July 2006 – August 2006

SYDNEY SHELLER

Newsletter of the Shell Club of Sydney
NSW Branch, The Malacological Society of Australasia Limited ACN 067 894 848

Next Meetings:

26th August 2006
23rd September 2006

(normally 4th Saturday)

Ryde Eastwood Leagues Club
117 Ryedale Rd, West Ryde, Sydney

1.30 for 2.00pm

View past newsletters often with more pictures, plus references, and club information at
www.sydneyshellclub.net

Contributions:

Please send contributions to:
Steve Dean
PO Box 316, Mona Vale, NSW 1660
Text by disk or email only. Photos, and disks by mail, or preferably by email to
steve@dean.as

Club Executive:

Office bearers:

President: John Franklin
Vice Pres: Maureen Anderson
Treasurer: Peter Pienaar
Secretary: Kim Bishop
Raffles: Kim Bishop
Sheller Editor: Steve Dean
Librarian: Steve Dean
Annual Shell Show Mgr: Steve Dean
Special Projects Mgr: John Dunkerley

Shell Club of Sydney Mission Statement:

To appreciate, understand and preserve shells and their environment and to share this with others.

Planaxidae

Fossarus sydneyensis
Hedley, 1925

Cerithidae

Cerithium columna
Sowerby, 1834

Amathinidae

Amathina violacea
(Angas, 1867)

Haminoeidae

Haminoea tenera
A. Adams, 1850

Naticidae

Natica euzona
Recluz, 1844

Ranellidae

Gyrineum lacunatum
(Mighels, 1845)

Columbellidae

Metanachis sp.
Unnamed

Triviidae

Proterato lachryma
(Sowerby, 1832)

Epitonniidae

Cirostrema morchi
(Angas, 1871)

Interesting specimens observed during the Long Bay study

Some of the topics inside:

Want your own copies?

Membership + Sheller, **AU$40** /yr.
Junior Member + Sheller, **AU$15** /yr.
Student/Pensioner + Sheller, **AU$25**/yr
Additional Family Member **AU$5** /yr.

Includes Shellers folded & Aust. postage
(Shellers produced when there are enough articles, maximum of 10 issues per year)
A4 envelopes non-folded, add **$18** /yr
International postage add **$8** /year

To subscribe send payment & details to:

Peter Pienaar
PO Box 901
Campbelltown, NSW
Australia 2560

Note: The Sydney Shell Club is a branch of the Malacological Society of Australasia (MSA) It is preferred that you are also a member of the MSA. MSA membership can be organised through Des Beechey
Des@phm.gov.au
26 Malga Ave, Roseville Chase NSW 2069

Long Bay Species, continued – Part 5

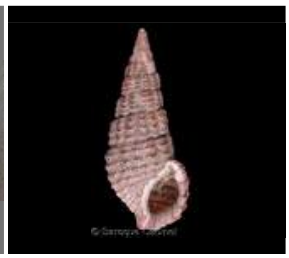
All the remaining gastropods observed at Long Bay during the one year study, and then passed to the Sheller Editor for photography are included below.

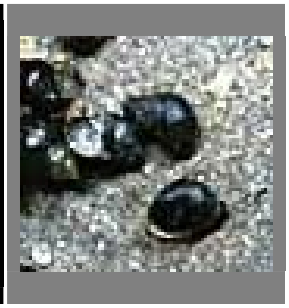
However for many species and many families the collected specimens were distributed to various club members with expertise in the various families for confirmation of correct specimen names. They were then not available for photography.

For some species alternate pictures are included. If a picture is not from a specimen actually from Long Bay then its name is written in black text instead of blue.

The article detailing the 12-month study, and the commencement of this list appears in the April-May 2005 Sheller

The next, and final part, to this series will include pictures of the bivalves from Long Bay as well as the full list of all species observed over the 12 months, whether listed in previous parts to the article or not.

Cerithidae	Cerithidae	Cerithidae	Batillaridae	Siliquariidae
				
Bittium granarium Kiener, 1842	*Cerithium columna* Sowerby, 1834	*Cerithium coralium* Kiener, 1841	*Zeacumantus subcarinatus* Sowerby, 1855	*Pyxipoma weldii* Tenison Woods, 1875

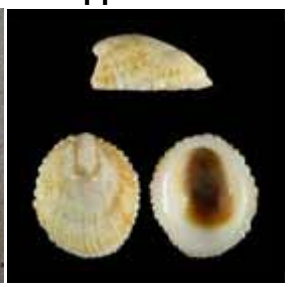
Littorinidae	Littorinidae	Littorinidae	Littorinidae	Littorinidae
				
Bembicium nanum (Lamarck, 1822)	*Littoraria luteola (juvenile)* (Quoy & Gaimard, 1834)	*Nodilittorina unifasciata* Gray, 1826	*Nodilittorina pyramidalis* Quoy & Gaimard, 1833	*Nodilittorina acutispira* Smith, 1892

Columbellidae	Columbellidae	Columbellidae	Columbellidae	Columbellidae
				
Metanachis sp.	*Pseudamycla dermestoidea* (Lamarck, 1822)	*Macrozafra lurida* Hedley, 1907	*Mitrella intexta*	*Aesop sp.*

Columbellidae

Pyrene sp.

Hipponicidae



Hipponix australis
(Lamarck, 1819)

Hipponicidae

Antisabia foliacea
(Quoy & Gaimard, 1835)

Hipponicidae

Hipponix conicus
(Schumacher, 1817)

Ellobiidae

Marinula xanthostoma
H.&A. Adams, 1854

Planaxidae

Hinea brasiliana
(Lamarck, 1822)

Planaxidae

Fossarus sydneyensis
Hedley, 1925

Turritellidae

Gazameda gunnii
(Reeve, 1849)

Vanikoridae

Vanikoro sigaretiformis
Potiez & Michaud, 1838

Amathinidae

Amathina violacea
(Angas, 1867)

Calyptraeidae

Crepidula aculeata
(Gmelin, 1795)

Calyptraeidae

Zeacrypta immersa
(Angas, 1865)

Calyptraeidae

Clypeola hedleyi
(Smith, 1915)

Bullinidae

Bullinea lineata
(Graay, 1825)

Retusidae

Retusa hofmani
Angas, 1872

Bullidae

Bulla quoyii
Gray, 1843

Bullidae

Bulla angasi
(Pilsbry, 1893)

Haminoeidae

Haminoea tenera
A. Adams, 1850

Haminoeidae

Haminoea brevis
(Quoy & Gaimard, 1834)

Vitrinellidae

Callomphala lucida
Angas, 1864

Epitonniidae

Opalia australis
(Lamarck, 1822)

Epitonniidae

Opalia ballinensis
(E.A. Smith, 1891)

Epitonniidae

Epitonium jukesianum
(Forbes, 1852)

Epitonniidae

Epitonium minora
(Iredale, 1936)

Epitonniidae

Cycloscala jacobiscala
(Iredale, 1936)

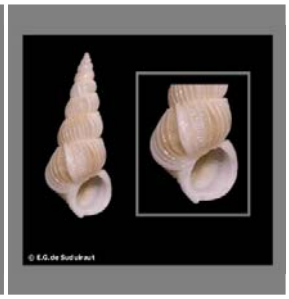
Epitonniidae

Epitonium perplexum
Pease, 1860

Epitonniidae

Cirostrema (Plastiscala) morchi
(Angas, 1871)

Epitonniidae



Epitonium (Foliaceiscala) carchedon
Iredale, 1936

Ranellidae

Argobuccinum pustulosum
Lightfoot, 1786

Ranellidae

Cymatium exaratum
(Reeve, 1844)

Ranellidae

Cymatium labiosum
(Wood, 1828)

Ranellidae

Gyrineum lacunatum
(Mighels, 1845)

Ranellidae

Sassia parkinsonia
(Perry. 1811)

Cassidae

Semicassis labiata
(Perry, 1811)

Architectonicidae

Psilaxis oxytropis
(A. Adams, 1855)

Architectonicidae

Philippia lutea
(Lamarck, 1822)

Architectonicidae

Heliacus (Torinista) implexus
(Mighels, 1845)

Naticidae

Polinices simiae
Deshayes, 1838

Naticidae

Natica gaulteriana
Recluz, 1844

Naticidae

Natica sagittata
(Menke, 1843)

Naticidae

Polinices conicum
(Lamarck, 1822)

Naticidae

Polinices didyma
(Roding, 1798)

Naticidae

Eunatica umbilicata
(Quoy & Gaimard, 1833)

Naticidae

Natica euzona
Recluz, 1844

Janthinidae

Janthina janthina
(Linnaeus, 1758)

Janthinidae

Janthina exigua
(Lamarck, 1816)

Janthinidae

Recluzia hargravesi
Cox, 1870

Triviidae

Proterato lachryma
(Sowerby, 1832)

Triviidae

Proterato sulcifera
(Sowerby, 1832)

Triviidae

Trivirostra oryza
(Lamarck, 1810)

Triviidae

Ellatrivia merces
Iredale, 1924

Triviidae

Triva globosa
(Sowerby, 1832)

Cysticidae

Cystiscus multidentatus
(May, 1920)

Cysticidae

Granulina nympha
(Brazier, 1894)

Cysticidae

Cystiscus angasi
(Crosse, 1870)

Cysticidae

Cystiscus subauriculata
(May, 1916)

Cysticidae

Pugnus parvus
(Hedley, 1896)

Better pictures of the Long Bay Skeneidae – they replace the drawings in the Sep-Dec 2005 Sheller

Skeneidae	Skeneidae	Skeneidae
		
Cirsonella weldii Tenison Woods, 1877	Lodderia minima (Tenison, Woods, 1878)	Teinostoma solida (Laseron, 1954)

Things are not always as they seem – Marine Toxins

A talk at the July Shell Club Meeting

By Sandra Montague

We have all seen the wonders of the marine world, and sampled its seafood delights. But how much do we really know about its startling potential – and its dangers?

FISH.

A tasty, staple food. How safe is to eat?

There are three main categories of toxic fish.

The first has poison glands along parts of its body – such as the stone fish, sting rays, lion fish, red rock cod, and fresh and salt water cat fish. These fish have poison glands which pump venom from either their dorsal spines, spines on the sides of their body, or from a barb or barbs in their tail.

None of the results are pleasant. Deaths have been recorded against stingrays, stone fish and lion (or butterfly cod).

The second form of toxic fish is the puffer fish, or fugu. Its organs are poisonous, and unless the fish is prepared correctly, by a licensed fugu cook, death may follow within five hours. It is estimated that over 100 Japanese die each year from fugu poisoning.

The third group of toxic fish are found principally between latitude 45 north and latitude 45 south. It is estimated that more than 500 species of fish have been found in these areas to be toxic if eaten. There are numerous reasons for this. Pollution plays a considerable part. Oil spills; heavy metals leaching into waterways and thus into the ocean; storm water runoff; agricultural pesticides; animal and human effluent; and even metals being broken down from coastal rocks help cause pollution.

Deep water fish such as marlin, shark, and swordfish – much prized by anglers, often prove to be the most toxic. We have heard of the build-up of mercury in swordfish. One reason for the heavy concentration of toxins in larger fish is because they feed on smaller fish, which in turn eat smaller ones, and so on. The smallest of all fish snack on single cell organisms and plankton. Needless to say, plankton and dinoflagellates are often toxic. Thus, the food chain can become toxic in turn.

The organisms – dinoflagellates, for example, though microscopic in size, when massed in huge numbers can cause algal blooms – either blue-green, or the “red tide”. These can be fatal to fish and other marine creatures, as the blooms absorb the oxygen in the surrounding water. In small numbers the dinoflagellates and plankton form the base of the food chain, introducing toxicity to the marine kingdom.

Some fish known to have caused human illnesses include some species of snapper, sea bass, barracuda, jack, parrotfish, shark, wrasse, and grouper. Fish can have more than one toxin in their systems.

So, perhaps instead of fish for dinner, we might fancy shellfish instead?

SHELLFISH.

Bivalves. We will look at oysters and mussels.

These bivalves get their nutrients from the water around them, discard large particles of potential food, and ingest the rest. With the same dangers any marine life faces. Often the water they exist in is polluted to a degree; there may be toxic dinoflagellates in the diet; in fact, life is quite fraught for these animals. It can also be very fraught for any human eating the uncooked delicacies!

Many countries now insist that commercially harvested bivalves must be "rested" for a minimum of 24 hours in purified water, before being sent to market. The bivalves are in that time able to filter out of their system any toxins and pollutants. Interesting that these creatures can also turn polluted water (commensurate with their processing ability) into clean water, so effective is their filtration system.

Given the above information, it is probably a good thing that most of the Sydney Rock oysters have been already cleaned out off the rocks in a location near you!

SURELY PRAWNS, CRABS, AND OTHER SEAFOOD IS SAFE?

The commercially harvested Blue Manna Crab – from surveys around Australia, has been found to have moderate levels of toxicity. We have often heard of people becoming sick after a seafood feast. The same pollutants and toxic processes apply to seafood.

Now with more than 70% of our seafood and fish being imported from overseas countries, especially from Thailand and other Asian countries, one has to wonder what tests and safeguards are in place for the Australian consumer.

WHAT TOXINS ARE INVOLVED?

Saxitoxin, 160,000 times more potent than cocaine, causes Paralytic Shellfish Poisoning (PSP). It is not uncommonly found along the American, Alaskan and Canadian seaboards, which have harvests of the Alaska Butter Clam. This is the staple ingredient in many a beachside clambake.

PSP has a mortality rate of 6%.

Algae and marine toxins also cause Amnesic Shellfish Poisoning (ASP) which affects the functioning of the brain. It has a mortality rate of 4%.

Neurotoxic Shellfish Poisoning and Diarrhoeic Shellfish Poisoning have no fatalities recorded against them.

It should be noted that not all attacks of diarrhoea after consuming seafood can be attributed to DSP. Seafood can contain viruses and bacteria. A Western Australian research activities 1994-1996 paper entitled Coral reefs, mangroves and coastal waters by A. Negri and L. Llewellyn noted that "Toxins were detected in sixteen species of crabs and shellfish". P1.

Other toxic poisons known to be in marine animals include Ciguatera, Pfiesteria, and the fugu fish toxin, tetrodotoxin.

FORGET EATING SEAFOOD, LETS JUST SWIM AND PLAY IN ROCK POOLS.

We can feed the grouper – but don't get bitten by him – the wound could become infected. Picking up sea urchins to admire them can backfire, so can brushing against them whilst snorkelling or diving. Some sharp spined urchins can inject toxin from their venom glands, which can cause intense pain. The spines can break off in the skin, frequently needing surgical removal. There is one sea urchin that can cause death – the Toxopneusidae.

We could pick up and play with the sea cucumber – the Beche-de-Mer but the sticky, exuded substance can cause dermatitis.

Walking around reefs, surely that is harmless enough. If it were not for the stone fish! There are two varieties – the one most commonly found on the Great Barrier Reef, and the lesser known but just as deadly brother, found in muddy estuaries as far south as the New South Wales border.

Still want to play in the water?

Whilst swimming most of us have run foul of the blue bottle, or Portuguese Man-of-War. The blue bottle is not a single creature, but many all huddling for mutual protection underneath the large blue air filled bladder. The tentacles give nasty stings, but are not fatal. Not so the Box Jellyfish of tropical waters. It is one deadly Australian!

Another reason for keeping fingers from under rock pool ledges is the Blue ringed Octopus. A tiny creature with a lethal bite. The beak is so small that it is quite possible not to know you have been bitten until the toxin interferes with the permeability of the nerve membrane and inhibits the passage of nerve impulses. Death can be sudden.

WHAT USE ARE THE TOXINS AND POISONS?

Some marine creatures, especially corals and fairly immobile plants, need to acquire a defence against predators - to taste so unpleasant, or smell so unpleasant, or be toxic enough that they can maintain their territory against all comers. The toxins are also thought to help attract sexual partners.

Some sea hares manufacture sulphuric acid within their bodies as a self defence mechanism. Other sea hares and sea slugs accumulate toxins from their prey. Aeolid sea slugs store undischarged nematocysts (stinging structures from the tentacles of their sea anemone prey). Dorid sea slugs retain spicules from their sponge diet. Nature is most adaptive.

Marine research for medical and other applications relative to the toxins and poisons has been of recent date. Already it shows promise in such areas as hearing, intestinal ailments, infections, the reduction of tumours, and leukaemia.

The electric eel is poisonous, but there is research into using that poison as an antidote to pesticide poisoning.

Ciguatera poison affects the neuromotor system in humans and can be fatal – yet research can now use minute doses of that poison to relax spasming muscles.

Venom from cones is being researched for applications for severe pain management, as a potential nicotine inhibitor, and perhaps it may also have a role with diseases such as Epilepsy, Alzheimers and Parkinsons disease.

Seaweed has been found to have natural compounds in it which show antibacterial, antifungal and antiviral activities. Healing properties from the sea have been known and used since Biblical times. How effectively? Who can say?

The Fish and Wildlife Research Institute in Florida, USA (in their article: Marine Poisons: Life and Death) estimate “that 30,000 human illnesses from eating poisonous marine animals, fishes and shellfish occur each year, some of them resulting in death”.

So, it seems all there is left to say is – enjoy your next seafood meal – and don’t worry!

An interesting postscript for lovers of swordfish steaks or other game fish meals.

The toxicity in those fish will on average be higher than that of their smaller counterparts for the following reasons. Mercury is given off as the earth’s crust “de-gasses”. The mercury is released into the atmosphere, and finds its way into the ocean. Mercury can also be released by the burning of fossil fuels, human activities, and industrial waste.

Bacteria in the water change mercury to methyl mercury, a more toxic form of poison. The water then passes through fish gills, and is absorbed into the food chain. Larger fish are exposed to higher levels of methyl mercury because of the size of their prey and bioaccumulation.

Mercury is not the only toxic element that game fish are exposed to. Some others include Selenium, PCB’s, jet fuel and oil spills, industrial pollutants, algal blooms through the food chain, heavy metals, bacteria and viruses, and pesticides.

Perhaps the vegetarian diet has some merit?

A small-town pastor in "Main Street, USA" entered his donkey in a race and it came in third place.
The local paper headlines read: PASTOR'S ASS SHOWS (*a horse in 3rd place is referred to as a "Show"*)

The pastor was so pleased with the donkey that he entered it in a race again, and it won this time!
The local paper said: PASTOR'S ASS IN FRONT

The bishop was so upset with this kind of publicity that he ordered the pastor not to enter the donkey in another race.
The next day, the local paper headline read: BISHOP SCRATCHES PASTOR'S ASS

This was too much for the bishop, so he ordered the pastor to get rid of the donkey. The pastor decided to give it to a nun in a nearby convent. The local paper, hearing of the news, posted the following headline the next day: NUN HAS BEST ASS IN TOWN

The bishop fainted. He informed the nun that she would have to get rid of the donkey, so she tried to bundle it onto her bicycle to try and find a buyer. Thus, the local paper posted the following headline the next day: NUN PEDDLES ASS AROUND TOWN

The nun finally sold the poor donkey to a farmer for $10. The next day the paper read: NUN SELLS ASS FOR TEN BUCKS

This was too much for the bishop, so he ordered the nun to buy back the donkey and lead it out onto the plains where it could run wild. The next day the headlines read: NUN ANNOUNCES HER ASS IS WILD AND FREE

The bishop was buried the next day.

Some Low Tides - NSW

An analysis showing the lowest tides for the purpose of research, club meeting dates excluded.
Measured at Fort Dennison Sydney. Eastern Standard Time. (Add 1 hour for daylight saving)
Sorted by Height:

Height (mm)	Date	Time
0.11	08/10/2006 (Sun)	3.00pm
0.12	07/10/2006 (Sat)	2.05pm
0.13	06/11/2006 (Mon)	2.52pm
0.14	09/09/2006 (Sat)	3.09pm
0.14	09/10/2006 (Mon)	3.55pm
0.15	05/11/2006 (Sun)	1.58pm
0.16	08/09/2006 (Fri)	2.15pm
0.16	07/11/2006 (Tue)	3.45pm
0.17	10/09/2006 (Sun)	4.04pm
0.18	06/10/2006 (Fri)	1.12pm
0.19	05/12/2006 (Tue)	2.45pm
0.20	10/10/2006 (Tue)	4.51pm
0.20	06/12/2006 (Wed)	3.35pm
0.21	04/11/2006 (Sat)	1.03pm
0.21	04/12/2006 (Mon)	1.54pm
0.22	07/09/2006 (Sat)	1.23pm
0.22	08/11/2006 (Wed)	4.39pm
0.23	11/09/2006 (Mon)	5.01pm
0.23	23/12/2006 (Sat)	4.40pm
0.24	22/12/2006 (Fri)	3.55pm
0.24	24/12/2006 (Sun)	5.27pm
0.25	07/12/2006 (Thur)	4.23pm
0.26	25/12/2006 (Mon)	6.15pm
0.27	03/12/2006 (Sun)	1.00pm
0.27	21/12/2006 (Thur)	3.12pm
0.28	05/10/2006 (Thur)	12.17pm
0.30	11/10/2006 (Wed)	5.51pm
0.30	03/11/2006 (Fri)	12.06pm
0.30	09/11/2006 (Thur)	5.34pm

Tide differences at selected research areas:

LATER		EARLIER		ZERO
8 Min	Jervis Bay/Huskisson	38 Min	Cronulla	Botany Bay
20 Min	Nelson Bay	5 Min	La Perouse	Kiama
19 Min	Newcastle	8 Min	Sussex Inlet	Ulladulla Harbour
8 Min	Port Hacking			Yamba
5 Min	Port Stephens			
45 Min	Salamander Bay			

A man and his wife are dining at a table in a plush restaurant, and the husband keeps staring at a drunken lady swigging her gin as she sits alone at a nearby table.

The wife asks, "Do you know her?"

"Yes," sighs the husband, "She's my ex-wife. She took to drinking right after we divorced seven years ago, and I hear she hasn't been sober since."

"My God!" says the wife, "Who would think a person could go on celebrating that long?"

Twenty Sixth NSW Shell Show 2006 - Competition Categories

No.	CATEGORY	Location	No. Specimens
1	Shell of Show	Any	1
2	Cassidae	Any	15
3	Conidae	Any	20
4	Cypraeidae	Any	20
5	Muricidae	Any	20
6	Volutidae	Any	20
7	Zoila	Any	12
8	Harpidae (Morums optional)	Any	10
9	Mitridae & Costellariidae	Any	20
10	Olividae	Any	20
11	Strombidae	Any	15
12	Bivalva	Any	15
13	Shells 5 species - 4 of each	Any	20
14	Junior Miscellaneous (to age 10)	Any	Any
15	Junior Miscellaneous (to age 15)	Any	Any
16	Shells from Sydney Region any depth	Port Hacking to Broken Bay	20
17	Conchologists of America Award	Refer Notes	

Notes

- Shell Show Rules will apply.
- No display box size restrictions.
- No restrictions on number of exhibits entered.
- Conchologists of America Award. (Donated by the COA) This prestigious award is for an exhibit with a scientific educational component that best advances the interest in shells and shell collecting. The exhibit should preferably be an entry in one of the competitive categories 2-16, and if possible won its category. If there are no suitable scientific exhibits that advance the interest in shells then no COA award will be issued.
- Individual exhibits can now have a competitive element that is judged in the normal way - shell quality, variety, number of specimens etc, plus a non-competitive educational or other interest section that is not judged and may contain additional specimens. For the purpose of judging the COA Award the whole exhibit will be taken into consideration.

Minutes – 23rd July 2006

Meeting opened 2pm by John Franklin

Apologies: from Chris Barnes and Steve Dean

Finance: John Dunkerley reported on the current position of the clubs finances. Then Peter Pienaar took over as the incoming treasurer.

Secretary: After discussion on the position Kim Bishop has accepted the position of secretary.

Field Trips:

(1) Ron Moylan reported on his attendance at the Keppel Bay Shell Show and as usual the show offered an outstanding collection of exhibits featuring many rare shells.
(2) Peter Pienaar advised he had visited Summer Beach near Christchurch, New Zealand and observed several bivalves broken in half by seagulls
(3) Jack Hannan spoke on his recent trip to Magnetic Island near Townsville QLD which he and his family thoroughly enjoyed.
(4) John Franklin reported on his visit to Darwin NT which included a short inspection of Darwin Museum's shell collection. He further reported that he had visited three private collections in Darwin and that he went on a midnight – early hours field trip to Lee Point. Several species of shells found were passed around at the meeting, including a murex ***Pterynotus bednalli***

Talk: Sandra Montague gave a very interesting talk on Marine Toxins which was very well received and appreciated by members.

Meeting closed at 3.45pm