the Strandloper

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NERITIDAE IN SOUTH AFRICAN WATERS

by Olive Peel

The Neritidae are the only archeogastropod family which has spread to fresh water, such as the genus **Septaria**.

Nerites are mainly shore dwellers in tropical and sub-tropical areas and live in crevices, on rocks at the high tide level of the intertidal region or live on mangrove trees. They are mostly variable in colouring and pattern and have thick, solidly built shells wich are oval or globular and sometimes almost crepiduliform in shape, with a broad columella area. The spire is short. The outer lip may be thickened and denticulate, while the columella may be denticulate on the edge and have a callus; it may also bear folds. No umbilicus is present. The operculum is calcareous, close-fitting and has a projection (apophysis) on the interior which locks behind the columella, holding it in place.

Typical marine Nerites are vegetarians, living on algae and seaweeds, and are nocturnal in habit, feeding at night. The animal has a short snout and a long rasping tonue, its eyes are on stalks. It has a single gill on the left side and the mantle edges are without tentacles. The sexes are separate and fertilization is internal.

The globular egg capsules are attached singly on top of one of its neighbours or in groups on rocks. In freshwater groups each capsule contains 50 to 60 eggs but only one develops. The remaining eggs serve to nourish the one growing offspring the capsule contains, so the first one to hatch is the 'lucky' survivor and proceeds to feed on its brothers and sisters! Marine species have planktonic larval development, whereas in the freshwater and estuarine species, the young hatch at the crawling stage.

Nerita albicilla Linne, 1758
Algoa Bay to Tropical Indo-Pacific. Rarely as far south as Still Bay.

Nerita aterrima Gmelin, 1791
Occasionally found in Natal and considered the rarest of South African nerites. From the islands of the S.W. Indian Ocean, viz Seychelles, Reunion, Rodriguez and N. Madagascar. They are common in Mauritius. Also been found on Inhaca Island, Mozambique.

Nerita plicata Linne, 1758
Tropical Indo-Pacific to Algoa Bay (Rarely), southern Transkei.

Nerita polita Linne, 1757
Tropical Indo-Pacific to Port Alfred (rarely), East London

Nerita textilis Gmelin, 1791
synonym: Nerita plexa ('Chemnitz') Dillwyn, 1817
Tropical Indo-Pacific to Algoa Bay (rarely), northern Transkei

Nerita umlaasiana Krauss, 1848
Madagascar to Mozambique to East London.

NERITINA Lamarck, 1816

Neritina auriculata (Lamarck, 1816)
Indo-West Pacific to Port Alfred

Neritina gagates Lamarck, 1822
Indo-west Pacific to Northern Transkei.

Neritina natalensis Reeve, 1855
Mozambique to Natal south coast.

Neritina pulligera (Linne, 1767)
Indo-West Pacific to Northern Transkei

SEPTARIA

This is a freshwater genus. The shell is limpet-like, with a small conical apex. The triangular operculum is also small. The muscle scar is horse-shoe shaped and projects beyond the shelf-like columella area.

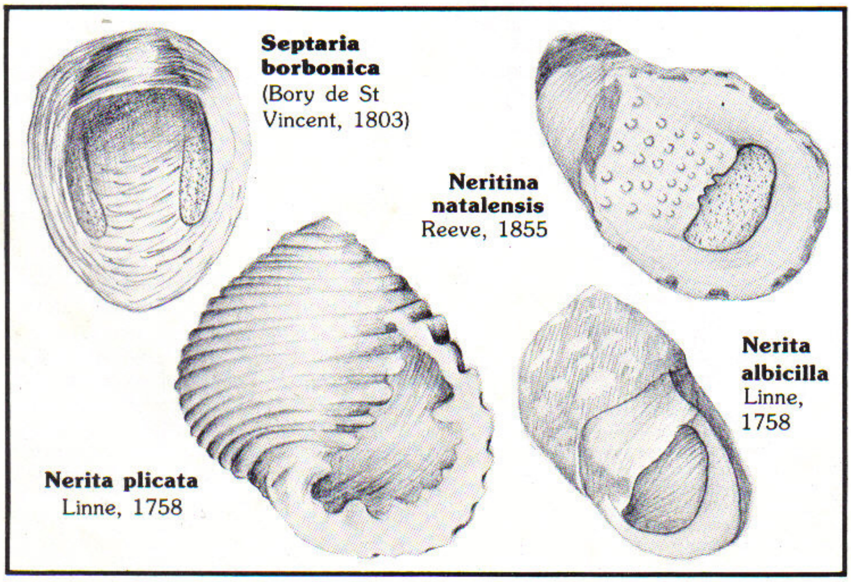
Septaria borbonica (Bory de St Vincent, 1803)
synonym: Septaria porcellana (non Linne)
Indo-West Pacific to Natal north coast.

Septaria lineata (Lamarck, 1816)
synonym: Septaria tesselaria Lamarck, 1816
Indo- West Pacific to Natal south coast.

SMARAGDIA Issel, 1869

Smaragdia rangiana (Recluz, 1841)
Indo-West Pacific to Durban Bay.

Smaragdia souverbiana (Montrouzier, 1863)
Indo-West Pacific to Port Alfred.



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5. The Shell Book : Julia Ellen Rodgers
5. A Beginers Guide to South African Shells: KH Barnard.

DRAWINGS

Ms Debi Gallery after KH Barnard: A Beginers Guide to South African Shells.

ACKNOWLEDGEMENTS

For their help, I thank B Fouche, Dr R N Kilburn, Dr D Herbert.

ERRATA A gremlin has been responsible for several errors in Issue 224 so kindly alter your copy. Thank you.

page 1 10th line wich should read 'which'
After Nerita textilis add Nerita undata, Linne,1758.
synonym: Nerita undulata Gmelin
Occasionally found in Natal.
No 5 of References Beginers should read "Beginners" and also in Drawings.

page 2 lst line lagest should read 'largest'
22nd line presentday should read 'present-day'.

page 4 last column, last para. $^{3}/_{5}$m (should be deleted) before P.taeniata.

page 5 Waves: Last para. First column, eight lines from the bottom should read;
'group, the speed of the group is reduced'.

page 6 7th line largly should read 'largely'

page 9 bottom picture is multicostata.

Add to page 12 under GROUPS

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MOLLUSCAN FAUNA OF AFRICA'S GREAT LAKES

PART 4: LAKE VICTORIA by Kenneth Brown

Lake Victoria is one of the lagest lakes in the world. It has a surface area of about 75 000 square km, and is over 300 km long and 170 km wide. The lake occupies the shallow basin which was created between two uplifted ridges along which the major trough-faulting of the African rift valleys occurred. Instead of being bounded by steeply rising shores several thousand metres high like the other rift lakes, the surrounding hills reach a maximum height of 100m. The waters of the lake have a salinity of 0,093 parts per thousand and a pH range of 7,1 to 8,5. **1.** The Victoria basin appears to have been formed during Miocene era by the gradual lifting of the land in the west, with a resulting reversal of much of the previous east-west drainage. Major rivers such as the Kyoga, and Katonga dammed up to form swamplands similar to presentday Lake Kyoga , and this damming continued until the lake was born. There is evidence that the present lake covers a much earlier lake system, which ran from present-day Rusinga Island to the north-east corner of Lake Victoria, and was known as 'Lake Karunga' **2**, and the rather simple explanation of the origin and past history of the lake given above purposely fails to detail the contraversy that has been generated on the subject.

The lake has a maximum depth of about 80m, but it appears that the level of the water has been subject to considerable fluctuations, partially due to geological conditions and partly due to climate. An example of this is found in present day Lake Nabugabo which has been isolated from the western shore of Lake Victoria for approximately 3 700 years. This small lake is about 20 square km in area and has a maximum depth of 5 m. During its short islolation 5 species of cichlids appear to have become endemic to the lake. It is interesting to note that Beadle surmises that the rate of change of the relatively unspecialised cichlid fishes from the rivers, when Lake Victoria was formed, was faster even than in the case of Lake Nabugabo **3**. The Lake has inumerable shallow bays in the south, northwest and north and in periods of increased depth of the lake, many swamplands and inland lagoons have been formed. It is in these lagoons, such as Lake Nabugabo, that a proliferation of species, particularly of certain fish has been favoured.

The smaller lakes and swamp and lagoons in due course became populated by the molluscs of the lake. They adapeted to survive long periods of drought, and during these changed conditions developed new forms, the different populations of each isolated lake or lagoon having adapted in various ways to cope with their different environments. During a subsequent rise of the water level isolated populations would become united, once again causing conditions to change, as a result of which some forms perished, whilst others were again able to adapt themselves to the new conditions. On each such fluctuation in the level of Lake Victoria, there would thus be created the possibility for the formation of new races.

The first aquatic molluscs to have inhabited the newly dammed Lake Victoria would have had to have been able to survive in stagnent water. In all probability it was a poor fauna, in which **Bellamya**, **Caelatura**, and **Corbicula** probably were predominant. This conclusion is reached by the very wide distribution of these forms at present. With the passage of time other molluscs were added to the fauna of the lake, particularly those forms that lived in smaller lakes and swamps in areas subject to flooding. Amongst these molluscs were **Pila**, **Biomphalaria**, **Bulinus**, and **Lymnaea**, which still occur primarily in smaller lakes and swamps, and have developed parallel forms in the great Lakes.

58 species of molluscs are recorded from Lake Victoria by Ancey, 1906, **4** but Mandahl-Barth correlates this to only 31 in his list **5**. Germain, 1920 **5** mentions 72 species and varieties from Lake Victoria, which, however, correspond to 40 in Mandahl-Barth's list. These figures give, perhaps the best idea of the systematic changes and additions which are occuring at present.

The following species and subspecies from Lake Victoria are recorded by Mandahl-Barth **4**.

Bellamya unicolor unicolour
Bellamya unicolor elatior
Bellamya unicolor meta
Bellamya unicolor phthinotropis
Bellamya unicolor trochlearis
Bellamya unicolor costulata
Bellamya unicolor ugandae
Bellamya unicolor dagusiae
Bellamya unicolor constricta
Bellamya jucunda jucunda
Bellamya jucunda altior
Bellamya jucunda kisumiensis
Pila ovata gordoni
Pila ovata nyanzae
Pila ovata emini
Gabbia humerosa humerosa
Melanoides tuberculata tuberculata
Melanoides tuberculata dautzenbergi
Cleopatra guillemei
Cleopatra cridlandi cridlandi
Cleopatra cridlandi cylindrica
Lymnaea natalensis natalensis
Lymnaea natalensis caillaudi
Lymnaea natalensis nyanzae
Biomphalaria sudanica tanganikana
Biomphalaria chaonophala
Anisus natalensis
Gyraulus costulatus subtilis
Gyraulus kismiensis
Gyraulus concavus
Gyraulus crassus
Gyraulus kigeziensis nyanzae
Lentorbis junodi
Segmentorbis angustus
Bulinus trigonus trigonus
Bulinus trigonus strigosus
Bulinus globosus globosus
Bulinus globosus ugandae
Bunupia sthuhlmanni
Bunupia kempi
Ferrissia kavirondica
Caelatura hauttecoeri hauttecoeri
Caelatura hauttecoeri grandidieri
Caelatura hauttecoeri emini
Caelatura hauttecoeri ruellani
Caelatura allaudi
Caelatura cridlandi
Caelatura monceti
Mutela bourguignati
Aspatharia divaricata
Aspatharia trapezia
Aspatharia subaequilatera
Aspatharia bourguignati
Etheria elliptica
Corbicula africana cunningtoni
Sphaerium victoriae victoriae
Sphaerium stuhlmanni stuhlmanni
Sphaerium stuhlmanni regularis
Sphaerium nyanzae nyanzae
Sphaerium nyanzae allaudi
Pisidium victoriae
Pisidium fistulosum
Byssanodonta parasitica
Byssanodonta crassa

Cannington states that Lake Victoria contains only one third as many gastropod species as Lake Tanganyika, but nevertheless shows a quite comprehensive series of normal fresh water types where each of the genera is represented. Thalassoid species are, however, conspicuously absent. He states that only 38% out of a total of 289 faunal species are endemic to the lake, by far the most conspicuous being the **Pisces**, comprising over half the total number of endemic genera. Five out of seven **Ostracod** species in the lake are endemic and four out of six species of Oligochaete worms. Lake Victoria also contains fresh water medusoid coelenterates **7**.

A number of species and subspecies have made their way from Lake Victoria into the Nile. In the first stretch of the Victoria Nile, between Lake Victoria and Lake Kyoga, only one species is found, namely **Lymnaea exserta**, and two subspecies, **Pila ovata elemorae and Gyraulus costulata costulata**.

The following species and subspecies have been recorded as having migrated from the lake in the first part of Victoria Nile:

Bellamya unicolor constricta
Bellamya jucunda jucunda

Pila ovata eleanorae
Gabbia humerosa humerosa
Melanoides tuberculata
Lymnaea natalensis nyanzae
Lymnae exseta
Biomphalaria chaonophala
Gyraulus concavus
Gyraulus kigeziensis nyanzae
Segmentorbis angustus
Bulinus trigonus trigonus
Bulinus trigonus strigosus
Bulinus trigonus transversalis
Bunupia sthuhlmanni
Caelatura hauttecoeri emini
Caelatura monceti
Etheria elliptica
Sphaerium victoriae victoriae
Sphaerium stuhlmanni regularis
Pisidium victoriae
Byssanodonta parasitica

But farther down the Nile beyond Lake Kyoga species are also met which must have originated from Lake Victoria. The major proportion of nilotic forms appears to have originated in central Africa, although some may have come from Ethiopia via the Blue Nile. Such characteristic members of the fauna of the lower Nile as **Bellamya unicolor, Pila ovata, and Caelatura aegyptica** must have arrived from central Africa at the time when the level of Lake Victoria became so high that the water flowed over Ripon falls to form the present Nile. There can, however, hardly be any doubt that Lake Victoria has been and still remains a centre for evolution as well as for dispersal.

Most of the species found in the shallow waters of the lake near the shore, may be also found in deeper water, but very few below depth of 70m. **Mellanoides tuberculata, Bellamya unicolor, Sphaerium stuhlmanni, Corbicula africana and Pisidium fistulosum** have,however, been found live at depths of 70m. The first four may also be found in quite shallow water. **Etheria elliptica** may be found near the shore, but has been live-taken 30m, as **elliptica** may be found near the shore, but has been live taken at 30m, as has been **Biomphalaria choanomphala, Bulinus trigonus and Gabbia humerosa**, which are usually present in great numbers in quite shallow water, have been recorded at depths of 20m. Mandahl-Barth records living **Pila and Caelatura** at 10 and 15m depths respectively. He estimates the richest fauna of molluscs to be found at depths of 5 to 10m. **8** The following article in this series will deal with Lake Chad.

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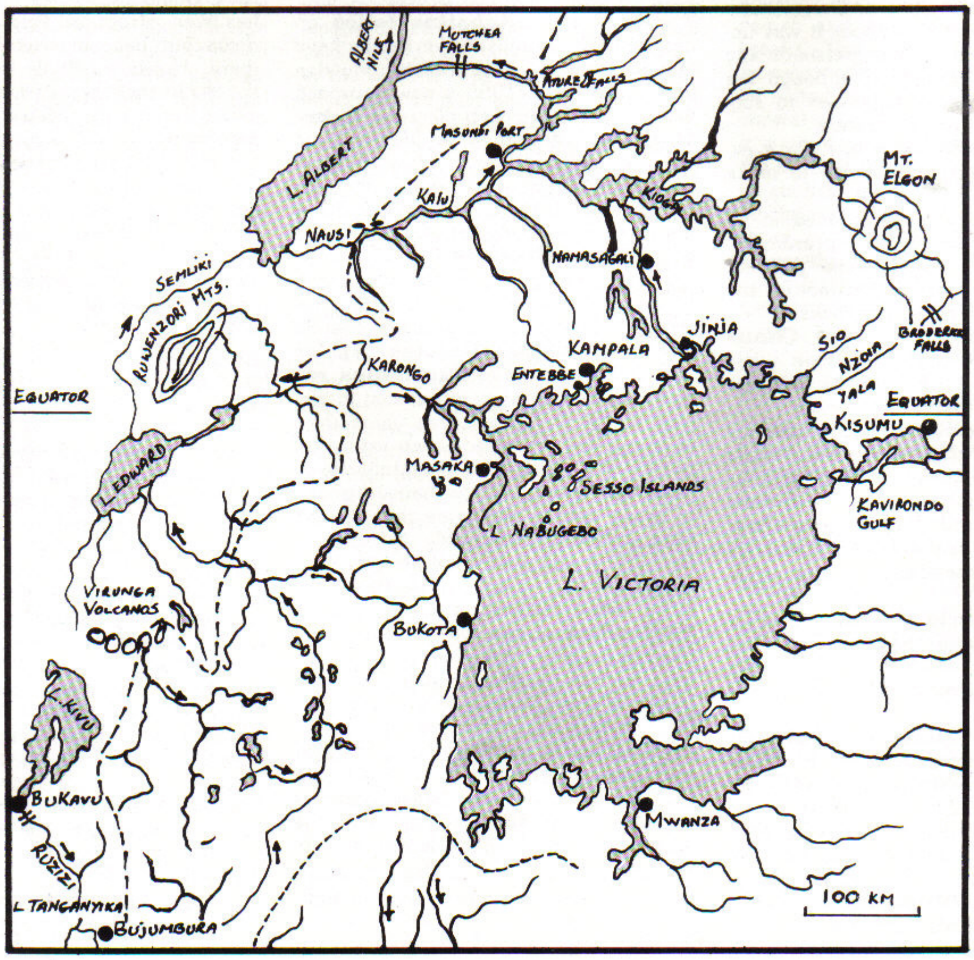

CAPE TOWN GROUP FIELD TRIP TO STANFORD COVE.

On a beautiful November weekend in early summer 10 members of the Cape Town Group gathered at the beach cottage at Stanford Cove near Die Kelders, this holiday village lies on the eastern shore of Walker Bay, 19km north of Danger Point.

The coast here is rocky with low cliffs. There is a small shingle beach at Stanford Cove with groyne-like rocks at low-tide level. Rounded boulders cover the shoreline at Die Kelders.

Saturday morning low tide at 9am saw various parties exploring different rocky areas, The lie of the rocks allows the seas to wash strongly up the many gullies and there are few pools. The most successful sheller that morning was Pat Coles who abandoned the Stanford Cove parties and made straight for the boulders at Die Kelders, 2 km away along the cliff path. She returned with a number of **Conus mozambicus mozambicus**, reporting that small ones had been left behind.

A few hardy souls ventured out across the rough local rocks at that evening's low tide. Those that had brought them, carried torches. most limpets had abandoned their home scars and were moving around in search of food. It was unfortunately not possible to persuade any of them to return home, although the shining torches were supposed to suggest daylight to the wanderers!

At Sunday morning's low tide, Pat's experience persuaded the party to make to Die Kelders.

Initially, shelling was abandoned in favour of whale watching. A - presumed - female Southern Right whale and her calf were basking at the surface of the sea just 15 metres off the rocks.

Shelling then started in earnest. **Conus mozambicus mozambicus** were very hard to find. One **Conus algoensis scitulus** was achieved.

The dominant molluscs of the mid-tidal rocks were **Patella oculus** and Patella barbara, P. granatina and P. granularis in smaller numbers. Also **Helcion pruinosus** and **H.pectunculus**. Where the kelp was exposed in the gullies, **Patella compressa** was found on the stipes.

Numerous juvenile **Haliotis midae** were found under the boulders. Also large quantities of chitons. The attractive pink **Chiton crawfordi** was a good find.

The **Oxystele** species **sinensis, tigrina** and **variegata** were commonplace as were **Burnupena cincta, B. catarrhacta** and **B. lagenaria**.

Some large specimens of **Turbo sarmaticus** were found. **Turbo cidaris** was also present. A few blue-eyed, orange-bodied **Calliostoma ornatum** were admired finds. One or two were taken as specimens, the rest returned. In fact members returned the large proportion of their 'catch' once the specimens had been admired and compared. Among other small molluscs found alive were **Gibbula capensis, G. zonata, G. benzi. Thecalia concamerata, marginella rosea, M. capensis, volvarina zonata, Clavatula sinuata, Amblychilepas scutellum**.

The bright brick-red animal and light operc of **Fusinus ocelliferus** were compared with the dark salmon-red animal and dark operc of **Fasciolaria lugubris** Dierdre Richards

PROBLEMS IN PARADISE

by Mike Cortie

Readers of the Strandloper will be familiar with the globe-slithering attributes of the large African land snail, **Achatina fulica (1)**. It seems, however, that the final word on this snail's colonial ambition has not yet been written and that its presence on islands in the Pacific is having some peculiar ramifications. Recently it was reported **(2)** that attempts to control the ravages of this voracious herbivore on the island of Moorea in French Polynesia have had unexpected and very unfortunate consequences.

The numbers of **Achatina fulica** on certain of the islands in the Pacific have increased rapidly since their introduction in the 1930's. In 1955 a new approach was proposed for controlling the **Achatina** population then proliferating on Hawaii, the westernmost island chain of the United States of America. Why not call in the assistance of native (but not native to Hawaii) American carnivorous snail, **Euglandina rosea**? This snail preys on other snails but previously found in Florida where, amongst other things, it feasts on the beautiful Florida tree snails, **Liguus faciatus (3)**. Six hundred specimens of **Euglandina rosea**) were accordingly introduced to Hawaii in 1955. Within three years their numbers had increased to an estimated twelve thousand. Unfortunately **Euglandina** found that the native species of snails were easier game than **Achatina fulica** and, possibly, tastier too. By 1987 it had eliminated about 20 endemic species of Hawaiian landsnail. Despite this rather negative precedent **Euglandina rosea** was introduced to Moorea in 1977 by the local Rural Economy Service. At that time Moorea was home to seven species of the rather attractive tree snail **Partula**, sometimes used by locals to make 'leis', or shell necklaces. **Partula** lives on trees and shrubs high in the wet forested valleys of these islands and feeds on vegetable matter such as decaying leaves and alfae. According to Wells **(2)**, the snails produce about nine (yes only 9) live offspring each year.

Euglandina spread rapidly through Moorea at the rate of over one kilometre per year. It is rather fierce (for a landsnail) and finds its dinner by looking for the slime trails that other landsnails leave behind. Once it finds a trail, even one a few days old, it 'locks on' and unerringly homes in on the unfortunate individual at the end of the trail. Davidson **(3)** gave a rather graphic description of **Euglandina** at work. According to him the snail 'displayed a most unsnail-like ferocity. The attacker brandished a pair of elongated lips shaped like scimitars and moved swiftly on its prey.' The drawing of **Euglandina rosea** accompanying this article was based on two photographs taken by Davidson. Wells **(2)** reported that a single specimen of **Euglandina** confined in a box with four live **Partula** was able to consume all four within the day.

Are **Euglandina** introductions an effective method to control **Achatina fulica** infestation? Opinions differ. Noting that populations of **Achatina** have declined on many islands since their peak in 1978, the locals feel that they are and want to introduce **Euglandina** to other islands. Already viable **Euglandina** populations live on Hawaii, Moorea, Guam, Saipa and Taihiti. The shell has been introduced twice to New Caledonia but has not become established there. However, Wells points out that the **Achatina** population has also declined on islands where there are no **Euglandina** and suspects that other, natural factors, are at work. An impartial assessment of the problem might find that it is unlikely that "Euglandina, only two or three centimetres long, can pose much of a threat to a ten centimetre adult **Achatina**. Probably only juvenile **Achatina** are at risk of being eaten.

By June 1987 no living **Partula** could be found on Moorea. The species that had been made extinct in their habitat were ⅜mP. taeniata, P. exigua, P. suturalis, P. aurantia, P. tohiveana, P. mooreana and **P. mirabilis** Fortunately, these particular species of **Partula** have been the subject of laboratory breeding experiments for many years. Captive breeding programmes (refugee camps?) exist for six of the seven species at places as widely dispersed as the USA, UK, Germany and Western Australia. Snails such as **Partula** don't need much room and apparently thrive happily in plastic luch boxes. However, until a solution to the **Euglandina rosea** problem is found, hundreds of other species of Pacific islands landsnails on Hawaii, Taihiti, Guam and other islands are threatened with extinction.

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WAVES

by Olive Peel

What a joy it is to walk along the edge of the waves on a moonlit night — romatic and exciting — the sound of the sea all around us. We do not stop to think of the chaos these magnificent waves can cause.

Drastic changes to coastlines, eroded cliffs, are only two of the 'functions' of the waves. They can also transport rocks, sand and other materials from one place to another, sometimes forming fresh land with these materials.

Waves are formed by the action of the wind blowing over the surface of the sea, the ordinary waves being called *progressive waves.* The push of the wind causes the water to rise, fall and roll. The height of a wave is dependent upon the strength of the wind and the depth of the sea. Waves do not drive water forward as we imagine but the wave form moves rapidly along in the same direction as the wind and its speed is measured in feet or metres per second or in knots. Inside a wave each particle of water moves in a circular orbit, the diameter of this orbit being the same height as the wave. The water particles stay largely in the same area — they do not move away with the wave. As these orbits reach the bottom of deep water they die out — this level is known as the *wave base.* When orbits reach the bottom of shallow water they become elliptical and are unable to complete the orbit. The water at the top of the orbit is then forced upwards so that it curls and crashes shorewards. An orbit completes one circuit with each wave period. On the wave crest all particles are moving forward in the direction of the wave travel while the particles in the trough are moving backwards. Halfway between crest and trough, the particles move up or down.

A wave train or repetitive wave shape is called a *swell.* As this train moves into a still area, some of the energy of leading waves is contributed to set new water particles orbiting, so that the leading waves disappear from the front of the advancing train and with new waves constantly forming at the rear of the group is reduced.

When crests of two wave trains coincide, this creates a very large wave. The result is that some waves approaching a shore are larger than others, giving rise to the apparently unfounded popular belief that every seventh wave is larger than the others. (Principles of Geomorphology — Don J Easterbrook). If the crest of one wave train coincides with the trough of another then they cancel each other.

Waves slow down as they approach shallow water, the wave lengths become shorter and sometimes the waves tumble over each other. The shallower the water, the steeper the front of the wave becomes until it topples over because the orbital movement is broken.

When two or more waves become superimposed they create freak or killer waves rising to a height of 60ft. or more. These *destructive waves* are large ones with a frequency of 12—15 to the minute. They can be caused by strong storm winds. They break vertically on the shore and as they have a very powerful *backwash* the water has no time to percolate into the sand or shingle.

These waves can cause the underside of cliffs to collapse.

The most destructive waves are *'Tsunamis'* — tidal waves or *seismic waves* which are produced by the sudden displacement of the sea floor, a landslide, a volcanic eruption or a sudden rising or sinking of a rock mass. This has the same effect, immensely enlarged, as when you drop a stone into a quiet shallow pool! These waves can have a length of 161 kilometers whereas the height might only be a few feet. However the wave speeds can reach up to 700 kilometers an hour and they can reach a height of 18 metres. They last from 10 to 30 minutes whereas a long *swell* might last for about 20 seconds.

In 1703 a tidal wave flooded the Japanese coast with a loss of 100 000 lives. One of the highest waves ever recorded of 34 metres (112 feet) was recorded in 1933 by the **USS Ramapo** and was produced by a 30—60 knot gale which blew in the North Pacific for several days.

Constructive waves are smaller, break obliquely on the shore and have an energetic *swash* with a much slower *backwash* so that the water is able to percolate into the beach sand and shingle as the water runs back into the sea. These waves often deposit shingle, sand or mud in the off-shore region forming an offshore bar. The waves are less frequent, 5—8 to the minute and spread up the beach when they break.

As a *constructive wave* approaches the shore it increases in volume becoming higher as it passes into shallower water and finally breaks on the beach. When the depth of the water is about the same as the wave height, the wave becomes a *breaker.*

If a wave passes over a gently shelving floor a wave front steepens gradually until the crest merely spills over into the trough in front and is known as a *spilling breaker,* a foaming mass of water that surges forward as a turbulent sheet of surf. Where the floor is slightly steeper, and especially if the waves are large, the rise of the crest is greatly augmented. The wave front steepens until an unstable looking hollow (tube or tunnel) appears in front. Over this crest the wave continues its advance. Then with violence it crashes down. This is the *plunging breaker* which surges up the beach. When air is rapidly trapped and compressed by plunging breakers the air reacts with explosive violence and shoots foam into the air. When this happens at a cliff wall for instance, material can be loosened and flung into the air.

The water that moves up the shore is called *swash* (uprush), is very powerful and can take with it rocks, sand and other heavy material. The *swash,* because of the force of gravity, then begins to reverse seaward in a shallower and less turbulent form taking with it sand and pebbles as it has less energy than the *swash.* This is called the *backwash* or *undertow.* Stones and sand are thus returned to the sea by the *backwash* of one wave and may be carried up on to the beach again by the *swash* of the succeeding wave. As these waves which break on the shore are usually oblique, dependent upon the wind direction, the material carried by the **backwash** will advance along the shore by successive *swash* and *backwash* as each wave breaks. This procedure is known as a *longshore drift* of material, which has to be halted by the building of groynes for coastal protection.

If a wave runs with its crest parallel to the shore it tends to meet the *downrush* of another wave causing dangerous *rip currents* which run at right angles to the shore.

Waves that are trapped in harbours and swing from side to side like a pendulum between walls, are termed *stationary* waves.

Ripples are formed by a light breeze blowing over the water and last for fractions of seconds whereas wind chop duration is one to four seconds.

Dwell for a moment on these things when next you take a stroll along the beach.

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CONCHOLOGY

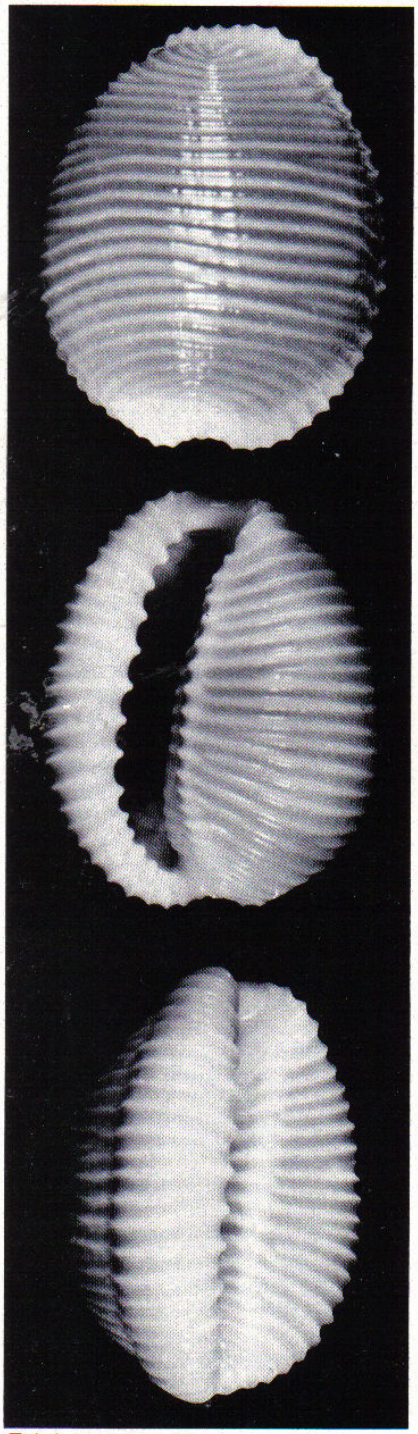
I have received many letters requesting information on some of the newly named shells. Many of these are published in rather inaccessable magazines to the general collector. Many of the shells are also a problem to get as they are largly deep water species. Nonetheless there are rare occasions when one acquires something rare and unidentifiable. I am therefore trying to collect the various sources of information and publishing all the new names.

Trivia old and new

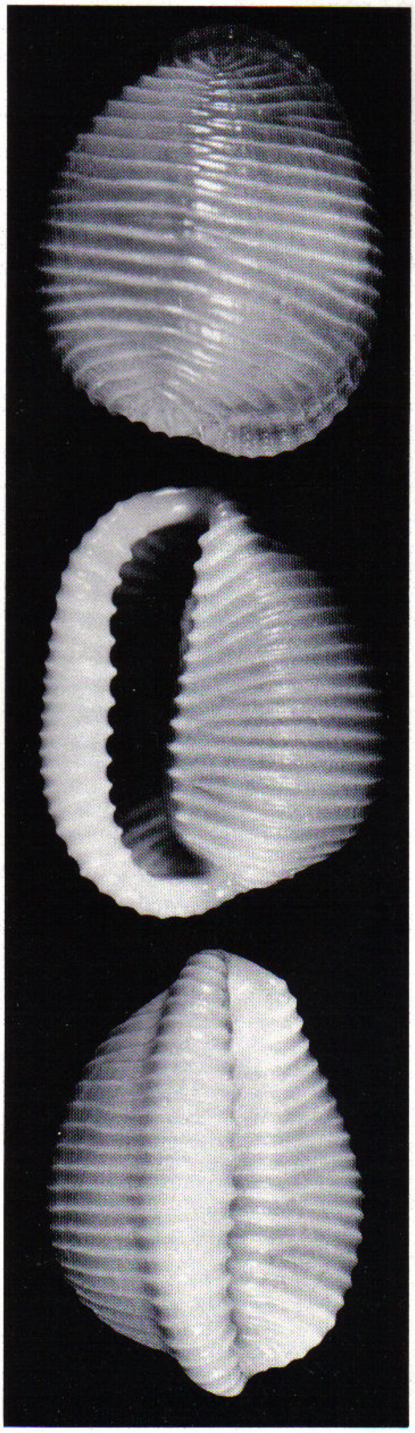
Trivia calvariola Kilburn, 1980
Size: 11-23mm
Distribution: Cape Agulhas to Port Elizabeth.

Trivia rubra Shaw, 1909
Synonym:
Triviella vesicularis pseudovulata Schilder & Schilder, 1929.
Size: 17-26mm
Distribution: Cape Agulhas to Jeffreys Bay.

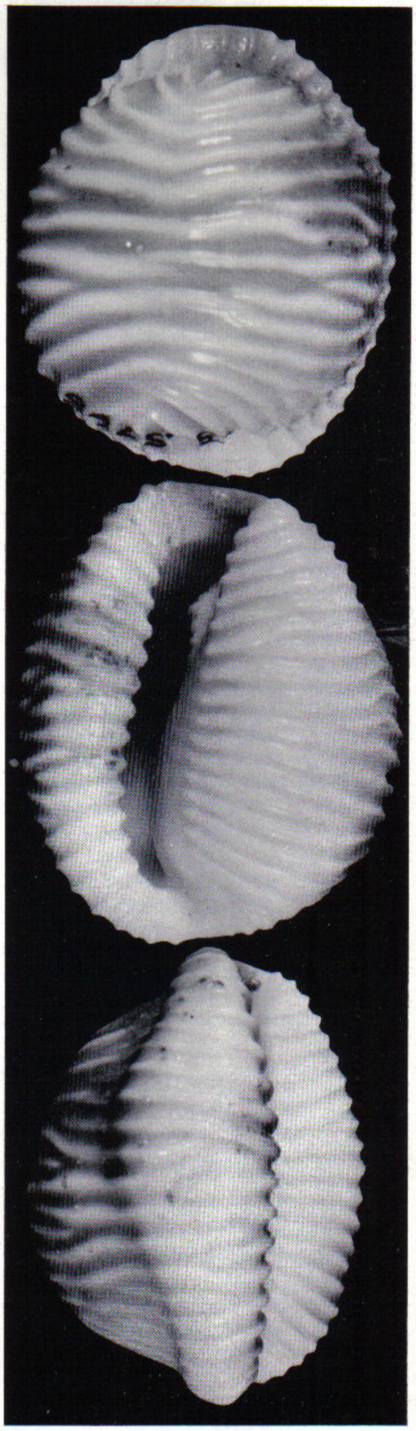
Trivia costata (Gmelin, 1791)
Synonyms:



Trivia costata (Gmelin, 1791)



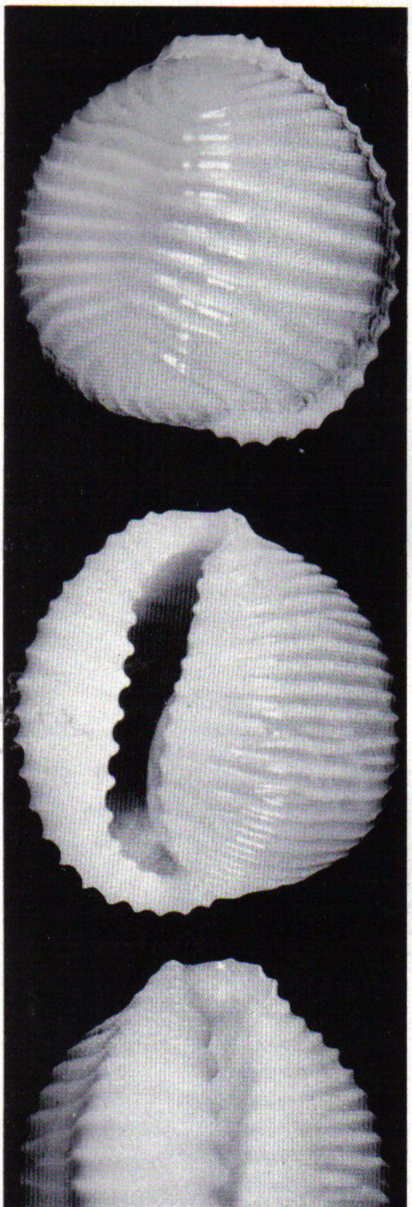
Trivia neglecta (Schilder, 1930)



Trivia sanctispiritus Shikama, 1974

Cypraea costata Gmelin, 1791
Triviella costata (Gmelin, 1791); Allan, 1956
Size: 12-17mm
Distribution: Atlantic coast of Cape Peninsula.

Trivia neglecta (Schilder, 1930)
Synonyms:
Triviella aperta neglecta Schilder, 1930

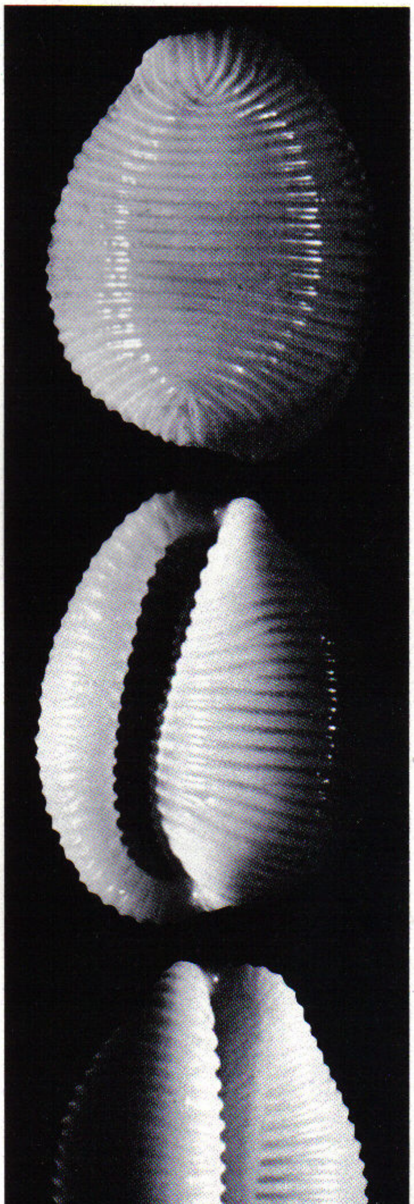


Trivia splendidissima (Tomlin & Schilder, 1934)

Size: 12-20mm
Distribution: Atlantic coast of Cape Peninsula to Danger Point.

Trivia sanctispiritus Shikama, 1974
Size: 14-22mm
Distribution: Dredged from Mossel Bay to East London.

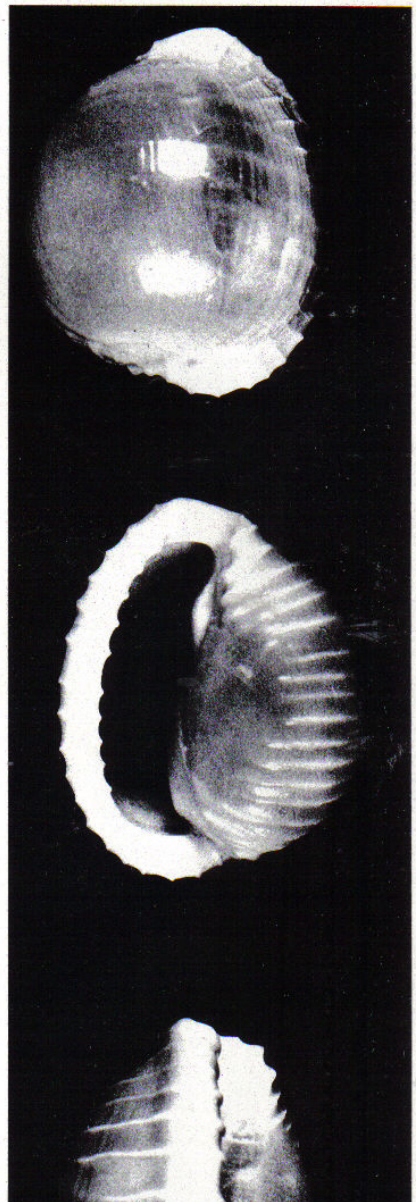
Trivia splendidissima (Tomlin & Schilder, 1934)



Trivia suavis Schilder, 1931

Size: 7,8-13,6mm
Distribution: Dredged off Transkei.

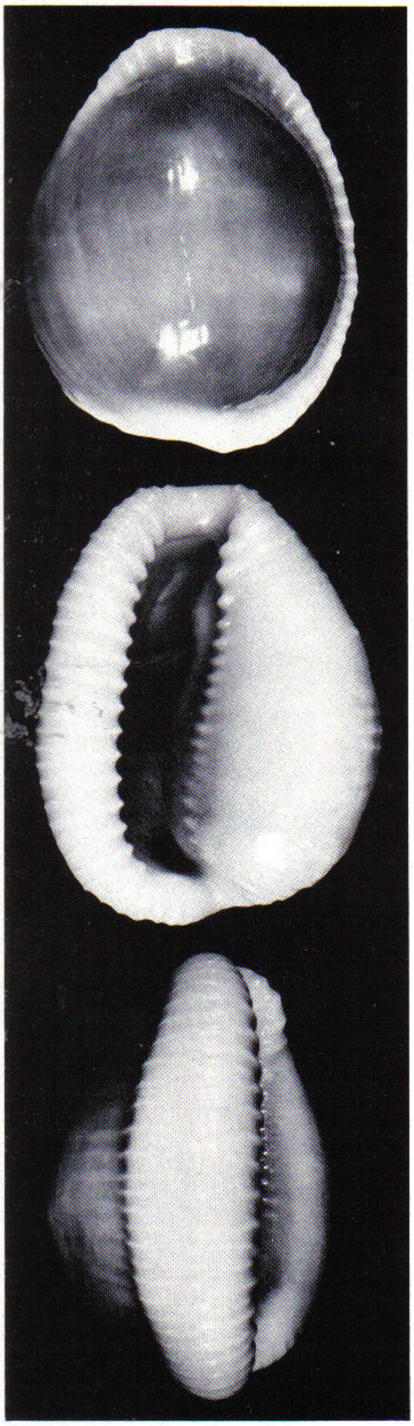
Trivia suavis Schilder, 1931
Synonyms:
Cypraea formosa Gaskoin, 1836 (non Gray, 1824)
Triviella austrafricana Cate, 1979
Size: 7-15mm
Distribution: Port Alfred and Transkei



Trivia lemaitrei Liltved, 1986

Trivia pellucidula (Gaskoin, 1846)
Size: 4-8mm
Distribution: Transkei, Natal ans Seychelle Islands

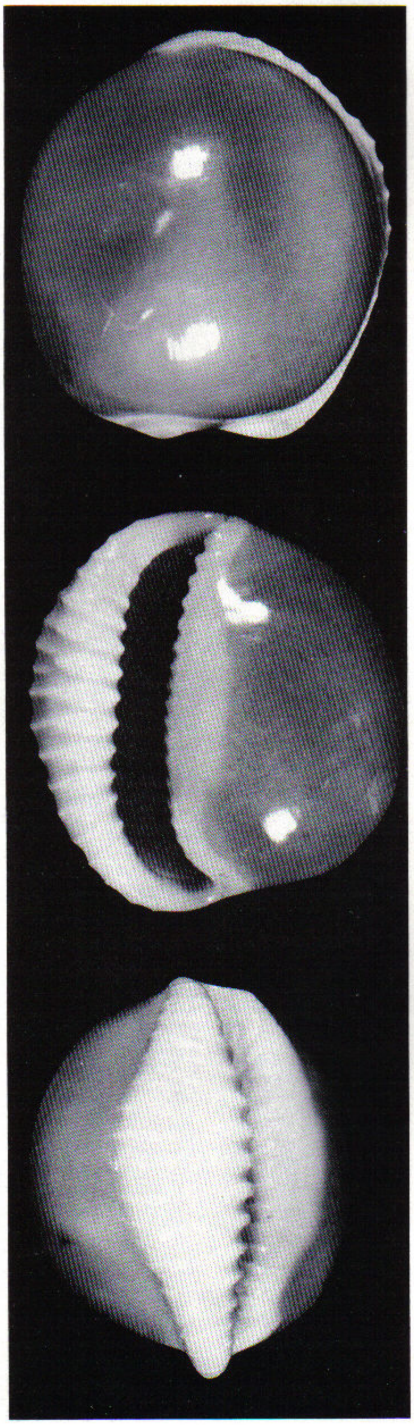
Trivia aperta (Swainson, 1822)
Synonyms:
Cyparea aperta Swainson, 1822
Cypraea oniscus Sowerby, 1870
Triviella aperta (Swainson, 1822); Cate, 1979



Trivia rubra Shaw, 1909

Triviella porcellio Cate, 1979
Cypraea carnea (Gray, 1828)
Size: 14-27mm
Distribution: Cape Agulhas to Gonubie, Cape Province.

Trivia magnidentata Liltved, 1986
Size: 13,8-15,3mm
Distribution: Olifantsbos, western Cape Province to East London.

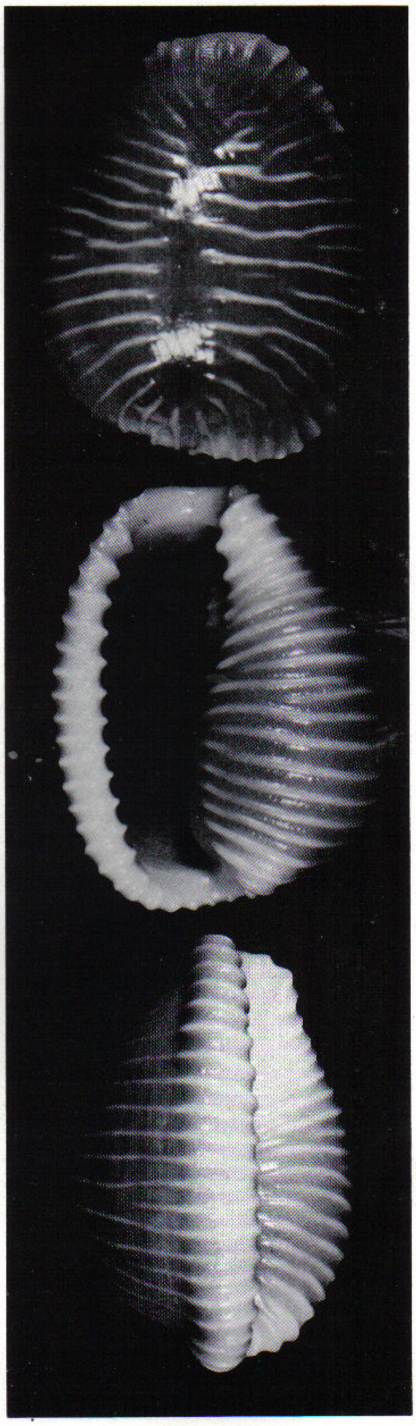


Trivia calvariola Kilburn, 1980

This species most closely resembles **Trivia rubra** and there are many specimens in beach collections from Jeffreys Bay that have been misidentified.
A list of the endemic South African Trivia as given by Liltved & Gosliner (1987)

ACKNOWLEDGEMENTS

Gosliner,T.M. & Liltved, W.R.
Further studies on the morphology of



Trivia aperta (Swainson, 1822)

the Triviidae (Gastropoda: Prosobranchia) with emphasis on species from southern Africa.
Zoological Journal of the Linnaean Society (1987) 90: 207-254. with 36 figures.

Liltved, W.R.
Six new species of Trivia from southern Africa (Gastropoda: Triviidae)
The Veliger 29(1):114-122 (July 1, 1986)

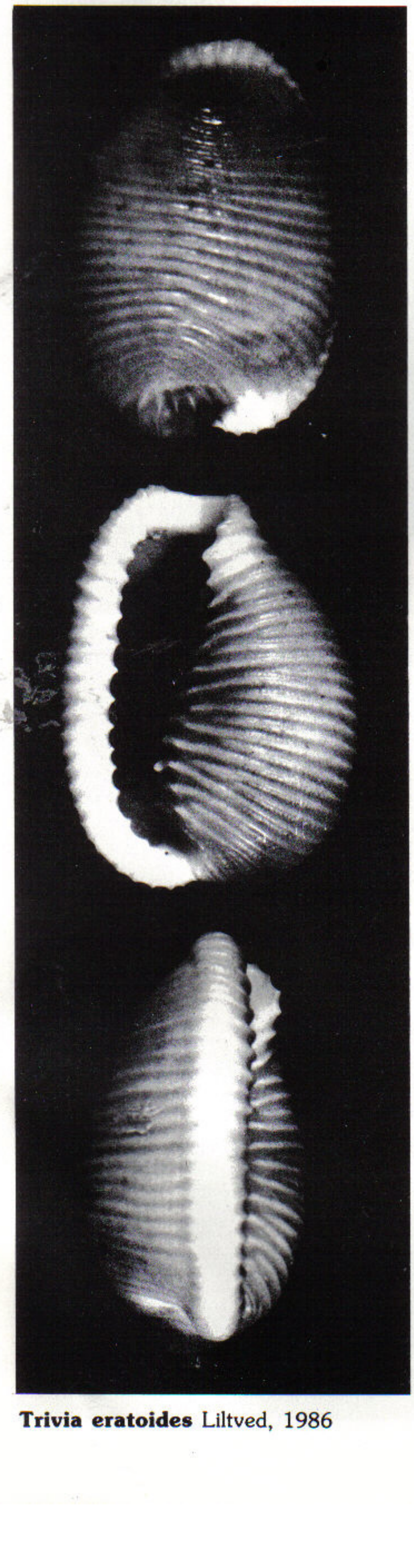
[See also Strandloper 204: 1 (**Trivia millardi**) (October, 1980); 210: 3 (**T. ovulata, T. millardi, T.verhoefi**) (October, 1982); 214: 1 (live **Trivia rubra**) and 11 (**T. hallucinata**) (June, 1985);

A new fossil *Cypraea*

Cypraea zietsmani Liltved & Le Roux, 1988

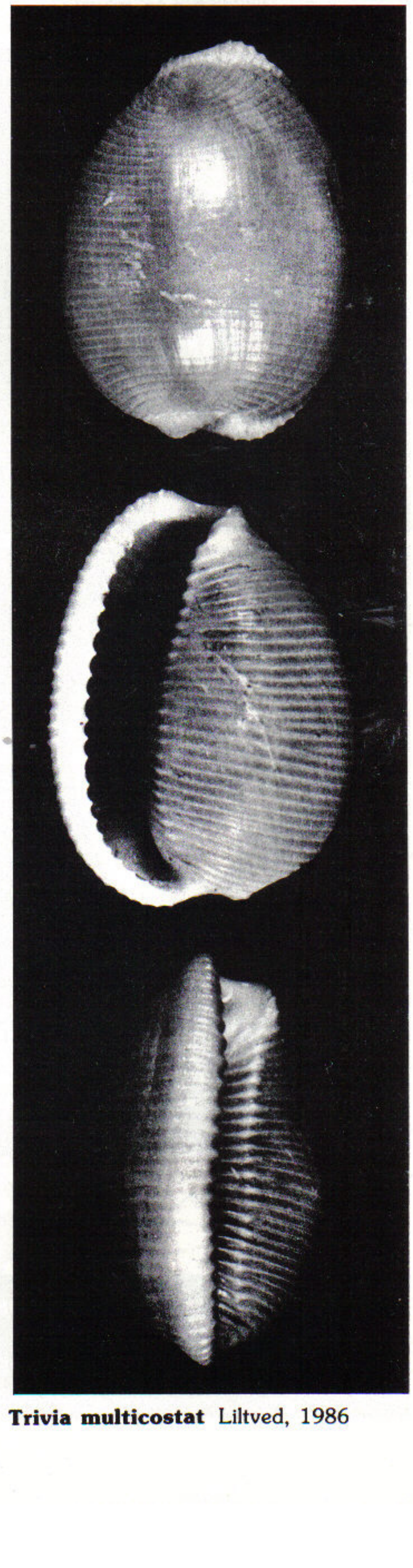
Size: 56-66 mm
Distribution: The type locality is Aloes Siding, 15 km north of Port Elizabeth, in the eastern Cape Province from the Pliocene, Alexandria Formation from a depth 44m in pebbly calcareous sandstone.

Cypraea zietsmani most closely resembles **Cypraea fultoni** Sowerby, 1903, which occurs at depths greater



Trivia eratoides Liltved, 1986

Trivia virginiae Liltved, 1986



Trivia multicostat Liltved, 1986

than 65m off the coast of Natal. The major difference between the shells is that **Cypraea zietsmani invariably lacks the columellar dentition of Cypraea fultoni**.

ACKNOWLEDGMENTS

Liltved, William, R. and Le Roux, F.G.
A new fossil **Cypraea** (Gastropoda: Prosobranchia) from southern Africa with notes on the Alexandria Formation.
THE VELIGER Volume 30, April 1, 1988, Number 4. Pages 400-407.

Cypraea fultoni **Sowerby, 1903**. *Cypraea zietsmani* **is most closely resembles** *Cypraea fultoni*

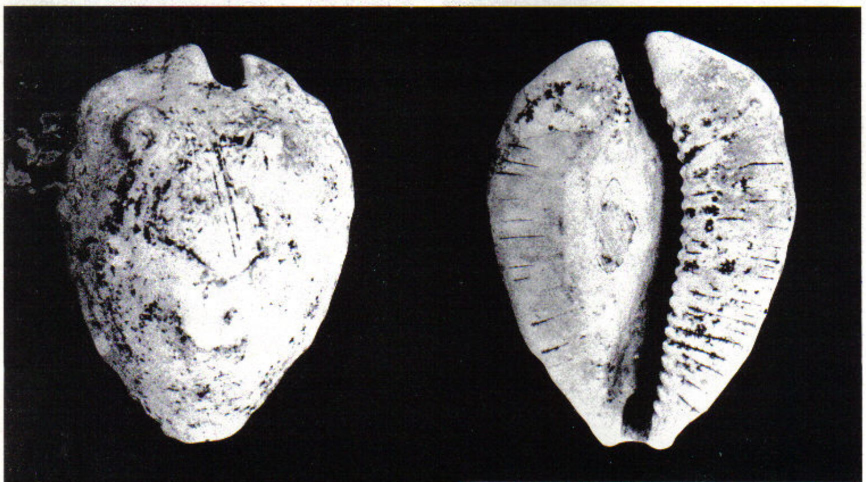
A new species of *Terebra*

Terebra macleani Bratcher, 1988
Size: 22,8mm
Distribution: Known only from off East London in muddy sand with lumps of black mud.
This species closely resembles **Terebra albida** Gray, 1834 which has a more inflated body whorl and a very weakly indicated subsutural groove and is confined to western Australia.

ACKNOWLEDGMENTS

Bratcher,T.
Six New species of Terebridae (Mollusca: Gastropoda) from Panama and the Indo-west Pacific.
THE VELIGER Volume 30, April 1, 1988, Number 4. Pages 412-416.

Cypraea fultoni **Sowerby, 1903.**



Holotype of *Cypraea zietsmani* **Liltved & Le Roux, 1988. Size 58,6mm. SAM-PQ 2573 deposited at South African Museum, Cape Town.**

Terebra macleani **Bratcher, 1988 from off East London.**

Detail of *Terebra macleani* **Bratcher, 1988.**

SHELL EXHIBITION IN BLOEMFONTEIN

by Hugo van der Walt

Our 'first in living memory' shell exhibition was held here in Bloemfontein at the National Museum from the 5th August to the 23rd September, 1988.

The exhibition was not aimed at the advanced collector, but to provoke interest in shells and marine life in general.

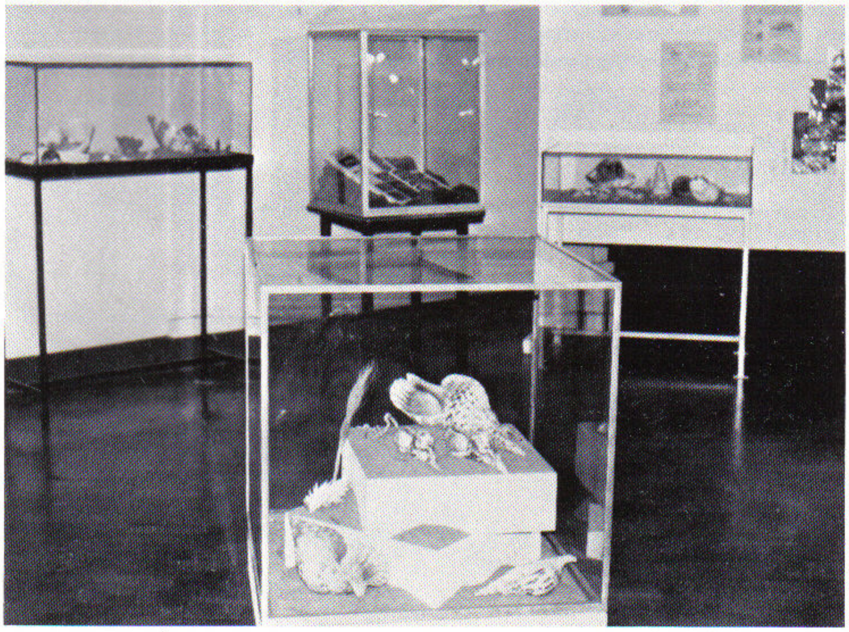
The exhibition received good coverage on Television and also in the local press.

Luckily the show provoked such good response from the public that it has been decided to have a permanent display at the museum.

Some interesting shells on show were a **Voluta magnifica** and **Voluta imperialis**, which were bought from G.B. Sowerby of London in 1882 for 2 Guineas (then worth approx. R4,20 or $8) and 10/- (then R1 or $2) respectively. The condition of these shells are really remarkable considering their age (106 years) and size.

There were also a few of my shells on loan at the exhibition. A live taken **Lambis truncata truncata** which was taken off Dar es Salaam in 1965 with 8 digits attracted much attention.

Some people enquired about the possibility of forming a shell club. We will see what we can do about this soon.



EDITORIAL

The Cape Town Group has once again taken to gathering and discussing shells and shell matters. On Wednesday 16 November, 1988 there was a gathering of the clans at Mrs Connolly's house where the latest magazines were on show and shells were brought that were collected since the group disbanded. The shells of most interest were the **Marginella lineolata** that were on show and the red **Conus mozambicus mozambicus**, a rare find indeed from Cape Hangklip, this shell was collected while on an outing with two visitors from Durban, namely Val van der Walt and Olive Meyer. They too enjoyed their trip to Cape Town where they went shelling at Cape Hanklip and found several **Conus mozambicus mozambicus** and a solitary **Conus algoensis 'hangklipensis'**, (the reason for this 'subspecies' is that Kilburn (1971) mentioned that **Conus algoensis** was found in areas of upwelling of cold water, and that there was a such an area of upwelling at Cape Hangklip, at that time there were no specimens to prove that he was correct.) a trip to Kommetjie on the West coast produced some interesting finds, amongst them (to the delight of the visitors) was **Ocenebra purpuroides** and very large **Nucella dubia**. Brittania Bay produced very large **Lutraria lutraria** and black mussels. Eyes were peeled for the 'new' mussel **Mytilus galloprovincialis** which we found at Blouberg Strand.

We are running out of articles for the magazine again and it has taken quite a while to get this issue off the ground as I had to wait to get sufficient material. The next issue will hopefully be the Cone article and then the Trophoninae if I can get permission to reprint the Roland Houart article.

Dr Kilburn of the Natal Museum has done the next part of the Turridae which should be available from the Museum. As we have not seen the paper yet in Cape Town we are not able to say more at this stage. Possibly by the next issue we will have more details.

Bill Liltved's book on the Cypraeidae and allied families is progressing well and will unfortunately not be ready to fill those Christmas collecting bags but should be ready by the end of February, 1989.

The latest UNDER WATER magazine arrived and would be of special interst to shell collectors. There is a three page article by Andrew Penny and Rob Tarr of the Sea Fisheries Research Institute with very good photographs of molluscs. The magazine as a whole makes very interesting reading.

EXCHANGES WANTED

Andrea Rinaldi, Via Mestre 3, 09126 Cagliari, Italy is a student in the faculty of Natural Sciences and is interested in hearing from South African collectors.

PHOTOGRAPHIC COMPETITION

Pretoria Group Conchological Soc. of SA

With reference to the proposed photographic competition, which will be run by this group on behalf of the Conchological Society the following information applies:

1. There will be five different categories and competitors may enter all or selected categories.
   i) Colour slide of any gastropod shell larger than 20mm.
   ii) Colour slide of any gastropod shell smaller than 20mm.
   iii) Colour slide of a live snail with shell.
   iv) Colour print of postcard size of any gastropod shell.
   v) Three slides of any shell other than a gastropod, eg. bivalve, amphineura etc.
2. Entries must reach the Secretary, Pretoria Group, before 31st march, 1989 (Mr TR Duncan, 131 Burger Street, Lyttelton, Verwoerdburg 0140)
3. Each entry must be accompanied by an entrance fee of R2.00. This is to return the competitors' slides by certified post.
4. Every entry to be accompanied by the following data: name, locality where found, collectors' name if other than competitor.
5. The judging will be done in Pretoria and the winners will be announced at the Society's AGM.
6. Any member or non-member may participate in the competition.
7. A floating trophy, donated by the pretoria Group, as well as a certificate of merit will be awarded to the winners.
8. Slides will be shown at the yearly AGM of the society.
9. If required, the Society may make copies of any slide for lecturing purposes.
10. After the AGM the best slides shall be circulated to the other groups for showing.
11. The Society does not accept any responsibility for the loss or damage to slides or photographs. The utmost care will be taken, however, to ensure that the slides and photographs will not be damaged.

THE CONCHOLOGICAL SOCIETY OF SOUTHERN AFRICA

(Founded 1958)

Subscriptions:	*Per Year*
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Entrance fee	R5

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c/o 1 Arend Ave, Windsor Glen, Randburg, 2174

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