



SYDNEY SHELLER

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

Next Meetings:

Conidae - June 08
John Franklin
(1.30pm for 2pm – 4pm)

Cypraeidae – July 08
Bob Snedic
(1.30pm for 2pm – 4pm)
(normally 4th Saturday)

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

View old shell newsletters on line
www.sydneyshellclub.net

Submit articles or ads:

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Text by disk or email only. Photos, and
disks by mail, or preferably by email to
steve@dean.as

Club Executive:

Office bearers:

President: Steve Dean
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: Vacant
MSA Delegate: Chris Barnes

Shell Club of Sydney Mission Statement:

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



One of the "Shell of the Show" specimens at the
2008 National Shell Show in Brisbane. A *Bursa verrucosa*

Some of the topics inside:

- 2008 National Shell Show (Cover photo)
- Cone Poisons Talk
- Vale Isobel Bennett
- Recent finds in Bass Straight
- Minutes



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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
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Vale Isobel Bennett AO

Isobel Bennett, trail blazing marine scientist and author is best known for her completion of 10 spectacular reference books about the marine life around the coast of Australia. She left school at age 16 In 1933 while on a cruise to Norfolk Island, she met Professor William Dakin on a cruise, and landed a temporary post as his assistant at the university. Her standing as a marines scientist was as a result of her hard work, attentions to detail and curiosity. Her carrer fo 40 years at Sydney university was therefore by accident rather than pre-planning. For her great and varied contributions to the study of Marine Biology she was awarded honorary Master of Science in 1963 by Sydney University, Order of Australia in 1984, and an Honorary Doctorate UNSW in 1995. Around Australia and more recently locally in Sydney Northern Beaches she has been a strong conservationist. Isobel died January 2008 age 98.



Minutes 19 Jan 2008

The President, Steve Dean, opened the meeting at 12.14pm.

Attendance

Members: Steve Dean, Maureen Anderson, Peter Pienaar, Ron Moylan, Keith Dean, Sandra Montague, Kim Bishop
Visitors: Ruth Donnelly, Peter Donnelly, Vivienne Donnelly,
Apologies Nil

Correspondence Nil

Finance

Bank Account balance positive

President's Report Nil

Library

No changes.

Coming Events

The President reported on the forthcoming 7th National Shell Show to be held in Brisbane 7th – 9th March 2008.
Ron Moylan advised of a forthcoming shelling trip to Cook Islands with Mike Hart.

Other Reports

Ron Moylan kindly made available blocks of white foam suitable for exhibiting shells to anyone who wanted them.
Steve Dean reported on the recent death of Isabelle Bennet.

Field Trips

Steve Dean advised of his intention to visit Moreton Bay on his way to the National Shell Show in Brisbane in March 2008.
It was reported that Bob Snedic was currently visiting Stradbroke Island.

Acquisitions

Ron Moylan reported on the recent purchase of a *Harpa articularis* from Thailand, *Cyprea nevosa* from Thailand, *Cyprea gutata*, *Cyprea porteri* and *Cyprea friendii vercoi*.

General Business

Following a discussion about the upcoming National Shell Show in Brisbane it was requested that all members bring along suitable specimens to show in the Club Display category next meeting.
A discussion followed with visitors Peter and Ruth Donnelly regarding their collection of beach specimen shells. Peter and Ruth are considering ways of selling their collection to help raise funds for their son's musical studies in London.
Following a discussion about the small attendance at Christmas Dinner in December it was agreed that we review this event later in the year with the possibility of having a dinner following the November meeting.

The meeting closed at 3.30pm.

Presentation

A presentation followed by Steve Dean on land snails.
Steve's presentation was well received, he brought along an interesting world wide collection of land snails.



Minutes 23 Feb 2008

The President, Steve Dean, opened the meeting at 2.10pm.

Attendance

Members: Steve Dean, Maureen Anderson, Peter Pienaar, Sandra Montague, Chris Barnes, Steve Jones, Michael Haig, Kim Bishop

Visitors: Adrian Bishop, Heath Dean, Gabby Dean

Apologies: Ron Moylan and Bob Snedic.

Finance

Bank Account balance currently \$3,544.62 reported by Treasurer, Peter Pienaar.

Correspondence

Nil

Library

A number of interstate Shell Club publications and the December 2007 American Conchologist publication have been received and circulated. The American Conchologist has an interesting article about Carl Linnaeus.

Steve is seeking articles for the next issue of Sydney Sheller.

Other Reports

Nil

President's Report

Steve is in receipt of an enquiry from a shell collector in Eastwood wishing to sell his collection. Steve has contact details if anyone wishes to inspect this collection.

Field Trips

Steve Dean and Keith Dean advised of their intention to visit Moreton Bay and other places on their way to the National Shell Show in Brisbane next month.

Acquisitions

Kim Bishop reported on the acquisition of a Harpa major 106mm.

General Business

Steve Dean presented the Conchologist of America Award for 2007 to Sandra Montague.

After a discussion it was agreed that we would not submit a Club Display entry in the forthcoming National Shell Show in Brisbane.

Our visitor Adrian Bishop provided an insight into shell collecting in South Australia.

The meeting closed at 2.58pm.

Presentation

An interesting presentation followed by Peter Pienaar on the Volute family





National Shell Show 2008 Results

8 - 9 March, Brisbane

	Category	First	Second	Third
1	Shell of Show Gastropod	Adrian Bishop	N/A	N/A
2	Shell of Show Bivalve	Wayne Rumball	N/A	N/A
3	Most Spectacular Shell	Charly Taylor	N/A	N/A
4	Cassidae WW	Maureen Anderson	Wayne Rumball	
5	Conidae WW	Ed Brown	Heather Smith	Wayne Rumball
6	Conidae Australian	John Singleton	Robert Ellis	
7	Cypraeidae WW	Maureen Anderson	Heather Smith	Hilary Fisher
8	Cypraeidae Australian	Heather Smith	Simon Barbour	Robert Ellis
8a	Genus Zoila	John Phillips	Callum Woodward	John Jordan
9	Allied Cowries WW	Trevor & Marguerite Young		
10	Haliotidae WW	Trevor & Marguerite Young	Bob Kershaw	Hilary Fisher
11	Harpidae WW	Heather Smith		
12	Marginellidae WW	Heather Smith	Wayne Rumball	Trevor Appleton
13	Muricidae WW	Hilary Fisher	Bev Swan	Deidre Besanko
14	Muricidae Australian	No entries		
15	Olividae WW	Heather Smith	Hilary Fisher	Jules Leroi
16	Mitridae WW	Heather Smith		
17	Strombidae WW	Deidre Besanko	Trevor & Marguerite Young	
18	Strombidae <i>Lambis</i>	Maureen Anderson	Deidre Besanko	
19	Volutidae WW	Heather Smith	Ed Brown	Peter Pienaar
20	Volutidae Aust & NZ	Malcolm Ford	Peter Pienaar	John Phillips Heather Smith
21	Pectinidae WW	Wayne Rumball	Heather Smith	John Jordan
22	Pectinidae Aust & NZ	Heather Smith		
23	Spondylidae WW	Trevor & Marguerite Young	Deidre Besanko	
24	Land Snails WW	Trevor & Marguerite Young	Heather Smith	Jules Leroi
25	Land Snails Australian	Jules Leroi	Trevor & Marguerite Young	
26	Gastropod not listed	Sandra Montague	Mike Burrell	Jenny Raven
27	Bivalve not listed	Heather Smith	Trevor Appleton	Jean Offord
28	Variation Gastropod	Heather Smith	Trevor Appleton	Trevor Appleton
29	Variation Bivalve	Heather Smith	Trevor Appleton	
30	Fav. Shells Gastropod	Trevor & Marguerite Young	Barbara Rowsell	Trevor Appleton
31	Fav. Shells Bivalve	Trevor & Marguerite Young	Heather Smith	Tony St John
32	Colourful Shells	Jenny Raven	Trevor Appleton	John Jordan
33	Fav Shells 40 mm	Heather Smith	Mike Burrell	Sandra Montague
34	Shells One Colour	Heather Smith	John Jordan, John Jordan	
35	Spiny Shells	John Jordan		
36	Shells One Aust Locality	Simon Barbour		
37	Self collected shells	Robert Ellis		
38	Empty collected shells	Callum Woodward		
39	Deep Sea Shells	Heather Smith	Simon Barbour	
40	Shells of One Country	Heather Smith	Jenny Raven	
41	Junior Collection	Shaun Caire		
42	Named by one Author	No entries		
43	Club Display	John Jordan		
44	Educational	Barbara Collins	Don Peverill	John Jordan
45	Photos Live Shells	Robert Ellis		
46	Shells & Stamps	Heather Smith	Tony St John	Jean Offord
47	Craft from Shells	John Jordan	John Jordan	John Jordan



The Sydney Sheller





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Interesting Shells

Steve Dean

I recently received some shells from a fishermen, who has been trawling in Bass straight and around Tasmania.

Amongst these were two dead trawled *Kapala kengrahami* both of which had two deep holes into the columella and two holes on the dorsum directly behind these. At first I thought the columella holes were worm tube or some other type of borer damage after the shell dies. Then I realised all four holes were in identical spots on both shells. They are teeth marks, or should I say fang marks from something with two long bottom jaw fangs and two top jaw fangs, that bit through the toughest part of the shell. (predators mouth over the anterior end). Most of the *Kapala kengrahami* I have seen in the collections of others either still have the periostracum on or are dirty grey or brown from sitting in sediment. Once I cleaned these using our club's new ultrasonic cleaner, I was pleasantly surprised to see how attractive this species actually is. (A beautiful white – almost translucent.)

He also trawled a few *Umbilia hesitata* off Apollo Bay, Victoria, that are quite dark coloured and have a very heavy over glaze. Three of these shells are about twice the weight of typical *Cyapaea hesitatas*



Other shells included a variety of Volutidae with unusual patterning:





Cone Poisons Presentation (2007)

Sandra Montague

The beautiful, alluring, sometimes fatal intrigue of Conidae.

Fossil cones have been found from the Cretaceous-Tertiary period. Today there are over 500 species, scattered across the oceans of the world. Most favour subtidal tropical waters. Nocturnal predators, cones, dependant on size, eat polychaete worms, hemichordate, cephalopods, other gastropods, bivalves, fish and crustacea.

All cones are venomous, though only a small number are deadly to fit and healthy humans. Top of that list is ***Conus geographus***. ***Conus magus*** and ***Conus tulipa*** have also poor records with envenomation. Conotoxins are some of the most potent and diverse neurotoxins known, having an incredibly wide range of actions. Interestingly, a strong division exists not only between the mollusc eating and the fish eating species, but also between species with a group or even individuals of the same species. Cones are suspected of using their venom for both prey capture and defence.

Without going into detail about the cross-linking of cysteine residues, disulfide bonding, cleaved N-terminus and so forth, the bottom line is that cone toxins exhibit their poisonous effect by blocking specific ion channels of nerve cells. This channel specificity is quite remarkable, because the cone toxins can discriminate among closely related receptor subtypes, and block only the target required. This is at odds with many medical drugs which not only act on the target, but bind to related targets producing unwanted side effects. Not only the potency of the toxins is being researched, but also the surpassing specificity of their targeting.



The Sydney Sheller



All cone venom contains short peptides – it is presumed that all cones from fossil times had this venom. Yet modern cones have diversified not only in geographical range, but in the number and variety of their conotoxins.

The venom apparatus in all cone snails comprises a venom bulb which pushes out the venom; a venom duct where the venom is made and stored; harpoon like teeth; a pharynx; and a proboscis, which is used to deliver the harpoon and venom to the prey. Each harpoon is used only once, the harpoons being stored in the radula sac. Venom is ejected through the harpoon-like hollow tooth.

Some cones can inject around 50 individual toxic mini-proteins into their victim. A few may range to 200 distinct biologically active components, most of these being small peptides (6-40 amino acids in length). As the compliment of peptides found in any one Cone venom is strikingly different from that found in the venom of any other *Conus* species, thus in the whole genus, many tens of thousands of distinct pharmacologically active peptides have been evolved, leaving researchers with material to work with for many years to come.

Fish-hunting snails are of two broad categories – the “hook and line” fishing snails, which use their long proboscis to harpoon prey with a disposable harpoon, and “net fishing” cone snails, which engulf prey with a large distensible mouth before stinging. *Conus tulipa* and *Conus geographus* are of this category, using the net to catch a group of small fish in one “throw”, regurgitating the bones at a later date. ***Conus striatus***, ***magus*** and ***purpurascens*** are examples of “hook and line” fishers. ***Conus purpurascens*** venom has two components, one targeting sodium channels, the other inhibiting potassium efflux, resulting in the fish being almost instantaneously stunned upon injection. A second group of peptides blocks neuromuscular transmission.

Professor Livett reported “Some conotoxins are at least a thousand times more potent than morphine as analgesics, and some may be up to 10,000 times more potent, molecule for molecule. But they are non-addictive” and unlike morphine, conopeptides do not travel through the central nervous system, so can be used at very low concentrations and yet still reach the areas of pain. (The Age, Pain-Killer comes out of its shell, July 25, 2005.

Cone snails are though to have adopted the strategy of first pacifying the victim with its pain-reducing component in its venom, before paralyzing and then consuming its prey.

Some 30 humans world wide have died of cone envenomation. Apart from *Conus textile* (a mollusc fancier), the fish-eating cones are more dangerous to humans. ***Conus victoriae*** has been the focus of study by Professor Livett and his colleagues for numerous years, with the resulting production of ACV1 by Metabological Pharmaceuticals. ACV1 is in pre-clinical trials, and it is hoped it will prove effective in treating neuropathic pain associated with diabetes, and shingles.

Research is ongoing into the huge range of conotoxin proteins and their variations, with regard to potential therapeutic benefits in the treatment of a wide range of illnesses, including Alzheimer’s, Parkinson’s, and epilepsy. There is hope that pain relief from the cone may at a future date surpass morphine for efficacy. The natural remedy of cone toxin would overcome the morphine’s dependency and other unwanted side effects of opioid drugs.

In his report in the Sydney Sheller of August, 1998, Dr. Livett warns about the dangers of taking live cones – and advises that picking the cone up by the blunt end is no safeguard, “as the proboscis with the radula in the tip can be extended extremely fast and is very accurate and flexible”.

To the question: How careful do we need to be when cleaning cones? He replied “The toxins in cone shells are highly stable and not easily destroyed. When cleaning cones we should be extra careful. Death of the animal, boiling and storing in Methylated Spirits does not destroy the toxins in the venom. The toxins are small molecules. If the removed dead animal is handled, toxins stored in various parts of its body coming into contact with human skin, could potentially penetrate it directly without injection, and without surface scratches or cuts.

To the question: What thickness can the cone fire poison radula harpoons through?: He replied “They are fired with some force. There was a recent case where a diver collecting cones and storing them in a net bag on his back was stung on his rear end THROUGH a 3 mm wetsuit!”

Editorial comment. These answers pose questions about the effectiveness of gloves, and of the risks of subsequent contact with venom from radula imbedded in the surface of collecting containers, including the gloves.

So much for such a sought after family of beautiful, diverse, snails!