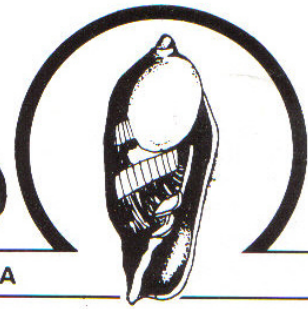


The Strandloper

BULLETIN OF THE CONCHOLOGICAL SOCIETY OF SOUTHERN AFRICA



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THE FAMILY TONNIDAE IN SOUTHERN AFRICA AND MOZAMBIQUE.

by R.N. Kilburn (Natal Museum)

Introduction: Although represented around the world by perhaps fewer than 50 species, the Tonnidae is one of the most problematic of advanced mesogastropod families. Because of their large size and relative fragility, they are poorly represented in museum collections, while in private hands they all too often end up as unlabelled shelf ornaments. On the other hand they were sufficiently conspicuous to attract the attention of the earliest writers on molluscs, who left a legacy of nomenclatorial and taxonomic confusion which bedevils their study to the present day. Unfortunately, until a modern revision is undertaken by a competent malacologist, there is no alternative but to follow standard usage of names, even when clearly erroneous. The present article does not purport to be such a revision, but is intended merely as an outline guide to our neglected tonnoid fauna.

I intentionally omit species of the genus *Oocorys*, which all inhabit very deep water are unlikely to come the way of the average collector. Furthermore, of the four recorded species, the identification of two, *Oocorys watsoni* Locard, 1897, and *O. sulcata* Fisher, 1883, is doubtful (in fact both records were probably based on the same species), a third, "*O.*" *keyteri* Kilburn, 1975, now proves to belong to the genus *Galeodea* (family Cassidae), and the fourth, *O. aulacodes* (Tomlin, 1927) described as a *Eudolium*, is known only from the holotype.

Characteristics: Shells are medium-sized to large (up to 30 cm length), mostly thin-shelled, more or less globular with a low spire and short, deeply notched siphonal canal, outer lip sometimes thickened and even toothed in adult; sculpture of spiral cords. Periostracum thin, smooth and translucent, sometimes absent. Protoconch rather large, of 3-4 horny whorls. Operculum present only in larval stage, except in genus *Oocorys*.

Biology: Although predominantly tropical, the Tonnidae is represented in most warmer seas, different species living mainly from low-tide level to about 50 m. However, members of the deep-sea genus *Oocorys* occur to depths of nearly 4 800 m. Only the typical shallow-water genus *Tonna* has been studied in any detail, and the following ac-

count applies to this genus alone.

Tonna species inhabit sandy bottoms, particularly in protected bays where beds of marine grasses occur. They burrow by means of the powerful foot (which may be too large to be fully retractable), and only the tip of the siphon may be visible at the surface. They seek their prey by scent, and on emerging generally glide upcurrent, sweeping the siphon from side to side and tapping the substratum with alternate tentacles. A crawling speed in excess of 58 cm per minute has been recorded. Prey consists of holothurians ("sea-cucumbers"), which may be as long as the shell of the *Tonna* itself.

During feeding, one end of the holothurian is engulfed within the massive proboscis and the entire animal drawn in by means of the powerful radula. The prey is evidently paralyzed by a secretion containing 3-5% sulphuric acid, which is produced by a large buccal gland. Reportedly this secretion may also be squirted through the proboscis as a defence measure.

Sexes are separate and fertilization is internal. Spawn consists of a large, wide, flat, gelatinous ribbon, containing numerous small, transversely arranged, transparent egg-capsules, each with 20-100 eggs. All eggs appear to develop into embryos, although reports exist of apparent cannibalism among the developing young. In some species, at least, the wall of each capsule bears preformed exit hatches. A total of up to 660 000 eggs has been estimated for a single spawn mass. Development is pelagic, the rather large veliger larva having four short to long velar lobes, an operculum and a globular-conical shell of 3-4 whorls, covered with a golden periostracum, which may develop series of bristles. These shells often wash up in beach-drift (although identification is seldom possible). The larva was mistaken for a new type of pelagic snail by one early zoologist and the genus *Macgillivrayia* Forbes, 1852, created for it. Planktonic development in two Atlantic species of *Tonna* has been estimated as lasting well over three months, permitting dispersal over great expanses of open ocean, which explains the very wide range of most members of the genus.

Classification: The family comprises two subfamilies, the Tonninae (with genera *Tonna*,

Malea and *Eudolium*) and the Oocorythinae (with genus *Oocorys*); in the former, an operculum is absent in the adult, in the latter group it is present; there are also radular differences. However, some workers have preferred to recognize a separate family, the Oocorythidae.

The subfamily Tonninae (the only group dealt with here) contains the following general in southern Africa and Mozambique:

- (1) *Tonna* Bruennich, 1772 (synonym *Dolium* Lamarck, 1801): shell globose with a short, truncate base and large, wide aperture; teeth, where present, restricted to outer lip.
- (2) *Eudolium* Dall, 1889: shell rather pear-shaped with slightly elongated base; aperture wide, without teeth.
- (3) *Malea* Valenciennes, 1833: aperture narrow, with strong teeth on both lips.

Collecting notes: In our region, *Malea* is represented by a single tropical species, common in Mozambique, but not yet found further south. The two species of *Eudolium* live well down the continental shelf and chiefly on the slopes; thus they never wash up on the shore, but may be obtained from trawlers, particularly in Natal. The "common" inshore genus is *Tonna*, which is represented by nine species. In South Africa only one species, the so-called *Tonna variegata*, is relatively abundant, but perfect examples even of this are "collectors items".

Living examples of *T. variegata* can, however, be obtained from trawlers, seinnetters or (on rare occasions) found in low-tide pools. In Natal a few other species such as *T. allium* have been found washed up, but are more likely to be collected by SCUBA divers. Other *Tonna* spp. such as *T. galea tenebrosa* and *T. sulcosa* generally can be obtained only from trawlers, particularly those operating on the Tugela Bank. In Mozambique all species except *sulcosa* may be found on sandflats at low spring tide level, either buried beneath a hump or actively crawling about as the tide turns, often using the flowing tide to glide into the shallows. Some care should be taken in picking up a large live *Tonna*—on a recent trip to Mozambique a companion received a nasty cut on her finger from the sharp lip of a *T. cepa*.

Genus **Tonna Bruennich, 1772****Group A. Outer lip thickened and toothed in adult.****1. *Tonna allium* (Dillwyn, 1817)**

Easily distinguished by the rounded, narrow spiral cords, 13-15 on the body whorl, and by their concave intervals, which lack fine intermediary threads. Shell rather thick, outer lip thickened, toothed inside and sometimes somewhat reflexed. White or pale fawn, ribs usually darker or with faint spots, apex purple. Adult length varies from 38 to 109 mm!

Widespread in tropical Indo-Pacific, common in Mozambique, rare in Natal; the Natal Museum has specimens from various littoral localities between Kosi Bay and Scottburgh. In Mozambique it generally lives on muddy sandbanks, usually with marine grasses (***Thalassodendron***), from low tide to about 2 metres.

Synonyms include ***Dolium costatum*** Menke, 1828, and ***D. fimbriata*** var. ***natalensis*** E.A. Smith, 1906 (right-hand figure is a paratype).

2. *Tonna tessellata* (Lamarck, 1816)

Very similar to ***T. allium*** in its sculpture and toothed, thickened outer lip; however, the spire is much lower, the aperture very large and the columella callus forms a prominent raised shield in the adult (unique within the genus); profile of outer lip strongly folded by spiral cords; spiral cords (or more frequently, alternate cords) white with brown spots. Length 58 mm (attains 80 mm in tropics).

Tropical Indo-Pacific to Natal. Very rare in our region; the Natal Museum has a juvenile collected fifty years ago at Durban, and an adult trawled on the Tugela Bank.

Synonym ***Dolium fimbriatum*** Sowerby, 1823.

3. *Tonna sulcosa* (Born, 1778)

Characterized chiefly by colour, being cream of buff with four brown spiral bands on the last whorl. Both spiral cords and their intervals are flatter than in ***T. allium*** and there may be an occasional thin spiral thread between the posterior cords. The thickened lip and small paired teeth sometimes (as in ***allium***) develop in young individuals and remain visible in the adult as an early varix. In typical shells the base of the columella is distinctively long and projecting. Length 80-110 mm.

Widespread in the Indo-Pacific to off the Tugela River.

Synonym: ***Buccinum fasciatum*** Brugiere, 1789.

Note: A similar but less conspicuous colour pattern may sometimes develop in ***T. galea tenebrosa***; these individuals, however, lack such a thickened lip and have well-developed interstitial spiral threads.

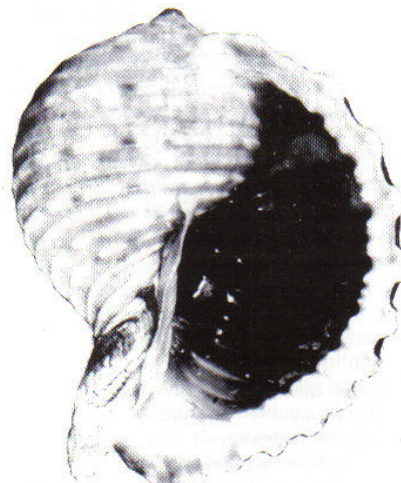
Group B. Outer lip not thickened and toothed, or only feebly so.

4. *Tonna galea tenebrosa* (Hanley, 1859)

A large species (up to 180 mm length), characterised by its dark brown colour, paler below the suture, outer lip edged with dark brown. (An occasional individual is paler brown, sometimes with traces of dark



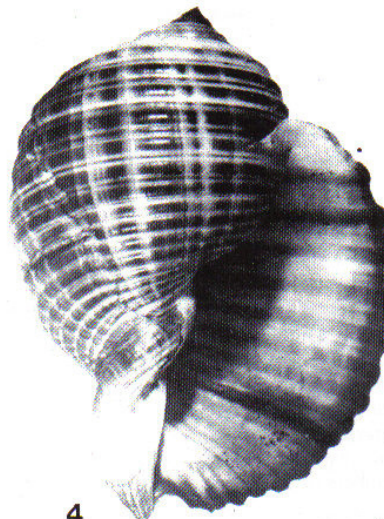
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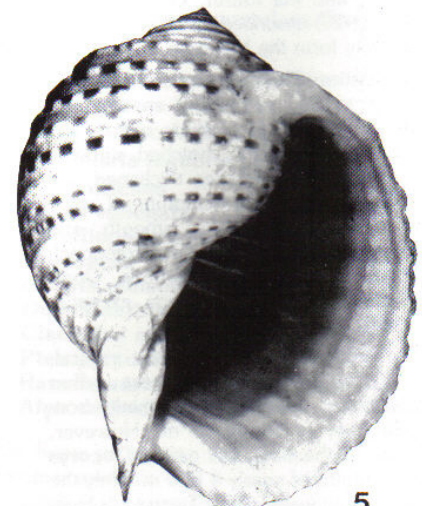
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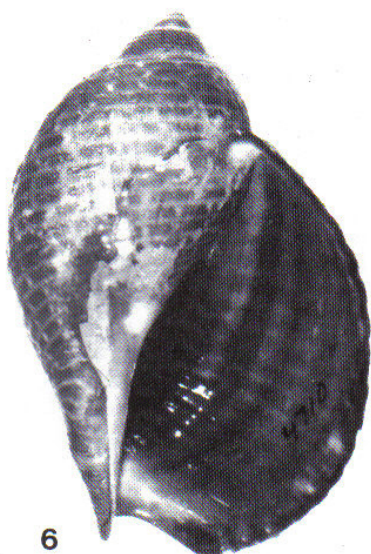
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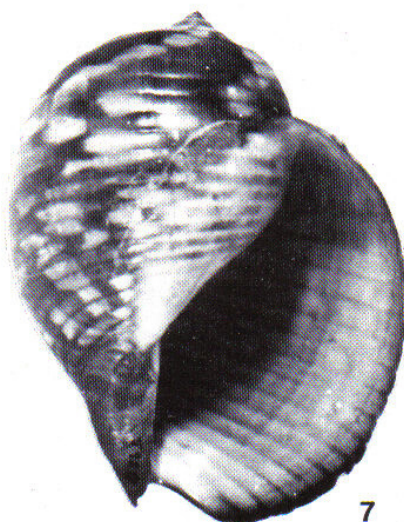
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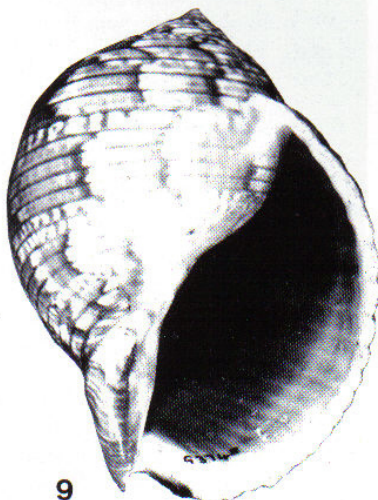
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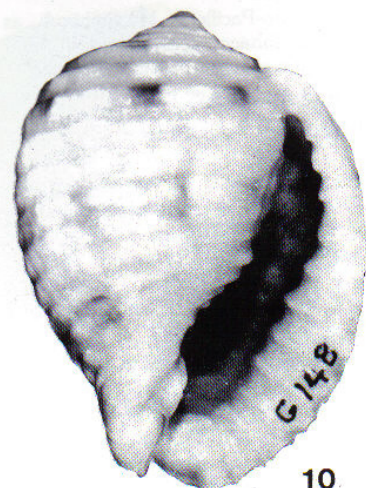
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bands.) Spiral cords rounded and usually equal to their intervals; on the anterior part of each whorl each interval bears one or more fine spiral threads. The outer lip may be very slightly thickened and develop feeble paired teeth.

Red Sea and Seychelles to Agulhas Bank, in East London/Port Elizabeth area.

In Mozambique this species lives on low tide sandbanks, but further south inhabits the continental shelf in 30-110 m. Exceptions appear to be a few large shells found in Durban Bay which may well have been washed out of old, perhaps Pleistocene, beaches.

This is the Indian Ocean subspecies of **Tonna galea galea** (Linne, 1758), of the Mediterranean and tropical Atlantic (as far south as Angola), which is normally much paler in colour. A prior name for **tenebrosa** may be **ampullacea** Philippi, 1845, as which it has been reported from Durban. In the western Pacific **tenebrosa** is replaced by **Tonna olearia** (Linne, 1758) which has spiral threads in the intervals between all the main spiral cords.

5. **Tonna marginata** (Philippi, 1845)
Shell somewhat resembling a large **T. allium** (length up to 160 mm) in its narrow spiral cords and purple apex, but its outer lip lacks teeth and is at most slightly thickened, spiral cords are heavily spotted with brown on a cream to flesh-coloured ground, and (in adults) the intervals between cords each bears 1-3 weak spiral ridges.

Widely distributed in the tropical Indo-Pacific to Mozambique, at least as far south as Inhambane, on sandbanks and marine grassflats at low spring tide.

Whether this is the true **Dolium marginatum** of Philippi, 1845, has yet to be positively established. The next available name is **Dolium lischkeanum** Kuester, 1857.

A problem is presented by the specimens from False Bay and off Algoa Bay that were recorded by Barnard (1963) as **Tonna tessellata** (Lamarck, 1816). These are not **tessellata** but may be a southern form of **T. lischkeana**. Obviously more material is required, as is confirmation of the given localities.

6. **Tonna perdix** (Linne, 1758)
The well-known "partridge tun" is characterised by its relatively narrow shape, high conical spire, drooping lip, shallow suture and weak spiral cords, which number 7-11 on the penultimate whorl (instead of 3-7 as in other local species). Maximum length 147 mm. Two colour forms occur in southern Africa: the typical light to dark reddish-brown form with numerous half-moon-shaped white spots occurs in Mozambique and on Aliwal Shoal, but in Durban Bay a small dark brown form with faint spotting has been diverged.

Wide-ranging across the Indo-Pacific to Mozambique and Natal, south to the Umkomaas area. In Mozambique not uncommon on sand or grassflats at low tide, but in Natal must be diverged for, in 5-15 m or more.

7. *Tonna cepa* (Roeding, 1798)

A rather fragile species, with thin, sharp lip; attains at least 127 mm in length. It is easily recognized by its very deep sutures, very low spiral cords, whose intervals are shallow (below the suture they are barely incised at all) and lack any trace of intermediary threads. Colour distinctive, rich brown, vividly patterned with rows of pale spots, each spot followed by a dark "smear", the spiral grooves sometimes darker than the cords. Surface often with a "bloom" like that on a plum.

Ranging throughout the tropical Indo-Pacific to Mozambique and Natal. Common in Mozambique, buried in clean sand on sheltered flats at low tide, but evidently rare further south, from whence the Natal Museum possesses only two immature shells, one picked up on the shore at Durban, the other dived in 20-30 m on Aliwal Shoal. Local adults are thus badly needed.

This, the "onion-skin tun" of early French writers, has sometimes appeared in the literature under the names *Tonna olearia* (Linne, 1758) or *T. canaliculata* (Linne, 1758); the former name is now used for a very different species, while the latter name cannot be applied with certainty to any known *Tonna*.

8. *Tonna variegata* (Lamarck, 1822)

Characterized by the strongly rounded spiral cords (16-19 on body whorl), with relatively deep intervals, of which the posterior ones are usually occupied by an intermediary thread, suture moderately deep, buff to light brown, flecked or marbled with darker brown, protoconch yellowish; length up to 120 mm.

Ranges from False Bay to northern Mozambique; extralimital records need confirmation.

Discussed in detail in Kilburn & Rippey (1982): 71, 212, and this will not be repeated here. It is worth noting again that the true identity of *variegata* is exceedingly doubtful, and we should probably call the local species *Tonga dunkeri* (Hanley, 1859), a name based on the thick-shelled, oblong inshore form. However, deep-water examples closely resemble the western Pacific species generally known as *T. luteostoma* (Kuester, 1857), but which probably should be called *T. favanni* (Hanley, 1859)! This, the commonest *Tonna* in southern Africa, is certainly the most problematic.

9. *Tonna cumingii* (Reeve, 1849)

This is a very poorly known species, of which more material is required. It somewhat resembles *T. variegata* but has flatter, more numerous spiral cords (20-22 in number on the body whorl), which have a distinctive "hammered" appearance; the spiral grooves are each occupied, on the posterior part of the shell, by a single thread. Although relatively small (maximum length about 96 mm) it is fairly thick-shelled. Colour light orange-brown with diffuse axial waves of darker brown and white, sometimes broken into flecks or short lines.



Range: Tropical Indo-Pacific to Mozambique and Natal. The Natal Museum has a single example trawled off the Umgeni River in 60 fathoms and a juvenile from Durban, plus examples from localities between Inhaca and Lunga Bay in Mozambique.

In the literature *T. cumingii* sometimes has been confused with two other tropical species that are not yet known from our region, namely *T. deshayesii* (Reeve, 1842) and *T. chinensis* (Dillwyn, 1817). According to authentic material that I examined in the British Museum (Natural History) *chinensis* has a more fragile shell and higher, more rounded ribs, while *deshayesii* is similar to the latter but has a purple protoconch.

Genus *Malea* Valenciennes, 1833

10. *Malea pomum* (Linne, 1758)

The rather cylindrical shape and narrow, extensively toothed aperture distinguish this species at a glance. The thick, somewhat expanded outer lip is preceded by a peculiar "dent". Mozambique adults vary from 31 to 77 mm in length.

Tropical Indo-Pacific to Mozambique, as far south as Inhaca; lives buried in sand among marine grasses near low tide level.

Genus *Eudolium* Dall, 1889

11. *Eudolium pyriforme* (Sowerby, 1914)

Sculpture of alternately weaker and stronger spiral threads; colour mottled yellowish or reddish-brown, edge of outer lip pinkish-brown. Adult length 43-114 mm.

Range: Japan and northern New Zealand to Natal, as far south as Durban, in 400-500 m.

12. *Eudolium crosseanum* (Monterosato, 1869)

Differs from *E. pyriforme* in colour, being pale yellowish-brown with the main spiral ridges darker and the outer lip pale; growth-lines are coarser, rendering the spiral ridges somewhat granular in the shoulder region.

Adult length 34-63 mm.

Range: Mediterranean to Agulhas Bank and east as far as Zululand, in 75-570 m.

Where the ranges of *E. crosseanum* and *E. pyriforme* overlap, the former tends to occur in shallower water than the latter. Both are not uncommonly trawled in Natal.

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IT'S THAT WILD COAST AGAIN!

by **Noggs Newman, East London**

There's obviously more to Mzamba and those hidden-away Pondoland beaches to the South thereof than the Casino and the other diversions offered at the Wild Coast Inn, as these pictures clearly show, of two outstanding specimens of **Vasum truncatum** (Sowerby, 1892) and **Tonna perdix** Linne, 1758. Note the strong lip on the **Vasum** specimen. These are scarce enough in any condition - the lip is most often missing.

It is interesting to note that Nolan Webb, when supplying information for the proposed

Members' Handbook, reported **Tonna perdix** as "rare" at Mbotyi. He had two specimens only in his collection, after many years of close contact with that section of the Transkei coast. The **tonna** in its turn is also quite beautiful: deep chocolate inside and out.

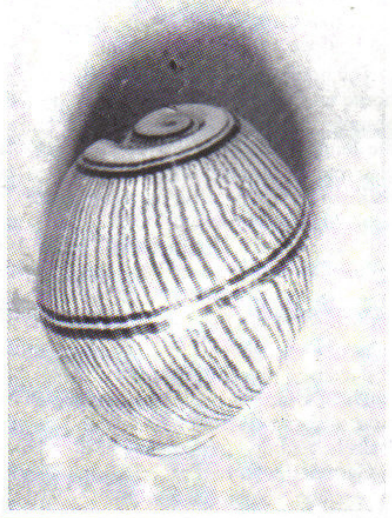
The remaining shell has been tentatively identified as **Vexillum (Pusia) festum** (Reeve, 1845). It is very uncommon and was not reported from any area for inclusion in the handbook.

All these shells are in the collection of Mrs June Stannard of Port Edward (Note: Mrs Stannard is a well-known ornithologist). (Q)

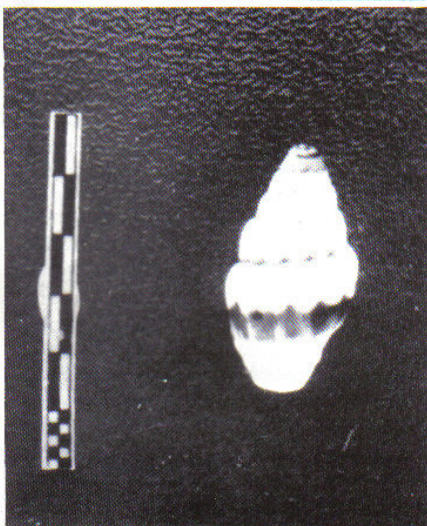
HYDATINA ZONATA (Lightfoot, 1786)

by **John Welsh, East London**

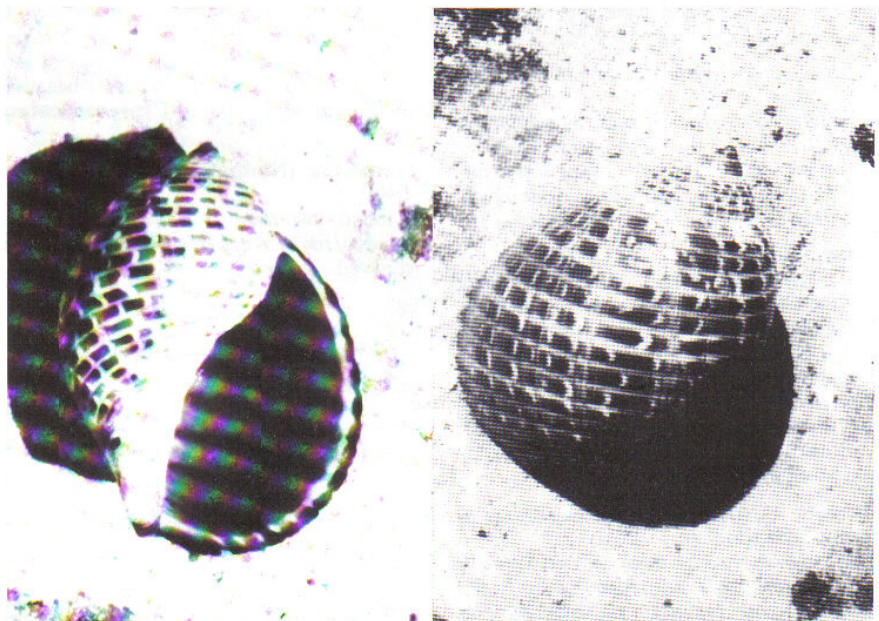
This shell was found at Kidd's Beach (near East London) in the swimming pool which was emptied at the time for annual repairs, on 27th November 1985. Two years previously I also found a live "sea mouse" (one of the Echinoderms) in the same pool. Both are unusual finds for this area. (Q)



Vasum truncatum



Vexillum festum



Tonna perdix

THE LIVE MOLLUSCS THAT PERNELL MIZEN HAD IN HER TANK

Cabestana cutacea dolaria (Linne, 1767)

The *dolarium* eats red bait and I have seen it sitting on top of the bait (*Pyura stolonifera*) where it feeds and shoots its proboscis right down the opening and also penetrates the hard outer skin. I had a female which laid eggs from the 18th to the 23rd June 1984. She hits down on the eggs and so the veligers come out and you see thousands of these things swimming about for that day. But somehow you don't seem to see them again. She then finished laying her second batch on the 15th August 1984, and these hatched on the 8th September, which took exactly 15 minutes. I was very lucky to have actually seen it on both occasions. I then found her again sitting on her third lot on the 13th October. They hatched on 1st November, and I then released her. Nothing came of her hatchings.

Cymatium (Turritriton) durbanense (E.A. Smith, 1899) also eats rock bait and grows extremely fast, like the *Cabestana dolaria*.

Cymatium (Monoplex) parthenopeum parthenopeum (von Salis, 1793)

He eats mussels and other bivalves. I found a small one at Mtwalume on the Natal South Coast on 11th August 1984. It was an inch (25.4mm) long. On the 10th September it measured 41mm; on 19th September it was 48mm long and on 25th September it was 51mm. On the 7th October it measured 64mm and on the 24th of that month it started forming its lip. This was not a big specimen. Another I had laid eggs on the 20th November and hatched on the 27th December 1984.

Distorsio anus (Linné, 1758)

Found by Brian Hayes from P.E. at the Comores in October 1984. They also eat bivalves such as mussels. They are still doing well in my tank and were juvenile when given to me. They are now adult.

Conus coronatus, ebraeus, chaldeus, and tinianus

They eat shingle worms and mussel worms (not sure what genus or species of worms these are - Ed.) They all did very well in the tank. Rather strange is the speed at which they can finish off one of these worms.

Strombus decorus (Röding, 1798)

They live strictly on algae. Mine would climb up the glass and the rocks due to the algae growing on the glass, unlike the one that Brian Hayes had which could not climb up the glass. Mine did several times. When he is upside down you should see the speed with which he rights himself. It is so fast, I could not help but have a good laugh. They did very well in the tank.

Bursa (Colubrellina) granularis granularis (Röding, 1798)

I had them in the tank and only once observed one eating a dead mussel worm. They survived and probably ate other things unknown to me.

Cypraea lamarcki Gray, 1825

A truly beautiful cowrie to have in the tank. Very hardy and does well. Eats algae, red and pink sponge. I have also seen it, together with *Cypraea arabica*, feed on red bait, on the 14th October 1984. These *Cypraea lamarcki* do tend to fight a lot with any other cowrie.

Cypraea erosa, helvola, annulus, caputserpentis, felina, arabica

All eat algae, but I found only the *arabica*, *erosa*, *helvola*, and *felina* eating the red sponge. The *caputserpentis* and *helvola* in particular are very fond of the rubbery-looking green weed. These did well in the tank. I am proud to say that I did rear one only *caputserpentis*. Only one could not see when they laid or hatched, because they did so under the rocks and with changing the rocks weekly you would lose a lot of eggs. These cowries are not found alive in the East London area. (Correction: I have found live *Cypraea caputserpentis* at Gonubie - Ed.)

Cypraea mauritiana and *eglantina*

These also came from the Comores in October 1984 ex Brian Hayes. Both species eat algae and are doing well. I have seen only the *eglantina* eating sponge.

Cypraea clandestina, chinensis, fimbrata, lynx, moneta

These did not do well in the tank.

Tonna species

This eats sea cucumber. One morning at 2.30 a.m. I got up to look at my tank and I saw the *Tonna* trying to get at the cucumber under a rock but because of its size it could not reach it, so I took it out and within two minutes it had devoured it whole. It puts its proboscis right over the prey and after it has eaten, the *Tonna* then goes under the gravel. This is why they are so hard to find. I have found two live specimens in three years.

Nassarius coronatus (Bruguère, 1789)

This fellow has an extremely long siphonal canal and is a lovely thing to have alive. I saw it eating red bait on the 26th October 1984 and it also eats dead fish. I cannot say that it does not eat other molluscs because there were some of my *Cypraea* eaten out.

Nassarius (Niotta) gaudiosus (Hinds, 1844)

I found this alive at Mtwalume but can honestly say I never saw what it ate, and yet it survived very well like the *N coronatus* did.



EXCHANGES WANTED

A collector from Brazil is interested in all molluscs, marine and otherwise, and including fossils, and would like to extend his Southern African connections. Please write to:

Luiz Ricardo Lopes de Simone
Rua Conselheiro Cotegipe 930
03058 SAO PAULO, SP
BRAZIL

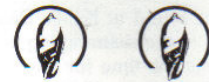
A SHELLER'S NIGHTMARE

by Olive Peel, Durban

It is common knowledge that it is only when something happens to you that you can ever know what it is to suffer - wise words indeed!

A shelling friend, Henk, told me when first we met that as a newcomer to shelling he decided to save up for his annual leave and motor with his family to the Cape in order to spend a fruitful shelling time snorkelling and diving. The family was enrolled to do the wading and beaching and when the boxes were full and the holiday drew to a close they all motored back home again contented with their lot, and car smelling to high heaven.

Upon arrival home again they were far too tired to clean all the goodies so outside the back door they went, for the morrow was



another day and they could clean the shells at their leisure. Off to work and school everyone trooped, awaiting with impatience their leisure hours in the late afternoon so that they could admire their delightful and exotic treasures.

The hours soon sped by and Henk rushed home and the first thing he noticed was the absence of exotic smells, thinking hurrah, the family has got in first and are going to give me a surprise. But 'twas not to be! Rushing inside he came upon no smells, no exoticas, nothing except horrific glares and stoney silence! The beloved maid had thrown the 'stinking rubbish' away and by now it was smouldering in the incinerator at the dump or wherever these things go!

Two weeks after I had laughed at his misfortune, more from nervousness than anything else, I packed very carefully all the most uncommon South African and trawled shells I could find for exchange with a friend in Germany who had promised me all sorts of exciting things in return. I spent all weekend labelling, putting into bags, tearing up tissues and toilet paper for wrapping.

Back to work on Monday morning and eagerly awaiting the afternoon so that I could finish the parcel - home after work to discover NO BOX. I phoned the maid and said, "where is my box of goodies left on the floor by my desk?" "I threw it in the rubbish bin," says she. Horrors upon horrors, nightmares upon nightmares, I couldn't concentrate on anything for the rest of the day, in my mind murdering the maid and feeding her to the fish.

So to all of you out there, when you find fossils in five million years time or so all wrapped up neatly in plastic bags and with labels on them as well, think how lucky you are not to have to try to identify the shells and especially not to have to have carbon tests done, or whatever, to see how old the shells are, for they will all have the dates on them! And you will even know who collected them. Woe is me!



TO KILL OR NOT TO KILLby **Olive Peel**

"Those of us who truly love shelling can't tolerate the killing of live shells" so says a boat owner who runs shelling and fishing charters off the coast of Florida in the U.S.A.

To a certain extent we will, I am sure, all go along with that. But who is he trying to kid? You can after all only kid some of the people some of the time. . . This captain guides shellers to promising beaches and sandbars along the coast of Florida but discourages them from picking up the large live shells, and in fact any live shells by the sound of it! Instead he directs their attentions to the dead shells which he says are more vividly coloured and make better collectors' items.¹ I would agree with him that some of the beach shells, especially the fresh dead ones, are beautiful and suitable for our collections and for display in museums but if we relied in South Africa for dead shells we would never have those magnificent trawled shells which are so much in demand overseas and in this country. Surely we all love seafoods—don't these also have to be killed? In some restaurants you can choose your own goodies from a tank. So where do we end it all?

treasures and dive for them when we all

know that most of them can be bought in the local shops anyway! How much more fun there is in finding your own *Cassis cornuta* for surely no one has had one washing up at his/her feet on the beach. Certainly that sort of luck has not come my way yet. One thing is for sure—if I spend R5 000 going overseas on a shelling trip I am not going to wander around looking for a few dead shells—those I leave to the ordinary tourist to take home to grandma for her bottle in the bathroom!

In studies carried out by scientists on the diminishing population of sea shells it has been shown that no real menace is being created by shell collectors but rather by commercial dredging and then of course there is the pollution which is also responsible for diminishing shell beds.²

I firmly believe that in South Africa at any rate much damage is being done by those fishermen who use live molluscs as bait and by people who use them as food and scrape everything off the rocks. This we see especially in the Transkei, although it does happen elsewhere.

In Natal we need permits to collect live shells and are limited to three specimens per annum of each species—maybe a little tough, but we have to start somewhere! But if you want to collect all the *Patellas*, then a beginner merely has to get a bait licence as I

did, and then you would be allowed to collect 25 specimens per day.

I have seen as many as 20 *Patella*, complete with animals, lying upside-down and discarded in a rock pool by a fisherman. A sobering thought indeed!

1 Irradians, Jan 1986

2 Compendium of Sea Shells by Abbott and Dance, page 12.

Editor's comment:

*It makes no logical or ecological sense to allow molluscs to be collected for the animals to be used for bait, while at the same time prohibiting them from being collected for their shells. This approach destroys the credibility of the conservation movement and its administrators, and as indicated above, it is not promoting the conservation of *Patellas* at any rate. There is moreover abundant evidence that bait collectors cause serious destruction of the inter-tidal habitat of marine organisms by digging and overturning rocks with spades and crowbars, leaving open craters over wide areas. Shell collectors generally, and our Society's members in particular, are made aware of the ecological aspects and of the need to take care of the areas in which they collect, and are more selective of the specimens they take.*

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ALGOA BAY AND DELAGOA BAY

by **David Freeman**

In our history and geography lessons at school, we heard that the early Portuguese navigators named **Algoa Bay** as the place where they stopped on their way "to Goa" which was their colony and trading centre in India in the 16th and 17th Century; and they named **Delagoa Bay** as the place where they stopped on the way "from Goa" when returning to Portugal. These stopping places were to a large extent dictated by the trade winds on which their ships depended.

On these two bays are today located the large cities of Maputo (formerly known as Lourenco Marques) and Port Elizabeth.

Through all my school-going years, and afterwards, I struggled to try and remember which bay's Portuguese name was related to which city. After all, once the bays had been located and put on navigators' charts they were sure to be visited by ships travelling in both directions, both to and from Goa, so the prefix Al- or Dela- didn't help.

It wasn't until shells and shell collecting came into my life that I found something specific to connect one name and one place, and so solve my problem: Our two **Conus** and **Cypraea** species, both named **algoensis**, "of Algoa Bay", tied that name to Port Elizabeth in my mind, and so Delagoa Bay is logically the one in Mozambique.

Which just goes to show that there is more to shells than calcium carbonate. (🐚)

RESULTS OF DREDGING AND TRAPPING IN THE EAST LONDON AREA

by
Sandy Muller & Bruce Bursey
East London Museum & Lowlands
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Southernwood 5213 4920

Names marked by ★ were crabbed; all others were live.

All specimens (animals) housed in the East London Museum Wet Collection.

Names marked by + are single live specimens.

Bullia trifasciata

- B. callosa**
- ★ **B. diluta**
- B. digitalis**
- B. laevisissima**
- B. annulata**
- B. tenuis**

Nassarius speciosus

- N. pyramidalis pyramidalis**
- N. kockianus**
- N. signatus**
- N. formosus**

Ancilla albozonata

- A. marmorata**
- + **Amalda obtusa**
- A. obesa**
- ★ **Sylvanocochlis ancilla**
- Melapium lineatum**

Clionella rosaria

- + **C. taxea**
- C. kraussi**

- + **Drillia caffra**
- Tomopleura fultoni**

Marginella bairstowi

- + **M. mosaica**
- M. piperata**
- + **M. piperata** fm. **lutea**
- M. sp** possible **lineolata??**
- Volvarina zonata**

Charonia lampas pustulata (Deep water form)

Phalium labiatum zeylanicum

Trigonostoma foveolata

Mitra latruncularia

Fasciolaria lugubris heyneimanni

- ★ **Lyria africana**
- ★ **Tonna variegata**
- ★ **Coralliophila fritschi**
- ★ **C. rosacea**
- ★ **Euthria ponsonbyi**
- ★ **Dolicholatirus bairstowi**
- Clanculus miniatus**
- Pteropurpura uncinaria**
- Ranella australasia gemmifera**
- Afrocominella turtoni**

We hope to update this list as material becomes available.

We wish to thank Janet Lambie for typing the manuscript. (🐚)