846  
**sulcata** Reeve, 1846  
**semiflammea** Reeve, 1846  
**semiusta** Reeve, 1847  
**capensis** Euthyme, 1885  
**digitata** Von Martens, 1903  
**almo** Bartsch, 1915  
**dulcis** Sowerby, 1921  
**digitalis** Tomlin, 1922  
**digitalis** Odhner, 1923  
**digitalis** Turton, 1932  
**soluta** Turton, 1932 (Gmelin, subscalariform)  
**digitalis** Haughton, 1932  
**achatina** Peile, 1937

Locality: False Bay

Range: Lamberts Bay to Southern Transkei  
 Size: Up to 60mm (Figured: 45mm)

Frequently seen in the surf zone in fine sand on the Atlantic and False Bay coasts, but largely replaced by **Bullia rhodostoma** eastwards of False Bay. Variable colour patterns have given rise to the many synonyms listed above. It can be pale buff or yellowish (**achatina**), purplish brown (**sulcata**), banded with cream above and purple-brown below (**semiusta**), cream with brown spots on the periphery which appear smudged into vertical streaks (**semiflammea**, **dulcis**). This latter variety can be confused with **Bullia diluta** but **diluta** has a smaller aperture in proportion to the spire and also has spiral striae.

The thin parietal glaze thickens slightly at the posterior end of the aperture, where it appears above the suture as an uneven cord. The dark pigment in fresh specimens is usually a rich purple colour, but this fades through desiccation to a dull brown.

Dillwyn, 1817, is given priority as author of the name **digitalis** for this species because Meuschen, 1787, did not meet the criteria that the ICZN requires. Lamarck, 1816, unfortunately used the name **achatinum** that was preoccupied by Müller's **achatinum** of 1774 so we cannot use that name either.

**BULLIA DILUTA** (Krauss, 1848)

**dilutum** Krauss, 1848  
**diluta**, var. **mediolaevis** Von Martens, 1874  
**aepynota** Bartsch, 1915  
**alfredensis** Bartsch, 1915  
**albanyana** Turton, 1932  
**rietensis** Turton, 1932  
**scitula** Turton, 1932  
**spectrum** Turton, 1932  
**subventricosa** Turton, 1932  
**zenobia** Turton, 1932

Locality: Mbotyi, Transkei

Range: Knysna to Southern Mozambique  
 Size: Up to 29mm (Figured: 28mm)

Fairly common in beach drift throughout its range, where it is likely to be confused with juvenile **Bullia digitalis** (q.v.). No live material has been recorded. Distinguishing features are the spiral striae over the whole body whorl, and the aperture which is smaller in proportion to the height of the spire than in the case of **digitalis**. The colour is cream or fawn, with a series of brown spots in the upper third of the whorls. Small axial flames run downward from these spots, as if the colour had run. Occasionally, the axial flames are replaced by a zone of solid dark colour below the dots. This and other variations would account for some of the synonyms listed above.

**BULLIA LAEVISSIMA** (Gmelin, 1791)

**laevissimum** Gmelin, 1791  
**laevigatum** Lamarck, 1816  
**laevigata** Watson, 1886  
**laevigata** Von Martens, 1903  
**laevissima** Tomlin, 1922  
**laevissima** Haughton, 1932  
**laevissima** Gevers, 1932  
**laevissima** Turton, 1932  
**laevissima**, var. **globulosa** Turton, 1932  
**laevissima** Peile, 1937

Locality: Strandfontein beach, False Bay

Range: St. Helena Bay to Coffee Bay  
 Size: Up to 55m (Figured: 48mm)

They can be found in very shallow water in sheltered areas, and on rare occasions well up in the surf zone in fine sand, but they generally live below low tide level. The shell is generally very rounded and swollen in shape, but we are figuring also a much more slender variation from Swakopmund, Namibia. Colour generally pale brown or even yellowish, sometimes stained with a rust colour. The parietal callus is white, occasionally tinged with violet, and extends over the whole base. Aperture longer than spire.

**BULLIA MOZAMBICENSIS**

E.A. Smith, 1877  
**mozambicensis** Smith, 1877  
**pustulosa** Sowerby, 1894  
**pustulosa** Sowerby, 1897  
**mozambicensis** Tomlin, 1931

Locality: Natal

Range: Natal South coast to Mozambique  
 Size: Up to 43mm (Figured: 40mm)

Lives infratidally in Natal where its range overlaps with that of **Bullia natalensis** which it resembles. The distinguishing features of **mozambicensis** are mainly: a more incurved anterior end to the outer lip compared to the flared lip of **natalensis**; a less extensive parietal callus; much finer pleats on the suture; distinct spiral striae over the whole whorl, giving the subsutural pleats a granular appearance. Presumably this prompted Sowerby's name **pustulosa**. The operculum is larger than usual for this genus, as it almost fills the aperture.

**BULLIA NATALENSIS** Krauss, 1848

(No synonyms)

Locality: North coast, Natal

Range: Northern Transkei to Mozambique  
 Size: Up to about 65mm (Figured: 40mm)

Common in the surf zone on sandy beaches in Natal. It has a polished surface, pale greyish fawn to light brown in colour, with a prominent but not very thick parietal callus in a contrasting white or brown colour, which extends well above the suture line. The suture is further distinguished by short but well defined axial pleats. Similar pleats sometimes occur at the anterior end of the outer lip, on the fasciole. Outer lip flared. Operculum as in **mozambicensis**.

The range overlaps with that of **Bullia mozambicensis** but the two species can be distinguished quite easily. Please refer to the comparison of features given under **mozambicensis**.

**BULLIA OSCULATA** Sowerby, 1900

**Ancilla osculata** Sowerby, 1900  
**Ancilla osculata** Smith, 1903  
**Ancilla osculata** Bartsch, 1915  
**Ancilla osculata** Turton, 1932

Locality: Scottsburgh, Natal

Range: East London to Zululand  
 Size: Maximum length 18mm

Lives at greater depth than **Bullia similis** which it resembles apart from its smaller size and lack of sculpture. Beach shells tend to be worn, faded and rare. It is not clear how this species came to be classified originally as an **Ancilla**, unless the type material was very worn.

This specimen was taken live by a Scuba diver W R Liltved, S A Museum, on the Aliwal Shoal at 25 metres.

**BULLIA PURA** Melville, 1885

**pura** Melville, 1885  
**tenuistriata** Tomlin, 1920  
**balteata** Sowerby, 1921  
**pura** Tomlin, 1931  
**pura** Turton, 1932  
**pura**, var. **balteata**, Turton, 1932  
**kraussi** Turton, 1932  
 ? **gracilis** Turton, 1932

Locality: Strandfontein beach, False Bay

Range: False Bay (Table Bay?) to Tongaat  
 Size: Up to 35mm (Figured: 33mm)

Usually lives below the tidal zone on sandy shores but can be found rarely in the surf zone where it might be confused with juvenile **Bullia digitalis**. It can easily be distinguished by the well-defined sculpture of closely packed spiral threads, and the slender early whorls which contrast with the more swollen final body whorl. The aperture is also more flared than in **Bullia digitalis** which tends to curve inwards anteriorly. The parietal glaze is not prominent. Colour white, or pale tan, or yellowish to light rust.



**BULLIA RHODOSTOMA** Gray in Reeve, 1847

(No synonyms)

Locality: Strandfontein beach, False Bay  
 Range: Saldanha Bay to Natal North coast  
 Size: Up to 55mm (Figured: 46 mm)

Moves up and down the sandy shore with the tide, frequently seen on the surface feeding on dead jellyfish and other stranded animal matter. Less common in Natal than elsewhere in its range. Shell white to cream, sometimes tinted with pale violet. Aperture orange rather than rose-red as the name would suggest. Colonies of **rhodostoma** can be found sometimes close to colonies of **digitalis** but usually higher up the beach than the latter. The parietal callus is thin but spreads well up the whorl almost to the suture above. Spire occasionally coated with green algae.

**BULLIA SIMILIS** Sowerby, 1897

(No synonyms)

Locality: Addington Beach, Durban (dredgings)

Range: East London offshore, to Mozambique

Size: Up to 40mm (Figured: 33mm)

Lives mainly at 20 to 50 metres depth, so that good fresh beach specimens are not very common. Colour cream or grey-buff with fine brownish axial flames. The whorls are rounded and covered with closely packed spiral striae, heavier on the base of the whorl. The columellar callus does not extend onto the parietal area or above the suture. Two or three fine spiral threads immediately below the suture are crossed by short, fine axial riblets, giving this zone a beaded appearance. Aperture rounded and curving inward anteriorly. A pretty shell.

**BULLIA TENUIS** Reeve, 1846**tenuis** Wood, 1828**tenuis** Gray, 1839**tenuis** Reeve, 1846**tenuis** Von Martens, 1903**tenuis** Bartsch, 1915**lara** Bartsch, 1915**tenuis** Turton, 1932**lara** Turton, 1932

Locality: Strandfontein Beach, False Bay

Range: False Bay to Durban

Size: Up to 60mm (Figured: 55mm)

Occurs only rarely in the surf zone and more usually offshore down to 120 metres. Shells are fairly commonly washed up and can be recognised by the prominent ridge formed by the parietal callus above the suture. False Bay shells are thinner and more inflated than those from Natal.

**Bullia lara** Bartsch, 1915 is here synonymised with **tenuis**. It partly lacks the callus ridge above the suture and otherwise seems to share features with both **tenuis** and the much smaller **pura**. Further investigation might well confirm that it is a separate species. Readers' comments are invited. See specimens in photo.

**BULLA TRIFASCIATA** E.A. Smith, 1904

(No synonyms)

Locality: Not known

Range: Still Bay to Transkei (Natal South coast?)

Size: Up to 39mm (Figured 39mm)

Apparently known only from dead shells. Distinguished from **Bullia annulata** by the rounded shoulder, by the extent of the spiral striae on the shoulder as well as on the body whorl, by the generally heavier columella callus, and by the three bands of reddish colour on the body whorl.

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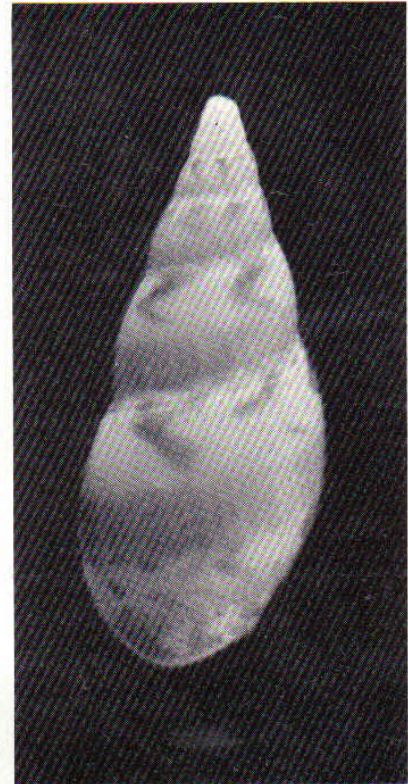
I have identified 15 species for this article. In describing them I have used the term "locality" for the place of origin of the specimen used in the illustration. Most of the species occur over a wide range and I have given the known limits as accurately as possible. My information differs in one or two cases from that given in the literature referred to. You will not necessarily find specimens everywhere throughout the range, and it would be useful to have a record of any extension of range, particularly of living animals or sufficient quantities of dead material to indicate the existence of a living population.

**DIVING FOR SHELLS:  
A GUIDE FOR BEGINNERS**

by Victor Millard

Kobus Dreyer of Jeffreys Bay, and a few other members have recently asked how they should go about looking for shells while diving. The first thing one should do is to find out what the various molluscs eat. You will find the little fellas where the food is. They do not make it easy for you. Some disguise themselves under their mantles and look like squashy blobs, e.g. **Cypraea** and **Trivia**. Others bury themselves in sand or hide between fronds of seaweed.

I will deal mainly with Western Cape shells as these I know best. In the shallower water you will find **Marginella rosea**. This Marginellid feeds on **Gibbula** which in turn eats algae. They also bury themselves under sand when the sun is shining brightly; so look out for them on cloudy days or where you find **Gibbula**. **Marginella capensis** is a small species which also likes to hide in sand but a piece of dead fish will bring them

**Bullia osculata** Sowerby, 1900

out in droves. **Bullia** species will also go for dead fish and jellyfish and bluebottles that wash up at the water's edge. **Cones**, at least those in Cape waters, like to eat reef worms. They lie in wait for them and then fire their poison dart to paralyze them, and then swallow them whole just like a python. So, looking for Cones you first look for the habitat of the worms. You will usually see only the apex of such cones as **Conus algoensis simplex** sticking out of little pockets of sand in rocky crevices. This is why the apexes of these cones are so often corroded. **Charonia lampas pustulata** grows to quite a big size, about 22cm, so do not collect them while they are only half-grown juveniles that have not yet had a chance to reproduce. And avoid collecting corroded specimens that cannot be cleaned up. It is wasteful and damages the ecology unnecessarily. **Charonia** also likes to hide in crevices during the day so these places should be carefully examined, for likely items.

Sponges are also the food and home of such shells as **Cypraea** and **Trivia**. These shells sometimes have their mantles extended, completely obscuring the shell, so if you cannot see the shell you have to know what the animal looks like. If you see a blob of something that looks like an extension of the sponge, touch and see whether it might be a mantle which will retract and show the shell. Redbait is another food source to be investigated. It also harbours bivalves like **Lime rotundata** in its folds.

continued on page 12



## SEA GIFTS

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### URGENTLY WANTED (PURCHASE OR EXCHANGE):

*Cypraea fultoni*, *iutsui*, *cruickshanki*, *connelli*, *lisetae*, *barclayi* and *broderipi*;

*Voluta ponsenbyi*, *boswellae*, *magister*, *festiva*;

All local Cones and Ovulidae (*Phenacovolva*) and Muricidae (*kilburni*, *uncinarius*, etc).

### SUPPLEMENTARY NOTES ON THE CONIDAE OF SOUTH AFRICA

The article with colour plates on the **Conidae** of South Africa appeared in STRANDLOPER No 195 for April/May 1979. Some readers might have missed subsequent corrections, changes, and new information that was reported in this bulletin and elsewhere. Queries arising from the publication of Jerry Walls's book, *Cone Shells*, were cleared up and comments published in a sheet of supplementary notes that have been issued with repeat orders of issue No 195. Those notes in turn have become partly obsolete so we are adding further comments to accompany the photo of some comes in this issue, and bring the information up to date.

The specimens illustrated in colour plate A, numbered **a** to **l**, are correctly named **Conus mozambicus** Hwass, 1792. The name **Conus guineensis** Gmelin, 1791 has been referred to a West African species.

On plate B, specimens **t** and **u** were named **Conus musicus** Hwass, 1792. Although this agrees with Walls, who treats

the species in detail, these shells are named **Conus sponsalis** Hwass, 1792, form **parvatus** Walls, 1979 by Kilburn (*Sea Shells of Southern Africa*, 1982). Kilburn's comments would appear to dispose of any doubts on the matter.

**Conus visagenus** Kilburn, 1974 was thought to be possibly an abnormal specimen of **Conus infrenatus** (See Walls). The appearance of further specimens of this shell have now made it certain that it is a valid species. We hope in due course to give you an illustration of this strange looking cone.

There is still some confusion about three very similar-looking cones: **patens**, **gradatulus**, **altispiratus**. We hope that the photo and these comments will help to clear this up.

**Conus altispiratus** Sowerby, 1873 is not a South African species. **Conus gradatulus** Weinkauff, 1875 synonym: **Conus papillaris** Adams & Reeve, 1848 (non Sowerby, 1833). This is found on the Agulhas Bank at a depth of 80-460 metres from Table Bay to Port Alfred.

**Conus patens** Sowerby, 1903 This occurs on the West coast from Cape Point to Namibia.

### Change of address

Richard and Thelma Carlsson  
Mr and Mrs R.O. Carlsson  
14a Camellia Close  
Bergvliet  
7800

Please note that the Howard Place address is NO longer valid.

Mr Wayne Clausen  
c/o Camp and Climb  
73 Loop Street  
8001 Cape Town

### Exchanges wanted

Mr B Sisterna, Salta 402, Mar del Plata, RCA ARGENTINA, wants to acquire specimens of the larger shells from South Africa either to purchase or exchange. He speaks only Spanish but could have English letters translated, so please write with your offers.

Mr Christian Guilloux, 273 bvd De Gianum, 13300 SALON DE PROVENCE, FRANCE, interested in Cowries, Cones, Murex. Has many common and rare shells for exchange

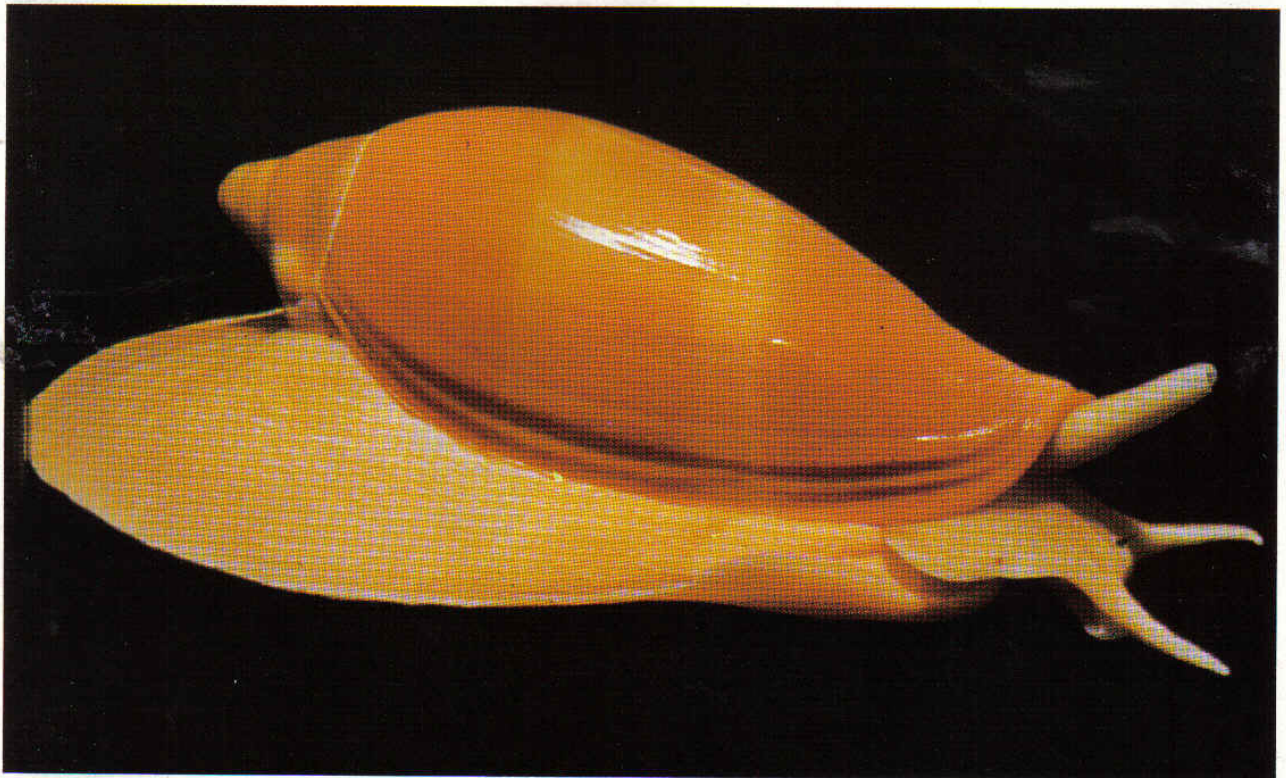




**Melapium lineatum (Lamarck, 1822)**

by **W.R. Liltved, Cape Town**

*Melapium lineatum* a member of the family Olividae, belongs to a genus which has only two species. *Melapium lineatum* the smaller of the 2 species inhabits sandy areas in fairly shallow water. Its range extends from Cape Agulhas to the Transkei coast. Very little is known about the behaviour of *Melapium*. One particular habit it does have is that it attaches 2 – 3 oblong egg-capsules to the columella of its shell (see Kilburn and Rippey, 1982: 112) Each capsule evidently contains only one embryo.



**Afrivoluta pringlei Tomlin, 1947**

by **W.R. Liltved, Cape Town**

*Afrivoluta pringlei* (first thought to be a volute) the world's largest marginellid, occurs from the west coast of southern Africa to off the Transkei coast in the east. These marginellids seem to be most prolific between depths of 100 and 400m, from where they are frequently collected by the trawlers fishing for benthic fishes on soft silty bottoms.

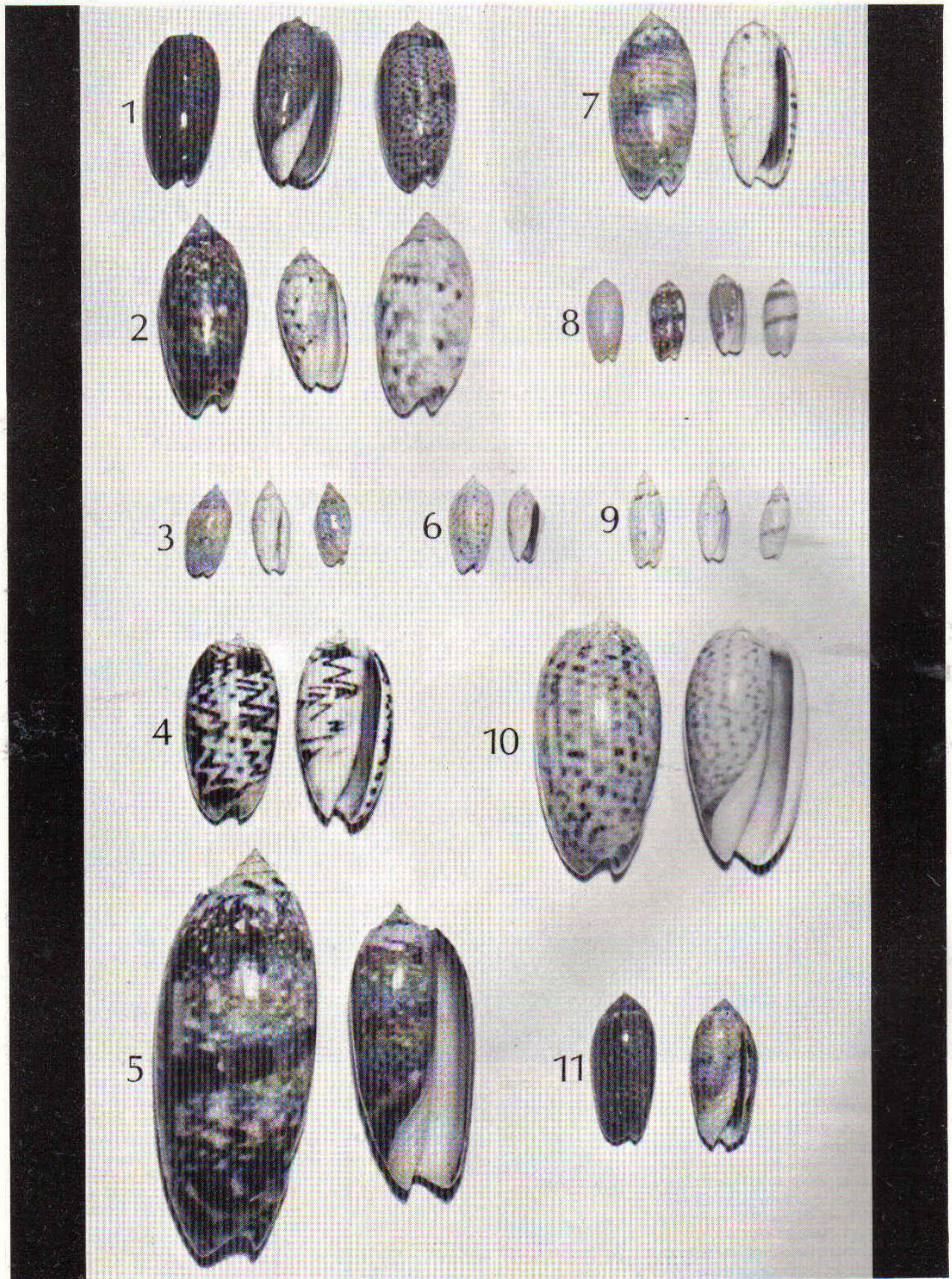
The *Afrivoluta* depicted here is the first

specimen I know of to be photographed alive. Considerable effort was made by Rob Leslie of the department of Sea Fisheries in Cape Town, to keep the mollusc alive after he recovered it from a net while fishing for hake (*Merluccius capensis*) in 246m off Danger Point, western Cape Province. As the bottom temperature where the fishing took place was about 8 deg. C, Rob kept the shell in a container placed on crushed ice for several days before returning to Cape Town. The excellent photograph was taken by

Andrew Penney also of the Department of Sea Fisheries.

It is interesting to note that the digestive tracts of several specimens examined, were gorged with remnants of small sand dwelling Echinocardium urchins. *Afrivoluta* probably detects its prey by means of an ancillary sensory device situated between the two dorso-ventrally compressed tentacles. The eyes of *Afrivoluta pringlei* are greatly reduced, probably as there is little or no light at the depth at which it lives.







## OLIVIDAE IN SOUTH AFRICA

by Val van der Walt, Durban

With the rebuilding of Durban's Addington Beach with sand dredged off the Bluff area, many unfamiliar species of molluscs have been unexpectedly dumped on our doorstep, to the delight of all the local conchologists. Among these "new" shells were species of Olives which have encouraged a closer look at the records of Olives known from South African waters. A list follows of no fewer than eleven species of this genus, and eight of them occurred in the Addington Beach and/or Bayhead dredgings:

### *Oliva caroliniana* Duclos, 1835

This shell was found on Addington Beach during the reclamation in 1982. The sand for the purpose was pumped from the sea floor off the Bluff at a depth of about 40 metres and after each pumping session many live Olives were found.

### *Oliva episcopalis* Lamarck, 1811

The first shell in the picture was taken on a night dive off Zululand in January 1985. The second is from Mocambique.

### *Oliva annulata* Gmelin, 1791

The first two were taken by diver off the Natal South coast and the third one was found at the Bayhead in the dredgings by B. Matthee. This sand was pumped from the same place as the Addington Beach sand, just off the Bluff, and is to be used for building. This dredging operation took place in September 1984.

### *Oliva sidelia* Reeve, 1835

These were found at Addington, and many more at the Bayhead site. Most were found alive.

### *Oliva paxillus* Reeve, 1850

The first one in the picture was found by a

Key to photograph	
1. <i>caroliniana</i>	6. <i>oliva</i>
2. <i>annulata</i>	7. <i>episcopalis</i>
3. <i>paxillus</i>	8. <i>sidelia</i>
4. <i>bulbosa</i>	9. <i>panniculata</i>
5. <i>tremulina</i>	10. <i>tigrina</i>
	11. <i>sairossa</i>

## A NEW TRIVIA FROM SOUTH AFRICA

### *Trivia (Trivirostra) hallucinata* Liltved, 1984

The type specimens of this small shell were dredged on a coral rubble bottom and are only known from off Ledsman Shoal, Zululand at 100m. The holotype measures 6,2mm (length) x 2,7mm width) x 2,1mm (height).

The columella, peristome is crossed by 19-24 ribs of which 9-11 extend inward into the broad serrate fossula. Spire is completely hidden. Colour is white.

Photo and data:  
Venus, Japanese Journal of Malacology, Vol. 43 No. 3, 1984.

diver off Zululand at night during January 1985, the second was from Addington and the third from Bayhead.

### *Oliva oliva* Linne, 1758

I found these two at the Addington dredgings in September 1982. They were identified by Dr Kilburn. They had been found at Durban before by a local collector but the record was unconfirmed until the discovery of these specimens.

### *Oliva panniculata* Duclos, 1835

These two were found by my daughter Dawn and me at the Addington site. Some more were found at the Bayhead and all were identified by Dr Kilburn.

### *Oliva bulbosa* (Röding, 1798)

These two came from Mocambique. They are on record as having been found at Ballito Bay in Natal but this has not yet been confirmed.

### *Oliva tigrina* Lamarck, 1811

These two have also come from Mocambique. One solitary record from Natal is presumably the result of a "stray" veliger, as the normal southern limits of this species lie in Mocambique waters.

### *Oliva tremulina* Lamarck, 1811

I found the first one in the picture at Addington in 1982. The second one was trawled off Zululand in 1984. Several were found during the pumping operations and there were many broken pieces. These shells were also identified by Dr Kilburn. The allied orange-mouthed *Oliva miniacea* Röding, 1798, seems to be chiefly Pacific in distribution although it has been recorded from the Indian Ocean islands. The mouth of *Oliva tremulina* is white.

### *Oliva sairossa* Kilburn, 1980

I found the first one alive at the Bayhead dredgings. The second one was a crabbed shell taken by diver off the Natal South coast. Both were identified by Dr Kilburn.

*continued from page 3*

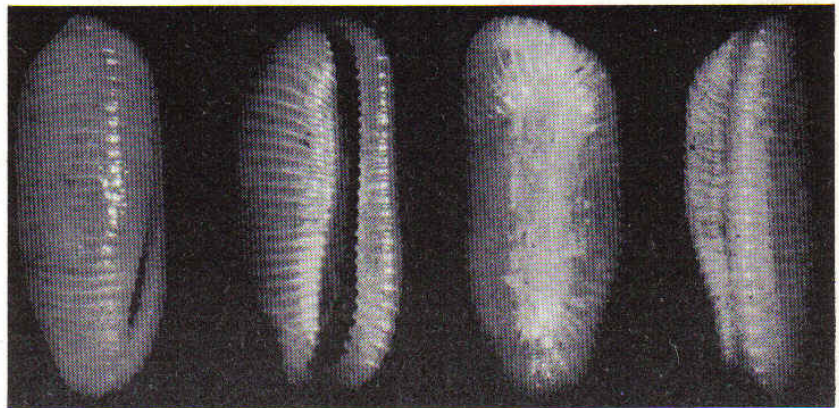
was right out. There I stood on the reef itself, amongst the gigantic *Tridacna gigas*. It seemed as though they were sunbathing with their scalloped edges above the sand and their mantles extended. There were Cowries, Cones, Strombus, Neritas and many other species of shells crawling about or resting on the *Tridacna* shells.

At one of the beaches in Queensland, the tide was out 14 feet or more and there were *Pyrazus ebeninus*, *Naticidae*, *Turbinidae*, *Thaididae*, *Buccinidae*, *Ellobiidae*, *Mitridae*, *Muricidae*, *Nassaridae*, and many more shells crawling about. The *Pyrazus ebeninus* were over 9 cm in length and I had never seen these before, so I was delighted. I could not but notice that many of these molluscs which are supposed to live on rocks were actually in the mud. Later I also learned that others which are supposed to be mud-dwellers were living on rocks!

In New Caledonia we saw another unforgettable sight when we visited the famous Aquarium de Noumea, where in a dark room we saw the deep water corals alive in tanks. The only light in that room was from the fluorescent living corals in colours of red, blue, green, yellow, violet, pink and orange. I met Mr J Aillaud who is President of L'Association Conchyliologique de Nouvelle Caledonie, and I spoke over the phone to Mr J C Estival who is a member of our society. It was very unfortunate that we had arrived during a holiday weekend and both these gentlemen were away from home so I could not contact them until late, nor was I able to attend a meeting of their Association as we were leaving that same day. I was very disappointed about this. However, I enjoyed the shelling in Noumea and found many good specimens on the rocks at the beach in front of the hotel.

When we went to Fiji, I had visions of getting all the shells I wanted from young boys on the beaches as other conchologists had in years past. Now there is nobody selling shells on the beaches. I tried to get them in the markets but they were in such poor condition. However, before we left, I found many varieties on one of the beaches and bought some at a shop.

I must mention that the shell collectors in Australia were very friendly, most helpful and kind, so I returned with two large boxes of shells to add to my collection. All these had to be cleaned and named but the work was very rewarding and I am much richer in my knowledge of the exotic Pacific shells. I also feel much richer in having made so many new friends in the shell-collecting world.







### A VERY RARE MITRE

by Val van der Walt, Durban

While going through some old Hawaiian Shell News I came across a photograph and an article on *Mitra sanguinolenta* Lamarck, 1811. It had been found in Mocambique in 1971. This was very interesting as a few of these Mitres were discovered in the dredgings from off the Durban Bluff that were used to rebuild Durban's Addington Beach in 1982. I have three specimens in my collection, and several other collectors found specimens at the same time. They were identified by Dr Kilburn of the Natal Museum in Pietermaritzburg. The specimens pictured show these shells to be identical to those in the H.S.N. The larger one measures 36mm and its apex is slightly eroded but the colour is very bright. The other shell measures 30mm.

Hawaiian Shell News—an educational publication of the Hawaiian Malacological Society.

Volume XXVIII No. 4, April 1980, New Series 244, page 1.



continued from page 7

Species of *Epitonium* can sometimes be found in and around sea anemones. Look also in the sand for telltale trails of burrowing molluscs such as *Natica tecta*, *Clionella*, *Clavatulula*, *Phalium*, *Tellina*, *Nassarius*, *Demoulia*. The *Thais* group likes to feed on black mussels, so you can look out for *Nucella squamosa* and *Nucella cingulata* on and around mussel beds. *Thais dubia* comes out of the water at certain times of the year to lay eggs. Don't take a shell that is laying eggs as this will deplete the population. If you turn a rock over, wait a few moments for the disturbed shells to start moving around so you will see them more easily. Please remember to turn the rock back to where it was, and so protect the delicate organisms that depend on its shelter for their lives. Take only what you need, and protect everything else from unnecessary damage. Take only good specimens. A bad specimen is not going to get better once you get it home, and you will not be able to trade it nor will you want it in your own collection. Be patient, and you will find good specimens in due course. When you come out of the water, have a good look at what you have brought ashore and weed out all poor quality shells, and return them to the sea. They are of no use to you but they can still reproduce and provide material for generations of future collectors. Juvenile shells are similarly of no use to a collector. Leave them to grow up and reproduce.

In Natal, each collector is allowed to collect only three specimens of a species in a year. This is an attempt to prevent over-collecting as has happened in the past.

I have never dived at night or shelled at night in the Western Cape, so cannot tell you what it is like here. It is done in Natal, and should be particularly good for cowries.

Maybe it is time we had a 'Diving Column' in the STRANDLOPER?

### *Cypraea alfredensis* (Schilder and Schilder, 1929)

By W.R. Liltved

*Cypraea alfredensis* was thought previously to be a subspecies of *Cypraea edentula* Gray, 1925. With the subsequent discovery of the living animals we find that *Cypraea alfredensis* should now be considered a separate species. This species occurs from Jeffreys Bay to East London in the eastern Cape.



### EDITORIAL

I have had very few replies to my request for articles or notes for the Strandloper. Please write and tell me of any interesting finds you have had or photographs of interesting shells. We would prefer the information to be on South African shells, but if not and would be of interest to members then I will print it any way. Photographs are of particular importance. It does make an article that much more interesting. Send all articles or notes to me at the Box 1200 address, Cape Town. I could also help you to write the article or would even have it gone through by an expert to check details. The groups could do collective efforts and let me have these. Please remember, if you want Strandloper you will have to contribute.

Please register any important notes or photographs as it has happened on occasions that I have not received the material.

The address for the society is:  
Conchological Society of Southern Africa  
P.O. Box 1200  
Cape Town  
8000

At present the Conchological Society headquarters are temporarily operating from East London where the address is:  
Conchological Society of Southern Africa  
P.O. Box 8054  
East London  
5241

Noggs Newman has taken all the correspondence to East London with him. He has been working very hard to bring it all up to date. Please do not be surprised if you get a reply all of a sudden from the society that you thought dead.

Subscription renewal Advice Notices are being enclosed with this issue. To help us with our budget please return these promptly. Some members have not paid in a while. This has not been picked up in our books until now. Thus the Strandloper after this one will be posted ONLY to those who have renewed.

Victor Millard  
Cape Town